

City of Milwaukee

City Hall 200 East Wells Street Milwaukee, WI 53202

Meeting Agenda PUBLIC WORKS COMMITTEE

ALD. ROBERT BAUMAN, CHAIR

Ald. Joseph Dudzik, Vice-Chair

Ald. Willie Wade, Ald. Robert Donovan, and Ald. Robert Puente

Staff Assistant, Terry MacDonald, 286-2233
Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Thursday, February 18, 2010

9:00 AM

Room 301-B, City Hall

Amended 2/15/10

1. 091342

Resolution relative to approving the levying of assessments and construction of assessable public improvement projects at various locations and appropriating funds for these purposes.

<u>Sponsors:</u> THE CHAIR <u>Attachments:</u> Cover Letter

Official Notice Number 63

2. <u>091341</u>

Substitute resolution determining it necessary to make various assessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$193,000 for a total estimated cost of these projects being \$3,710,000.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

Fiscal Note

3. 091343

Substitute resolution determining it necessary to make various nonassessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$150,000 for a total estimated cost of these projects being \$1,713,000.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

Fiscal Note

4. <u>091344</u>

Substitute resolution approving construction of nonassessable public improvements at various locations and appropriating funds for these purposes with the City construction cost estimated to be \$16,015,247 for a total estimated cost of these projects being \$16,709,147.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

<u>Fiscal Note</u>

 091338 A substitute ordinance relating to sidewalk special assessments for those sidewalks damaged by city trees.

Sponsors: Ald. Bauman

6. 091391 Resolution determining it necessary to make various nonassessable public improvements at various locations and appropriating funds for these purposes with the

City engineering cost estimated to be \$50,000 for a total estimated cost of these

projects being \$500,000.

<u>Sponsors:</u> Ald. Donovan

<u>Attachments:</u> <u>Cover Letter</u>

Fiscal Nlote

7. Resolution authorizing the proper City Officers to set up \$450,000 to be used in the

City Lights Development within Tax Increment District 73 by the Redevelopment Authority of the City of Milwaukee for funding, construction, maintenance and operation of a sanitary sewer lift station and public main sewers, to service the proposed City

Lights Development.

<u>Sponsors:</u> Ald. Donovan

<u>Attachments:</u> <u>Cover Letter</u>

<u>Fiscal Note</u>

8. 091357 Communication from the Department of Public Works relating to sanitary bypass

pumps.

<u>Sponsors:</u> Ald. Murphy
<u>Attachments:</u> Communication

9. 091345 Resolution directing the Commissioner of Public Works to execute an agreement with

the Wisconsin Department of Transportation for the programming and construction of the improvement of South 27th Street (STH 241) from West College Avenue to West Howard Avenue with Federal/State aid under the State Trunk Highway Program, at a total estimated cost of \$4,303,000, with an estimated grantor share of \$4,260,000 and

an estimated City share of \$43,000.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

<u>Fiscal Note</u>

Agreement

Comptroller's Certificate

10. 091361 Resolution authorizing the City Comptroller to transfer funds to various State and/or

Federal Aid project subaccounts for the estimated remaining Wisconsin Department of Transportation and City of Milwaukee preliminary engineering and construction costs totaling \$1,535,644, City share is \$899,844 and the Grantor's share is \$635,800.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

<u>Fiscal note</u>

Comptroller's Certificate

11. 091355

Resolution authorizing the Commissioner of Public Works to execute a Revised Project Agreement titled "State/Municipal Agreement for a Highway Improvement Project" between the City of Milwaukee and Wisconsin Department of Transportation associated with the rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad with 80 percent Federal and State aid under the Local Bridge Rehabilitation Program.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> Cover Letter
<u>Fiscal Note</u>

Revised Agreement

12. <u>091359</u>

Resolution directing the Commissioner of Public Works to execute a document titled "Federal/State/Project Sponsor Transportation Enhancements Program, Project Agreement" with the Department of Transportation for the programming of a project known as Open Metal Grate Bridge Bicycle Lanes Project with preliminary engineering costs of \$121,197 with a Grantor share of \$90,031 and a City share of \$31,166 and with total project costs of \$730,925 with a Grantor share of \$542,968 and a City share of \$187,957.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> Cover Letter
<u>Fiscal Note</u>

<u>Agreement</u>

Comptroller's Certification

13. <u>091365</u>

Resolution authorizing execution of a Connecting Highway Rescission with the Wisconsin Department of Transportation on South 5th Street and West Washington Street.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

<u>Fiscal Note</u>

<u>Agreement</u>

14. <u>091368</u>

Resolution authorizing the City Engineer to apply for five Highway Safety Improvement Program grants.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> <u>Cover Letter</u>

Fiscal Note

Application for 28 Connecting Highway Interesections

Application for 37 Local Street Interesections
Application for 117 Local Street Interesections
Application for 119 Local Street Interesections

Application for 129 Connecting Highway Interesections

15. 091370

Resolution relative to acceptance and funding of a 2010 Urban Non Point Source & Storm Water Management Program Grant for the Green Streets project on West Grange Avenue between South 23rd Street and South 27th Street and directing the

proper City officers to execute a Grant Award Agreement between the City of Milwaukee and the Wisconsin Department of Natural Resources regarding the project grant.

Sponsors: THE CHAIR

Attachments: Cover Letter.PDF

Fiscal Note

16. <u>090416</u>

Substitute resolution granting a special privilege to Marquette University to install and maintain a fixed awning, two bollards and an ash can for the premises at 706 North 17th Street, in the 4th Aldermanic District.

<u>Sponsors:</u> THE CHAIR <u>Attachments:</u> Fiscal Note

Special Privilege Petition and Drawing

<u>Letter</u>
<u>Pictures</u>
<u>Map</u>

17. 091363

Resolution approving a License Agreement with the Lincoln Village Business Association, Inc. to permit installation and maintenance of a sign at 2265 South Chase Avenue, in the 14th Aldermanic District.

<u>Sponsors:</u> Ald. Zielinski

<u>Attachments:</u> Fiscal Note.doc

License Agreement.doc

18. 091339

Communication from the Department of Public Works relative to special event permits.

<u>Sponsors:</u> THE CHAIR <u>Attachments:</u> Report

19. <u>091373</u>

Resolution relative to sub-account funding for various portions of the 2010 Capital Improvements Program.

<u>Sponsors:</u> THE CHAIR <u>Attachments:</u> <u>Fiscal Note</u>

20. 091374

Resolution relative to allocating funds for the 2010 Recreation Facilities Construction

Program in various Aldermanic Districts.

<u>Sponsors:</u> THE CHAIR

<u>Attachments:</u> Cover Letter
Fiscal Note

21. <u>091362</u>

An ordinance relating to depositing construction waste at city area sanitation yards and the size of trailers used to transport such waste.

<u>Sponsors:</u> THE CHAIR <u>Attachments:</u> Fiscal note 22. 090072 Communication relating to the report and recommendations of the Recycling Task

Force.

Sponsors: THE CHAIR

<u>Attachments:</u> Final Report and Recommendations

Digital recording of the April 6 2009 meeting

April 6 2009 meeting minutes

Digital recording of the April 27 2009 meeting

April 27 2009 meeting minutes and exhibits

Letter to City Attorney requesting legal opinion

City Attorney's opinion

<u>Digital recording of the May 18, 2009 meeting</u>
<u>May 18 2009 meeting minutes and exhibit</u>

Digital recording of the June 8 2009 meeting

June 8 2009 meeting minutes and exhibit

6-8-09 email re letter from Mr. Lindquist Waukesha

June 29 2009 Notice of Recycling facility tours

7-21-09 email and attachment from Lisa Schaal regarding article Tracking trash

<u>Digital recording of the July 27, 2009 meeting</u>
July 27 2009 meeting minutes and exhibits

8-6-09 Email and attachment from Mike Daun regarding MRF of the Month articl

8-13-09 email and attachment from Lisa Schaal regarding Solar Powered Waste

Digital recording of the September 14 2009 meeting

September 14 2009 meeting minutes and exhibit

Digital recording of the October 26, 2009 meeting

October 26 2009 meeting minutes and exhibit

Digital recording of the December 16 2009 meeting

December 16 2009 meeting minutes and exhibits

Letter from FCR Recycling to Mr Cole

23. 091417 Communication from the Department of Public Works relating to moveable bridges.

Sponsors: THE CHAIR

This meeting will be webcast live at www.milwaukee.gov/channel25.

Members of the Common Council and its standing committees who are not members of this committee may attend this meeting to participate or to gather information. Notice is given that this meeting may constitute a meeting of the Common Council or any of its standing committees, although they will not take any formal action at this meeting.

Upon reasonable notice, efforts will be made to accommodate the needs of persons with disabilities through sign language interpreters or auxiliary aids. For additional information or to request this service, contact the Council Services Division ADA Coordinator at 286-2998, (FAX)286-3456, (TDD)286-2025 or by writing to the Coordinator at Room 205, City Hall, 200 E. Wells Street, Milwaukee, WI 53202.

Limited parking for persons attending meetings in City Hall is available at reduced rates (5 hour limit) at the Milwaukee Center on the southwest corner of East Kilbourn and North Water Street. Parking tickets must be validated in Room 205, (City Clerk's Office) or the first floor Information Booth in City Hall.

Persons engaged in lobbying as defined in s. 305-43-4 of the Milwaukee Code of Ordinances are required to register with the City Clerk's Office License Division. Registered lobbyists appearing before a Common Council committee are required to identify themselves as such. More information is available at www.milwaukee.gov/lobby.



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091342 **Version:** 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution relative to approving the levying of assessments and construction of assessable public

improvement projects at various locations and appropriating funds for these purposes.

Sponsors: THE CHAIR

Indexes: PUBLIC IMPROVEMENTS

Attachments: Cover Letter

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091342 **Version**: 0

Number

091342

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution relative to approving the levying of assessments and construction of assessable public improvement projects at various locations and appropriating funds for these purposes.

Requestor

INFRASTRUCTURE SERVICES DEPARTMENT

Drafter

MLD:dr

Report 8

01/29/10

OFFICIAL NOTICE NUMBER 63 PUBLIC HEARING ON PROPOSED IMPROVEMENTS AND SPECIAL ASSESSMENTS

There will be a public hearing held by the Public Works Committee of the Common Council of the City of Milwaukee concerning the following improvements and special assessments. The Commissioner of Public Works has determined these improvements are necessary and in the public interest.

The hearing will be held at the date and time shown below:

THURSDAY

FEBRUARY 18, 2010

ROOM 301-B – CITY HALL

9:00 A.M.

5th Aldermanic District

W. Keefe Ave. – N. 76th St. to N. 80th St. (ST21100140):

Asphalt pavement resurfacing, replace curb and gutter, sidewalk and driveway approaches where necessary, sodding (20-foot width of tree border area), and grading.

W. Locust St. - N. 84th St. to N. 92nd St. (ST211090113):

Asphalt pavement resurfacing, replace curb and gutter, sidewalk and driveway approaches where necessary, sodding (7-foot width of tree border area), and grading.

8th and 12th Aldermanic Districts

S. 21st St. – W. Greenfield Ave. to W. Scott St. (ST211100148):

Install traffic calming speed hump(s).

11th Aldermanic District

W. Euclid Ave. - S. 38th St. to S. 39th St. (ST211050106):

Concrete pavement reconstruction, replace all curb and gutter, replace sidewalk and driveway approaches where necessary, sodding (7-foot width of tree border area), and grading.

S. 39th St. – W. Morgan Ave. to W. Ohio Ave. (ST21110121):

Concrete pavement reconstruction, replace all curb and gutter, replace sidewalk and driveway approaches where necessary, sodding (7-foot width of tree border area), and grading.

S. 39th St. – W. Ohio Ave. to W. Oklahoma Ave. (ST211020145):

Concrete pavement reconstruction, replace all curb and gutter, sidewalk and driveway approaches, sodding (7-foot width of tree border area), grading, and tree removal where necessary.

You may examine a copy of the report recommending these projects in Room 908, 841 North Broadway, Milwaukee, Wisconsin during the hours of 8:30 A.M. and 4:30 P.M., Monday through Friday.

This notice is published by authority of the Common Council of the City of Milwaukee in accordance with Section 66.0703 and any other pertinent sections of the Wisconsin Statutes and in the manner directed by Section 115-42 of the Milwaukee Code of Ordinances.

Office of the City Clerk, Milwaukee	
	Ronald D. Leonhardt, City Clerk
February 2, 2010	, ,

January 29, 2010

File Number

To the Honorable, the Common Council

Dear Council Members:

The Common Council has adopted preliminary resolutions which determined it necessary and in the public interest to make various public improvements and to make special assessments therefore.

The Commissioner of Public Works is filing this report consisting of a list of projects. This report is subject to amendment at the next Public Works Committee Hearing. The plans and specifications of said improvements are on file in the City Engineer's Office.

I am herewith submitting a report regarding the above matter and recommend adoption of the amended resolution approving same.

Respectfully submitted,

Special Deputy Commissioner of Public Works

MLD:dr Afr 8 Report Appended



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Master With Text

File Number: 091341

File ID: 091341 Type: Resolution Status: In Committee

Version: 1 Reference: Controlling Body: PUBLIC WORKS

COMMITTEE

File Created: 02/09/2010

Requester: DPW-INFRASTRUCT

URE SERVICES

DIVISION

File Name: Final Action:

Cost:

Title: Substitute resolution determining it necessary to make various assessable public

improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$193,000 for a total estimated cost of these projects being

\$3,710,000.

Notes:

Code Sections: Agenda Date:

Indexes: PUBLIC IMPROVEMENTS Agenda Number:

Sponsors: THE CHAIR Enactment Date:

Attachments: Cover Letter, Fiscal Note Enactment Number:

Drafter: mld Effective Date:

Contact: Extra Date 2:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
0	COMMON COUNCIL	02/09/2010		PUBLIC WORKS COMMITTEE			
	Action Text: This Reso	lution was AS	SSIGNED TO to the PUB	LIC WORKS COMMIT	TEE		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
0	PUBLIC WORKS COMMITTEE	02/18/2010					

Text of Legislative File 091341

..Number

091341

..Version

SUBSTITUTE 1

..Sponsor

THE CHAIR

..Title

Substitute resolution determining it necessary to make various assessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$193,000 for a total estimated cost of these projects being \$3,710,000.

..Analysis

This resolution authorizes engineering studies and directs the Commissioner of Public Works to determine any benefits or damages which would result if the projects were to be constructed. After the Commissioner files his report, a Public Hearing will be held on those projects determined assessable. A resolution will be submitted after the Public Hearing authorizing construction. The City cost for engineering these projects is estimated to be \$193,000 with the total cost estimated to be \$3,710,000. ..Body

Resolved, By the Common Council of the City of Milwaukee that it is necessary and in the public interest to do the following described work according to City specifications, and that such public improvements and resulting special assessments be made pursuant to Section 66.0703 and any other pertinent sections of the Wisconsin Statutes and in the manner directed by Section 115-42 of the Milwaukee Code of Ordinances:

3rd Aldermanic District

Alley between E. Belleview Pl., N. Downer Ave., N. Stowell Ave., and E. Webster Pl. (ST212060101): Paving the alley with concrete. Doing all the necessary grading pertaining to said work. (Nonassessable Alley Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$75,000. This project is anticipated to be completed during the 2011 construction season.

4th Aldermanic District

N. Plankinton Ave. - W. Wisconsin Ave. to W. Wells St. (ST211090122): Paving the roadway with concrete. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$200,000. This project is anticipated to be completed during the 2011 construction season.

5th Aldermanic District

N. Granville Rd. (relocated) - W. Good Hope Rd. to a point 1,000 feet m/l north of W. Good Hope Rd. (ST211110141): Paving the roadway with concrete. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$30,000). The total estimated cost for this project including the requested amount is \$300,000. This project is anticipated to be completed during the 2011 construction season.

W. Keefe Ave. - N. 84th St. to W. Lisbon Ave. (ST211020131): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$8,000, Additional Funds). The total estimated cost for this project including the requested amount is \$125,000. This project is anticipated to be completed during the 2010-2011 construction season.

N. 89th St. - W. Burleigh St. to W. Lisbon Ave. (ST211020108): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$8,000, Additional Funds). The total estimated cost for this project including the requested amount is \$470,000. This project is anticipated to be completed during the 2010-2011 construction season.

Alley W. Butler Pl., W. Grantosa Dr., W. Palmetto Ave., and N. 92nd St. (west half) (ST212060102): Paving the alley with concrete. Doing all the necessary grading pertaining to said work. (Nonassessable Alley Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$90,000. This project is anticipated to be completed during the 2011 construction

season.

6th Aldermanic District

N. 6th St. - W. Garfield Ave. to W. North Ave. (ST211020102): Paving the roadway with concrete. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$120,000. This project is anticipated to be completed during the 2010-2011 construction season.

7th Aldermanic District

- N. 41st St. W. Burleigh St. to W. Auer Ave. (ST211020126): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$125,000. This project is anticipated to be completed during the 2010-2011 construction season.
- N. 42nd St. W. Burleigh St. to W. Townsend St. (ST211050117): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$360,000. This project is anticipated to be completed during the 2010-2011 construction season.

8th Aldermanic District

- W. Hayes Ave. S. 27th St. to S. 29th St. (ST211100106): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$95,000. This project is anticipated to be completed during the 2010 construction season.
- S. 32nd St. W. Drury Ln. to W. Oklahoma Ave. (ST211050104): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$141,000. This project is anticipated to be completed during the 2010 construction season.
- Alley W. Cleveland Ave., W. Montana St., S. 49th St., and S. 50th St. (ST212060106): Paving the alley with concrete. Doing all the necessary grading pertaining to said work. (Nonassessable Alley Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$95,000. This project is anticipated to be completed during the 2011 construction season.
- Alley W. Grant St., W. Lincoln Ave., S. 20th St., and S. 21st St. (northerly east-west leg) (ST212060125): Paving the alley with concrete. Doing all the necessary grading pertaining to said work. (Nonassessable Alley Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$90,000. This project is anticipated to be completed during the 2011 construction season.

8th and 12th Aldermanic Districts

S. 21st St. - W. Greenfield Ave. to W. Scott St. (ST211100148): Install traffic calming devices. (Nonassessable Reconstruction Paving Fund -- \$2,000). The total estimated cost for this project including the requested amount is \$9,000. This project is anticipated to be completed during the 2010 construction season.

9th Aldermanic District

- N. Burbank Ave. W. Casper St. to W. Spokane St. (ST211060125): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$5,000, Additional Funds). The total estimated cost for this project including the requested amount is \$240,000. This project is anticipated to be completed during the 2010 construction season.
- N. 82nd St. A point south of W. Clovernook St. to W. Clovernook St. (ST211020107): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$7,000, Additional Funds). The total estimated cost for this project including the requested amount is \$75,000. This project is anticipated to be completed during the 2010 construction season.

- W. Main St. S. 70th St. to S. 76th St. (ST211080108): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$20,000, Additional Funds). The total estimated cost for this project including the requested amount is \$230,000. This project is anticipated to be completed during the 2010 construction season.
- S. 58th St. W. Phillip PI. to W. Keefe Ave. (ST211060123): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$8,000, Additional Funds). The total estimated cost for this project including the requested amount is \$300,000. This project is anticipated to be completed during the 2011 construction season.
- S. 76th St. South City Limits (south of W. Main St.) to W. Kearney St. (ST211030105): Paving the roadway with concrete. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$400,000. This project is anticipated to be completed during the 2011 construction season.

14th Aldermanic District

S. Logan Ave. (including S. Logan Ct.) - A point south of E. Norwich St. to E. Howard Ave. (ST21110124): Paving the roadway with asphalt. Laying a concrete curb and gutter. Laying concrete sidewalk. Doing all the necessary grading pertaining to said work. (Nonassessable Reconstruction Paving Fund -- \$15,000, Additional Funds). The total estimated cost for this project including the requested amount is \$115,000. This project is anticipated to be completed during the 2010 construction season.

15th Aldermanic District

Alley between W. Garfield Ave., N. Hi Mount Blvd., W. Lloyd St., and N. 49th St. (ST212050146): Paving the alley with concrete. Doing all the necessary grading pertaining to said work. (Nonassessable Alley Paving Fund -- \$10,000, Additional Funds). The total estimated cost for this project including the requested amount is \$55,000. This project is anticipated to be completed during the 2010 construction season.

; and, be it

Further Resolved, That the abutting and adjacent properties be assessed a portion of the cost, said assessment to be recommended by the Commissioner of Public Works in his report; and, be it

Further Resolved, That all assessments and payments be made in accordance with Section 115-42 of the Milwaukee Code of Ordinances; and, be it

Further Resolved, That all City departments are authorized to do engineering, surveying, preparing of plans, and estimates of cost thereof, to be utilized in the preparation of said report of the Commissioner of

Public Works; and, be it

Further Resolved, That the Department of Public Works is authorized to use the funding as specified in the above description of work; and, be it

Further Resolved, That the City Comptroller is authorized and directed to transfer such funds which are available for this purpose to the appropriate capital Project/Grant accounts.

..Requestor Infrastructure Services Division ..Drafter MLD:dr Apr 8 02/12/10

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86)

A) DATE:February 1	12, 2010	FILE!	NUMBER: Original Fiscal N		 ute ≌	
	3JECT: Substitute resolution determining it necessary to make various assessable public improvements at various locations and appropriating funds nese purposes with the City engineering cost estimated to be \$193,000 for a total estimated cost of these projects being \$3,710,000.					
B) SUBMITTED BY (nar	me/title/dept./ext.) Mary Dziewiontko	oski/Assessment Engineer/Publi	c Works/2460			
ADOP	TION OF THIS FILE AUTHORIZES E. PTION OF THIS FILE DOES NOT AUT ANTICIPATED COSTS IN SECTION O APPLICABLE/NO FISCAL IMPACT.	THORIZE EXPENDITURES; FUF	RTHER COMMON COU	NCIL ACTION NEE	EDED.	
CAPIT □ PERM	RTMENTAL ACCOUNT (DA) FAL PROJECTS FUND (CPF) I. IMPROVEMENT FUNDS (PIF) R SPECIFY)	☐ CONTINGENT FUND (CF☐ SPECIAL PURPOSE ACC☐ GRANT & AID ACCOUNTS	OUNTS (SPA)			
E) PURPOSE	SPECIFY TYPE/US	SE ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SALARIES/WAGES:						
SUPPLIES:						
MATERIALS:						
NEW EQUIPMENT:						
EQUIPMENT REPAIR:						
OTHER Paving	ST211		\$ 163,000			
Paving	ST212		\$ 30,000			
TOTALS:		•	\$ 193,000			
F) FOR EXPENDITURES AN	ND REVENUES WHICH WILL OCCUI	R ON AN ANNUAL BASIS OVE	R SEVERAL YEARS CH	HECK THE APPRO	PRIATE BOX	
	EACH ITEM AND DOLLAR AMOUNT					
☐ 1-3 YEARS	☐ 3-5 YEARS					
☐ 1-3 YEARS	□ 3-5 YEARS					
□ 1-3 YEARS	□ 3-5 YEARS					
G) LIST ANY ANTICIPATED	D FUTURE COSTS THIS PROJECT V	WILL REQUIRE FOR COMPLET	ΓΙΟΝ:			
H) LIST ANY ANTICIPATED	D FUTURE COSTS THIS PROJECT V	WILL REQUIRE FOR COMPLET	TION: The total expende	iture includes the c	eost of	
	construction, and city forces. The					

January 29, 2010

File Number

To the Honorable, the Common Council

Dear Council Members:

Please find attached a "Title Only" resolution for determining it necessary to make various assessable public improvements to be introduced at the next Common Council Meeting. It is our intent to insert the body of the resolution in this jacket prior to the meeting of the Public Works Committee of February 18, 2010.

Respectfully submitted,

Special Deputy Commissioner of Public Works

MLD:dr Title only Apr 8



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Master With Text

File Number: 091343

File ID: 091343 Type: Resolution Status: In Committee

Version: 1 Reference: Controlling Body: PUBLIC WORKS

COMMITTEE

Requester: DPW-INFRASTRUCT Cost: File Created: 02/09/2010

URE SERVICES

DIVISION

File Name: Final Action:

Title: Substitute resolution determining it necessary to make various nonassessable public

improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$150,000 for a total estimated cost of these projects being

\$1,713,000.

Notes:

Code Sections: Agenda Date:

Indexes: PUBLIC IMPROVEMENTS Agenda Number:

Sponsors: THE CHAIR Enactment Date:

Attachments: Cover Letter, Fiscal Note Enactment Number:

Drafter: mld Effective Date:

Contact: Extra Date 2:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
0	COMMON COUNCIL	02/09/2010	ASSIGNED TO	PUBLIC WORKS COMMITTEE			
	Action Text: This Res	solution was AS	SIGNED TO to the PUE	BLIC WORKS COMMIT	TEE		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
1	CITY CLERK	02/15/2010	DRAFT SUBMITTED				
	Action Text: This Res	solution was DF	RAFT SUBMITTED				
0	PUBLIC WORKS COMMITTEE	02/18/2010					

Text of Legislative File 091343

..Number 091343

..Version

SUBSTITUTE 1

..Sponsor

THE CHAIR

..Title

Substitute resolution determining it necessary to make various nonassessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$150,000 for a total estimated cost of these projects being \$1,713,000.

.. Analysis

This resolution authorizes engineering studies on projects which by City Charter are nonassessable. After design plans and estimates of costs have been prepared, a resolution authorizing construction will be submitted to the Common Council. The City cost for engineering these projects is estimated to be \$150,000 with the total cost estimated to be \$1,713,000.

..Body

Resolved, By the Common Council of the City of Milwaukee, that it is necessary and in the public interest to do the following described improvements according to City specifications:

4th and 15th Aldermanic Districts

W. Cherry St. - N. 13th St. to N. 14th St. (SM495100042): Relaying combined sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$12,000). The total estimated cost for this project including the requested amount is \$66,000. This project is anticipated to be completed during the 2010 construction season.

N. 14th St. - W. Cherry St. to W. Vliet St. (SM495100041): Relaying combined sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$12,000). The total estimated cost for this project including the requested amount is \$125,000. This project is anticipated to be completed during the 2010 construction season.

5th Aldermanic District

N. 82nd St. - W. Keefe Ave. to 230 feet m/l north of W. Nash St. (WT410100020): Relaying water main. (Nonassessable Water Fund Budget Line 5010 -- \$12,000; Nonassessable Water Fund Budget Line 6410 -- \$13,000). The total estimated cost for this project including the requested amount is \$220,000. This project is anticipated to be completed during the 2011 construction season.

N. 87th St. - W. Auer Ave. to W. Concordia Ave. (WT410100022): Relaying water main. (Nonassessable Water Fund Budget Line 5010 -- \$10,000; Nonassessable Water Fund Budget Line 6410 -- \$10,000). The total estimated cost for this project including the requested amount is \$175,000. This project is anticipated to be completed during the 2010 construction season.

7th Aldermanic District

W. Fond du Lac Ave. - W. Melvina St. to W. Capitol Dr. (SM495100017): Relaying sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$1,000). The total estimated cost for this project including the requested amount is \$166,000. This project is anticipated to be completed during the 2010 construction season.

10th Aldermanic District

W. Vine St. - N. 56th St. to N. 58th St. (SM495100039): Relaying sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$12,000). The total estimated cost for this project including the requested amount is \$136,000. This project is anticipated to be completed during the 2010 construction season.

N. 56th St. - W. Vine St. to 455 feet m/l south of W. Vine St. (SM495100040): Relaying sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$12,000). The total estimated cost for this project including the requested amount is \$105,000. This project is anticipated to be completed during the 2010 construction season.

N. 58th St. - 315 feet south of W. Valley Forge Dr. to W. Valley Forge Dr. (WT410100023): Relaying water main. (Nonassessable Water Fund Budget Line 5010 -- \$7,000; Nonassessable Water Fund Budget Line 6410 -- \$8,000). The total estimated cost for this project including the requested amount is \$65,000. This project is anticipated to be completed during the 2010 construction season.

City Wide

2010 Sanitary Bypass Pump Rehabilitation (SM497100101): Sanitary pump rehabilitation project. (Nonassessable Pump Repair -- \$20,000). The total estimated cost for this project including the requested amount is \$500,000. This project is anticipated to be completed during the 2010 construction season.

Indirect Account/Engineering Studies throughout the City of Milwaukee (SM493100001): (Nonassessable TSS Removal Fund -- \$1,000). The total estimated cost for this project including the requested amount is \$30,000. This project is anticipated to be completed during the 2010 construction season.

Hales Corners

S. 124th St. - W. Cold Spring Rd. to W. Grange Ave. (WT410100021): Hydrant alteration. (Nonassessable Water Fund Budget Line 5010 -- \$7,000; Nonassessable Water Fund Budget Line 6410 -- \$8,000). The total estimated cost for this project including the requested amount is \$80,000. This project is anticipated to be completed during the 2011 construction season.

Suburban Plan Reviews

Review and Inspection (WT440070000): (Nonassessable Water Fund Budget Line 5010 -- \$500; Nonassessable Water Fund Budget Line 6410 -- \$4,500, Additional Funding). The total estimated cost for this project including the requested amount is \$45,000. This project is anticipated to be completed during the 2010 construction season.

;and, be it

Further Resolved, That all City Departments are authorized to perform engineering, surveys, plan preparation, and determine an estimated cost thereof; and, be it

Further Resolved, That the Department of Public Works is authorized to use the funding as specified in the above description of work; and, be it

Further Resolved, That the City Comptroller is authorized and directed to transfer such funds which are available for this purpose to the appropriate capital Project/Grant accounts.

..Requestor Infrastructure Services Division ..Drafter MLD:dr Npr 8 02/12/10

CITY OF MILWAUKEE FISCAL NOTE

A) D.	ATE	February 12, 2	2010	FILE	NUMBER:	091343		
			Original Fiscal Note Substitute					
SUBJEC	SUBJECT: Substitute resolution determining it necessary to make various nonassessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$150,000 for a total estimated cost of these projects being \$1,713,000.							
B) S	UBMITTED BY	(Name/title/dept./e	ext.): Mary Dziewiontko	oski/Assessment Engi	neer/Public Works/X2	460		
C) C	HECK ONE:		N OF THIS FILE AUTHORIZE	S EXPENDITURES				
			N OF THIS FILE DOES NOT LIST ANTICIPATED COSTS			COMMON COUNCI	L ACTION	
		NOT APPL	ICABLE/NO FISCAL IMPAC	Т.				
D) C	HARGE TO:	DEPARTM	ENT ACCOUNT(DA)		CONTINGENT FUND	(CE)		
) D,	HAROL 10.		PROJECTS FUND (CPF)	<u> </u>	SPECIAL PURPOSE A	•		
			PROVEMENT FUNDS (PIF)		GRANT & AID ACCOL	, ,		
		OTHER (S			SKAINT & AID ACCOC	MTS (G & AA)		
		OTHER (3	PECIF1)					
							1	
	URPOSE	SP	ECIFY TYPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SALARI	ES/WAGES:							
SUPPLII	EG.							
SUFFLI	<u></u>							
MATERI	IALS:							
NEW EG	QUIPMENT:							
		Water WT440			\$ 5,000			
		Water WT410			\$ 75,000			
		Sewer SM493			\$ 1,000			
OTHER:	<u> </u>	Sewer SM495			\$ 49,000			
		Sewer SM497			\$ 20,000			
TOTALS	5				\$150,000			
F) FO	R EXPENDITUI	RES AND REVENU	JES WHICH WILL OCCUR C	N AN ANNUAL BASI	S OVER SEVERAL YE	ARS CHECK THE		
AP	PROPRIATE BO	OX BELOW AND T	HEN LIST EACH ITEM AND	DOLLAR AMOUNT S	EPARATELY.			
	1-3 YEARS	I F	3-5 YEARS					
	1-3 YEARS		3-5 YEARS					
	1-3 YEARS		3-5 YEARS					
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G) LI	IST ANY ANTIC	IPATED FUTURE	COSTS THIS PROJECT WIL	L REQUIRE FOR CO	MPLETION:			
11) ^	OMBUTATION	NICED IN ADDITION	NO AT FIGORY FORMATT	The total arm or div	in alcolon the control of			
			NG AT FISCAL ESTIMATE: t of these projects is estimate		includes the cost of e	ngineering, inspection	on,	
CONSTIUC	Alon, and only 101	iccs. The total COS	t of these projects is estillate	,α το be ψ130,000.				
DIEASE	ELIST ANY CO	MMENTS ON REV	ERSE SIDE AND CHECK HI	FRF				

January 29, 2010

File Number

To the Honorable, the Common Council

Dear Council Members:

Please find attached a "Title Only" resolution for determining it necessary to make various nonassessable public improvements to be introduced at the next Common Council Meeting. It is our intent to insert the body of the resolution in this jacket prior to the meeting of the Public Works Committee of February 18, 2010.

Respectfully submitted,

Special Deputy Commissioner of Public Works

MLD:dr Title only Npr 8



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Master With Text

File Number: 091344

File ID: 091344 Type: Resolution Status: In Committee

Version: 1 Reference: Controlling Body: PUBLIC WORKS

COMMITTEE

File Created: 02/09/2010

Requester: DPW-INFRASTRUCT

URE SERVICES

DIVISION

File Name: Final Action:

Cost:

Title: Substitute resolution approving construction of nonassessable public improvements at various

locations and appropriating funds for these purposes with the City construction cost estimated

to be \$16,015,247 for a total estimated cost of these projects being \$16,709,147.

Notes:

Code Sections: Agenda Date:

Indexes: PUBLIC IMPROVEMENTS Agenda Number:

Sponsors: THE CHAIR Enactment Date:

Attachments: Cover Letter, Fiscal Note Enactment Number:

Drafter: mld Effective Date:

Contact: Extra Date 2:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
0	COMMON COUNCIL	02/09/2010	ASSIGNED TO	PUBLIC WORKS COMMITTEE			
	Action Text: This Re	solution was AS	SIGNED TO to the PUB	LIC WORKS COMMIT	TEE		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
0	PUBLIC WORKS COMMITTEE	02/12/2010	HEARING NOTICES SENT		02/18/2010		
1	CITY CLERK	02/15/2010	DRAFT SUBMITTED				
	Action Text: This Re	solution was DF	RAFT SUBMITTED				
0	PUBLIC WORKS COMMITTEE	02/18/2010					

Text of Legislative File 091344

..Number 091344

..Version

SUBSTITUTE 1

..Reference

051658

..Sponsor

THE CHAIR

..Title

Substitute resolution approving construction of nonassessable public improvements at various locations and appropriating funds for these purposes with the City construction cost estimated to be \$16,015,247 for a total estimated cost of these projects being \$16,709,147.

.. Analysis

This resolution directs the installation and construction of certain public improvements which have been determined to be nonassessable by the Commissioner of Public Works. The City cost of the projects approved by this resolution is estimated to be \$16,715,247. The total estimated cost of these projects is \$16,709,147.

..Body

Whereas, The Common Council of the City of Milwaukee adopted preliminary resolutions determining it necessary and in the public interest to construct nonassessable improvements; and

Whereas, Plans, specifications and cost estimates have been prepared for the following described improvements:

2nd Aldermanic District

W. Caldwell Ct. - W. Medford Ave. to 475 feet west of W. Medford Ave. (WT410071031) File Number 051658: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$1,000; Nonassessable Water Fund Budget Line 6410 -- \$94,000). The total estimated cost for this project including the requested amount is \$110,000. This project is anticipated to be completed during the 2010 construction season.

W. Custer Ave. - W. Fond du Lac Ave. to N. 83rd St. (WT410071032) File Number 051658: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$23,000; Nonassessable Water Fund Budget Line 6410 -- \$402,000). The total estimated cost for this project including the requested amount is \$450,000. This project is anticipated to be completed during the 2010 construction season.

W. Medford Ave. - W. Villard Ave. to W. Custer Ave. (WT410071030) File Number 051658: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$13,000; Nonassessable Water Fund Budget Line 6410 -- \$237,000). The total estimated cost for this project including the requested amount is \$265,000. This project is anticipated to be completed during the 2010 construction season.

2nd and 9th Aldermanic Districts

N. 56th St. - W. Custer Ave. to W. Sheridan Ave. (SM495090055) File Number 090107: Relay sanitary and storm sewers. (Nonassessable Sewer Maintenance Relay Fund -- \$223,000). The total estimated cost for this project including the requested amount is \$238,000. This project is anticipated to be completed during the 2010 construction season.

3rd Aldermanic District

N. Cramer St. - E. North Ave. to E. Thomas Ave. (SM495080031) File Number 090763: Relay combined sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$75,000, Additional Funds). The total estimated cost for this project including the requested amount is \$150,000. This project is anticipated to be completed during the 2010 construction season.

4th Aldermanic District

N. 31st St. - W. St. Paul Ave. to W. Wisconsin Ave. (WT410071052) File Number 051658: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$16,000; Nonassessable Water Fund Budget Line 6410 -- \$334,000). The total estimated cost for this project including the requested amount is \$375,000. This project is anticipated to be completed during the 2010 construction season.

Hartung Quarry Water Quality Detention Facility (SM493090103) File Number 090762: Detention Pond. (Nonassessable TSS Removal Fund -- \$1,150,000). The total estimated cost for this project including the requested amount is \$1,190,000. This project is anticipated to be completed during the 2010 construction season.

7th Aldermanic District

W. Fond du Lac Ave. - W. Melvina St. to W. Capitol Dr. (SM495100017) File Number 091343: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$165,000). The total estimated cost for this project including the requested amount is \$166,000. This project is anticipated to be completed during the 2010 construction season.

N. Sherman Blvd. - W. Locust St. to W. Burleigh St. (SM495080041) File Number 080237: Relay combined sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$399,000). The total estimated cost for this project including the requested amount is \$411,000. This project is anticipated to be completed during the 2010 construction season.

7th and 10th Aldermanic Districts

N. 51st Blvd. - W. Burleigh St. to W. Roosevelt Dr. (SM495070182) File Number 090195: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$211,000, Additional Funds). The total estimated cost for this project including the requested amount is \$370,000. This project is anticipated to be completed during the 2010 construction season.

8th Aldermanic District

W. National Ave. - S. Layton Blvd. To S. 39th St. (ST320052301/UR033944000) (portions in the Village of West Milwaukee) Special treatment including traffic islands, planters and stamped colored concrete and replace curb and gutter as necessary.

Grantor Reimbursable Paving Fund -- \$ 485,776 DCD Share Non-assessable Paving Fund (UR033944000)--\$ 120,000;

These funds are to be transferred to the construction account (ST320052310) (2410-12-70).

Previously authorized for street construction: \$0.00

Current estimated cost of the total project including this resolution: \$ 600,000 Original estimated cost of the total project (File Number 050572): \$ 700,000 This project is anticipated to be completed during the 2010 construction season.

9th Aldermanic District

N. 56th St. - W. Custer Ave. to W. Sheridan Ave. (SM495090055) File Number 090107: Relay sanitary and storm sewers. (Nonassessable Sewer Maintenance Relay Fund -- \$223,000). The total estimated cost for this project including the requested amount is \$238,000. This project is anticipated to be completed during the 2010 construction season.

10th Aldermanic District

W. Brooklyn Pl. - N. 55th St. to N. 58th St. (SM495090095) File Number 090909: Relay sanitary and storm sewers. (Nonassessable Sewer Maintenance Relay Fund -- \$315,000). The total estimated cost for this project including the requested amount is \$327,000. This project is anticipated to be completed during the 2010 construction season.

- W. Center St. N. 56th St. to N. 57th St. (SM495090074) File Number 090762: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$73,000). The total estimated cost for this project including the requested amount is \$85,000. This project is anticipated to be completed during the 2010 construction season.
- W. Lisbon Ave. W. Appleton Ave. to N. 59th St. (SM495090072) File Number 090762: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$145,000). The total estimated cost for this project including the requested amount is \$157,000. This project is anticipated to be completed during the 2010 construction season.
- W. Michigan St. N. 35th St. to N. 39th St. (WT410071061) File Number 051658: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$19,000; Nonassessable Water Fund Budget Line 6410 -- \$331,000). The total estimated cost for this project including the requested amount is \$370,000. This project is anticipated to be completed during the 2010 construction season.
- W. Stevenson Ave. 130 feet m/l east of N. 69th St. to N. 69th St. (SM495100007) File Number 090971: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$41,000). The total estimated cost for this project including the requested amount is \$53,000. This project is anticipated to be completed during the 2010 construction season.
- N. 52nd St. W. Wright St. to W. Center St. (SM495090078) File Number 090762: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$283,000). The total estimated cost for this project including the requested amount is \$295,000. This project is anticipated to be completed during the 2010 construction season.
- N. 55th St. W. Concordia Ave. to W. Townsend St. (SM495090076) File Number 090762: Sanitary sewer lining. (Nonassessable Sewer Maintenance Relay Fund -- \$87,000). The total estimated cost for this project including the requested amount is \$99,000. This project is anticipated to be completed during the 2010 construction season.
- N. 55th St. 130 feet m/l south of W. Wright St. to W. Mount Ct. (SM495090097) File Number 090909: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$128,000). The total estimated cost for this project including the requested amount is \$140,000. This project is anticipated to be completed during the 2010 construction season.
- N. 57th St. W. Appleton Ave. to W. Center St. (SM495080023) File Number 090909: Relay sanitary sewer. (Nonassessable Sewer Maintenance Relay Fund -- \$146,000). The total estimated cost for this project including the requested amount is \$158,000. This project is anticipated to be completed during the 2010 construction season.

- W. Clayton Crest Ave. S. 22nd St. to S. 22nd Pl. (WT410091417) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 6410 -- \$75,000). The total estimated cost for this project including the requested amount is \$90,000. This project is anticipated to be completed during the 2010 construction season.
- W. Clayton Crest Ave. S. 23rd St. to S. 26th St. (WT410091418) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$9,000; Nonassessable Water Fund Budget Line 6410 -- \$211,000). The total estimated cost for this project including the requested amount is \$240,000. This project is anticipated to be completed during the 2010 construction season.
- E. College Ave. S. Howell Ave. to 5,250 feet east of S. Howell Ave. (WT410100504) File Number 091234: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$17,000; Nonassessable Water Fund Budget Line 6410 -- \$278,000). The total estimated cost for this project including the requested amount is \$310,000. This project is anticipated to be completed during the 2010 construction season.

- W. Mallory Ave. S. 21st St. to S. 22nd Pl. (WT410091421) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$6,000; Nonassessable Water Fund Budget Line 6410 -- \$144,000). The total estimated cost for this project including the requested amount is \$165,000. This project is anticipated to be completed during the 2010 construction season.
- S. 21st St. W. Clayton Crest Ave. to W. Mallory Ave. (WT410091420) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$7,000; Nonassessable Water Fund Budget Line 6410 -- \$153,000). The total estimated cost for this project including the requested amount is \$175,000. This project is anticipated to be completed during the 2010 construction season.
- S. 22nd Pl. W. Clayton Crest Ave. to W. Mallory Ave. (WT410091419) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$6,000; Nonassessable Water Fund Budget Line 6410 -- \$149,000). The total estimated cost for this project including the requested amount is \$170,000. This project is anticipated to be completed during the 2010 construction season.
- S. 23rd St. W. Abbott Ave. to W. Clayton Crest Ave. (WT410091416) File Number 071573: Relay water main. (Nonassessable Water Fund Budget Line 5010 -- \$5,000; Nonassessable Water Fund Budget Line 6410 -- \$130,000). The total estimated cost for this project including the requested amount is \$150,000. This project is anticipated to be completed during the 2010 construction season.

S. Howell Ave. Bridge over the Union Pacific Railroad (BR320062301/ST320062301) (2060-09-00/70) File Number 060882: Replace bridge, concrete bridge approaches, replace curb and gutter, sidewalk as necessary and grading.

Grantor Non-Reimbursable Paving Fund--\$80,300 Grantor Reimbursable Paving Fund -- \$12,000 City Share Non-assessable Paving Fund--\$25,100

Grantor Non-Reimbursable Structure Fund -- \$854,800 Grantor Structure Reimbursable Fund -- \$128,200 City Share Non-Assessable Structure Fund -- \$245,800

These funds are to be transferred to the construction account (BR320062310/ST320062310)) (2060-09-00/70)

Previously authorized for bridge construction: \$0.00

Current estimated cost of the total project including this resolution: \$1,346,100 Original estimated cost of the total project (File Number 060882): \$1,022,000 This project is anticipated to be completed during the 2010 construction season.

S. 6th Street Bridge over the Kinnickinnic River (BR100090105) (2235-01-71) File Number 081489: Replace bridge, concrete pavement bridge approaches, replace curb and gutter, sidewalk as necessary and grading.

Grantor Non-Reimbursable Paving Fund (ARRA) -- \$485,776;

Grantor Reimbursable Paving Fund -- \$0

City Share Non-Assessable Paving Fund -- \$0

Grantor Non-Reimbursable Structure Fund (ARRA) -- \$2,483,133

Grantor Reimbursable Structure Fund (Resolution 090779: MMSD ICA Cap) -

\$1,690,140

City Share Non-assessable Structure Fund -- \$226,998

These funds are to be transferred to the construction account (BR5210XXXX/ST320062310)) (2235-01-71)

Previously authorized for bridge construction: \$0.00

Current estimated cost of the total project including this resolution: \$4,936,047 Original estimated cost of the total project (File Number 081603): \$2,061,034 This project is anticipated to be completed during the 2010 construction season.

City Wide

2010 Sanitary Manhole Rehabilitation (SM494100102) File Number 091234: Infiltration/inflow reduction. (Nonassessable Sanitary Manhole Rehabilitation Fund -- \$2,780,000). The total estimated cost for this project including the requested amount is \$2,800,000. This project is anticipated to be completed during the 2010 construction season.

Indirect Account/Engineering Studies throughout the City of Milwaukee (SM493100001) File Number 091343: (Nonassessable TSS Removal Fund -- \$29,000). The total estimated cost for this project including the requested amount is \$30,000. This project is anticipated to be completed during the 2010 construction season.

City of Greenfield

S. 51st St. - W. Loomis Rd. to W. Grange Ave. (WT410100019) File Number 090909: Hydrant alteration. (Nonassessable Water Fund Budget Line 5010 -- \$4,000; Nonassessable Water Fund Budget Line 6410 -- \$46,000). The total estimated cost for this project including the requested amount is \$55,000. This project is anticipated to be completed during the 2010 construction season.

now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee that the Commissioner of Public Works is authorized and directed to proceed with said work; and, be it

Further Resolved, That the City Engineer and the Commissioner of Public Works are hereby authorized to negotiate and enter into an agreement with the State of Wisconsin, Department of Transportation for the City to undertake construction management duties on the following projects: W. National Ave. (ST320052301/UR033944000), S. Howell Ave. Bridge (BR320062301/ST320062301), and S. 6th Street Bridge (BR100090105) ;and be it

Further Resolved, That the City Engineer is authorized and directed to approve and make periodic payments to the State of Wisconsin, Department of Transportation after receipt of invoices from said State for the city's share of the costs for said projects: W. National Ave. (ST320052301/UR033944000), S. Howell Ave. Bridge (BR320062301/ST320062301), and S. 6th Street Bridge (BR100090105); and, be it

Further Resolved, That upon the completion of Projects W. National Ave. (ST320052301/UR033944000), S. Howell Ave. Bridge (BR320062301/ST320062301), and S. 6th Street Bridge (BR100090105) and a determination of the actual costs, it is understood that if the City of Milwaukee's share is less than the amount previously paid, the difference will be refunded to said City; and be it

Further Resolved, That the Department of Public Works is authorized to use the funding as specified in the above description of work; and, be it

Further Resolved, That the City Comptroller is authorized and directed to transfer such funds which are available for this purpose to the appropriate capital Project/Grant accounts.

..Requestor Infrastructure Services Division ..Drafter MLD:dr Nfr 8 02/12/10

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86)

A) DATE:Februa	ary 12, 2010			FILE NUMBER: Original Fiscal No		+o 回
SUBJECT: Substitute	e resolution approving constru	ction of nonassessable p	ublic improvements	_		
	onstruction cost estimated to					<u> </u>
B) SUBMITTED BY (name/title/dept./ext.): Mar	/ Dziewiontkoski/Assessn	nent Engineer/Public	: Works/X2460		
□ AI L	DOPTION OF THIS FILE AUT DOPTION OF THIS FILE DOI IST ANTICIPATED COSTS IN OT APPLICABLE/NO FISCAL	ES NOT AUTHORIZE EX I SECTION G BELOW.		THER COMMON COUN	ICIL ACTION NEE	DED.
□ C. ☑ PI	EPARTMENTAL ACCOUNT (APITAL PROJECTS FUND (C ERM. IMPROVEMENT FUND THER SPECIFY)	CPF) □ SPECI	NGENT FUND (CF) AL PURPOSE ACC & AID ACCOUNTS	OUNTS (SPA)		
E) PURPOSE SALARIES/WAGES:	SPEC	IFY TYPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SUPPLIES:	Grantor Reim	bursable Paving		\$492,000	\$492,000	
oor r Lieo.	Funds (Fund (, and the second		Ψ432,000	ψ+32,000	
	`	eimbursable Paving		\$566,076		
	Funds	Funds				
	DCD Share N	on-assessable Paving		\$120,000		
	Fund					
	City Share No	n-assessable Paving		\$25,100		
	Fund (Fund 0	333)				
		eimbursable Structure		\$3,337,933		
	Fund			** **********************************	D 1 010 010	
OTHER-Structure		bursable Structure		\$1,818,340	\$1,818,340	
Water	City Share Str	WT410		\$472,798 \$2,710,000		
Sewer		SM493		\$1,179,000		
Sewer		SM494		\$2,780,000		
Sewer		SM495		\$2,514,000		
TOTALS:				\$16,015,247	\$2,310,340	
F) FOR EXPENDITURE	S AND REVENUES WHICH	WILL OCCUR ON AN AN	NUAL BASIS OVER	R SEVERAL YEARS CH	ECK THE APPROI	PRIATE BOX
BELOW AND THEN L	IST EACH ITEM AND DOLLA	R AMOUNT SEPARATE	LY.			
□ 1-3 YEARS	☐ 3-5 YEARS	Expenditure = \$	16.015.247			
☐ 1-3 YEARS	☐ 3-5 YEARS	Revenue = \$2,3				
□ 1-3 YEARS □ 3-5 YEARS □ 3-5 YEARS						
	E 0 0 TE/IRO					
G) LIST ANY ANTICIPA	TED FUTURE COSTS THIS	PROJECT WILL REQUI	RE FOR COMPLET	ION:		
H) I IST ANV ANTICIDA	TED FUTURE COSTS THIS	DRO IECT WILL BECLIE	DE EOD COMPLET	ION: The total armor dit	ura includas tha s	ast of
	tion, construction, and city for		TE FOR CONTELL	ON. The total expendit	ure includes the co	osi oj
anamaarina incha	tion construction and city to	rcac				

January 29, 2010

File Number

To the Honorable, the Common Council

Dear Council Members:

Please find attached a "Title Only" resolution for approving construction of nonassessable public improvements to be introduced at the next Common Council Meeting. It is our intent to insert the body of the resolution in this jacket prior to the meeting of the Public Works Committee of February 18, 2010.

Respectfully submitted,

Special Deputy Commissioner of Public Works

MLD:dr Title only Nfr 8



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091338 **Version**: 1

Type: Ordinance Status: In Committee

File created: 1/27/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: A substitute ordinance relating to sidewalk special assessments for those sidewalks damaged by city

trees.

Sponsors: ALD. BAUMAN

Indexes: SIDEWALKS, SPECIAL ASSESSMENTS, TREES

Attachments:

Date	Ver.	Action By	Action	Result	Tally
1/27/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/5/2010	1	CITY CLERK	DRAFT SUBMITTED		
2/12/2010	1	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	1	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #:	091338	Version: 1		
Number 091338 Version SUBSTITU	TE 1			
Reference				
Sponsor ALD. BAUM Title A substitute trees.		elating to sidewalk spe	ecial assessments for th	nose sidewalks damaged by city
Sections 115-43-2-b-	-3 am			
ordinance e	eliminates the		se sections of sidewalk	n improvements is 50%. This s whose assessable
Body The Mayor	and Common	Council of the City o	f Milwaukee do ordain a	as follows:
Part 1. Sect	tion 115-43-2-	-b-3 and amended to	read:	
2. RECOVE b. Reconstr b-3. Walk 5	ERY RATES A ruction.			y trees which shall have a
LRB: <u>approved a</u>	AS TO FORM			
	Terence Bureau INION THAT TH D ENFORCEAB			
Office of the Control Date: Department	ity Attorney	<u> </u>		

Drafter LRB10046-2 JWC 2/4/10

CITY OF MILWAUKEE FISCAL NOTE

A) DATE	February 15, 2010		FILE	NUMBER:	091338		
			Origi	inal Fiscal Note	Substitute	X	
SUBJECT: A substitute ordinance relating to sidewalk special assessments for those sidewalks damaged by city trees.							
B) SUBMITTED BY	(Name/title/dept./ext.):	Mary Dziewiontkosk	i/Assessment Engi	neer/Public Works			
,	. ,						
C) CHECK ONE:	<u> </u>	IS FILE AUTHORIZES					
		IS FILE DOES NOT AU ITICIPATED COSTS IN			COMMON COUNC	L ACTION	
	NOT APPLICABLE	NO FISCAL IMPACT.					
D) CHARGE TO:	DEPARTMENT AC	COUNT(DA)		CONTINGENT FUND	(CF)		
-,	CAPITAL PROJEC			SPECIAL PURPOSE			
	PERM. IMPROVEM	IENT FUNDS (PIF)		GRANT & AID ACCO	JNTS (G & AA)		
	OTHER (SPECIFY)						
E) PURPOSE	SPECIFY T	YPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SALARIES/WAGES:							
SUPPLIES:							
MATERIALS:							
NEW EQUIPMENT:							
	ST211 (fund 0333), ST3	3200 (fund 0333) and		\$25,000 to			
	ST213 (fund 0333)			50,000-			
OTHER:							
TOTALS				\$25,000 to			
TOTALS				\$50,000			
•	RES AND REVENUES WH				EARS CHECK THE		
APPROPRIATE B	OX BELOW AND THEN LIS	T EACH ITEM AND DO	DLLAR AMOUNT S	EPARATELY.			
1-3 YEARS	3-5	YEARS					
1-3 YEARS	3-5	YEARS					
1-3 YEARS	3-5	YEARS					
G) LIST ANY ANTIC	CIPATED FUTURE COSTS	THIS PROJECT WILL	REQUIRE FOR CO	MPLETION:			
11) 0011517-1-5:	0 HOED IN ADDRESS -= -	100AL FOTHER	- (-(-1)	Innerda de 1	the seed of the	-2-1	
	S USED IN ARRIVING AT Fear. The impact is that there					sidewalk repair	
DI EASE LIST ANY CO	MMENTS ON REVERSE S	IDE AND CHECK HER					



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091391 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution determining it necessary to make various nonassessable public improvements at various

locations and appropriating funds for these purposes with the City engineering cost estimated to be

\$50,000 for a total estimated cost of these projects being \$500,000.

Sponsors: ALD. DONOVAN

Indexes: MENOMONEE RIVER VALLEY, MENOMONEE VALLEY PROJECT AREA, PUBLIC

IMPROVEMENTS, SANITARY SEWERS

Attachments: Cover Letter, Fiscal Nlote

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091391 **Version**: 0

Number

091391

Version

ORIGINAL

Sponsor

ALD. DONOVAN

Title

Resolution determining it necessary to make various nonassessable public improvements at various locations and appropriating funds for these purposes with the City engineering cost estimated to be \$50,000 for a total estimated cost of these projects being \$500,000.

Analysis

This resolution authorizes engineering studies on projects which by City Charter are nonassessable. After design plans and estimates of costs have been prepared, a resolution authorizing construction will be submitted to the Common Council. The City cost for engineering these projects is estimated to be \$50,000 with the total cost estimated to be \$500,000.

Body

Resolved, By the Common Council of the City of Milwaukee, that it is necessary and in the public interest to do the following described improvements according to City specifications:

8th Aldermanic District

City Lights Development (SM495100100): Install sanitary sewer and sewer lift station. (Nonassessable Sewer Maintenance Relay Fund -- \$50,000). The total estimated cost for this project including the requested amount is \$500,000. This project is anticipated to be completed during the 2010/2011 construction season.

;and, be it

Further Resolved, That all City Departments are authorized to perform engineering, surveys, plan preparation, and determine an estimated cost thereof; and, be it

Further Resolved, That the Department of Public Works is authorized to use the funding as specified in the above description of work; and, be it

Further Resolved, That the City Comptroller is authorized and directed to transfer such funds which are available for this purpose to the appropriate capital Project/Grant accounts.

Requestor

Infrastructure Services Division

Drafter

ZY

Npr

02/05/10



Department of Public Works Infrastructure Services Division Jeffrey J. Mantes Commissioner of Public Works

Preston D. Cole
Director of Operations

Jeffrey S. Polenske City Engineer



February 5, 2010

To the Honorable, the Common Council

Dear Council Members:

The attached resolution authorizes the Department of Public Works, Infrastructure Services Division to set up \$500,000 in SM495100100 which the Redevelopment Authority of the City of Milwaukee (RACM) can use in TID-73 for the construction of new sewer mains and a sewer lift station. This \$500,000 is part of the \$2.5 million funds that TID-73 will generate to aid in the redevelopment of the (23) twenty three acre area bounded by N. 16th St., N. 25th St., W. Mt. Vernon Ave. and the Menomonee River. The purpose of this project is to install a new sanitary sewer main and sewer lift station to service the renovated buildings which will be used for office space. The resolution authorizes RACM to reimburse the developer for construction expenses incurred on the City Lights Development once the \$2 million from TID-73 are exhausted.

We recommend adoption of the attached resolution.

Very truly yours.

Jeffrey S. Polenske, P.E.

City Engineer

Jeffrey J. Mantes, P.E.

Commissioner of Public Works

Attachment JMP: 3-5

CITY OF MILWAUKEE FISCAL NOTE

A)	DATE		February	5, 2010			FILI	E NUMBER:	091391	
							Orig	ginal Fiscal Note	Substitute [X
SUB	JECT:	Substitute appropria being \$50	iting funds for	etermining these purp	it necessary to ma oses with the City	ake various engineeri	s nonassessable ng cost estimate	e public improvement ed to be \$50,000 for a	s at various locations a total estimated cost	and of these projects
В)	SUBMI	TTED BY ((Name/title/de	ept./ext.):	Zafar Yousu	f/ Design I	Manager/ DPW-	Environmental/ x2467	7	
C)	CHECK	(ONE:	ADOP	TION OF T ED. LIST	THIS FILE AUTHO THIS FILE DOES N ANTICIPATED CO LE/NO FISCAL IM	NOT AUTH DSTS IN S	HORIZE EXPEN	IDITURES; FURTHEF OW.	R COMMON COUNC	IL ACTION
D)	CHARG	GE TO:	CAPIT PERM	AL PROJE	CCOUNT(DA) CTS FUND (CPF EMENT FUNDS (F	•		CONTINGENT FUND SPECIAL PURPOSE GRANT & AID ACCO	ACCOUNTS (SPA)	
E\	PURPO	\eE		SDECIEV	TYPE/USE		ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
E) SAI	ARIES/W			SPECIFI	TTPE/USE		ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
0712	, 	7.020.								
	PLIES: ERIALS:									
NEV	/ EQUIPN	MENT:								
ОТН	ER:									
тот	ALS					5	Sewer SM495	\$ 50,000 \$ 50,000		
F) [1-3 1-3 1-3	YEARS YEARS YEARS	OX BELOW A	3 S	HICH WILL OCCI LIST EACH ITEM I-5 YEARS I-5 YEARS I-5 YEARS	AND DOL	LAR AMOUNT		YEARS CHECK THE	
H)					FISCAL ESTIMA ese projects is est			e includes the cost of	engineering, inspecti	on,

PLEASE LIST ANY COMMENTS ON REVERSE SIDE AND CHECK HERE



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091392 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution authorizing the proper City Officers to set up \$450,000 to be used in the City Lights

Development within Tax Increment District 73 by the Redevelopment Authority of the City of Milwaukee for funding, construction, maintenance and operation of a sanitary sewer lift station and

public main sewers, to service the proposed City Lights Development.

Sponsors: ALD. DONOVAN

Indexes: AGREEMENTS, MENOMONEE RIVER VALLEY, MENOMONEE VALLEY PROJECT AREA,

REDEVELOPMENT AUTHORITY, SANITARY SEWERS, STREET LIGHTING

Attachments: Cover Letter, Fiscal Note

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

Number

091392

Version

ORIGINAL

Reference

081627

Sponsor

ALD. DONOVAN

Title

Resolution authorizing the proper City Officers to set up \$450,000 to be used in the City Lights Development within Tax Increment District 73 by the Redevelopment Authority of the City of Milwaukee for funding, construction, maintenance and operation of a sanitary sewer lift station and public main sewers, to service the proposed City Lights Development.

Analysis

This resolution authorizes the proper City Officers to set up funds to be used in Tax Increment District (TID) 73 by the Redevelopment Authority of the City of Milwaukee (RACM) to provide funding, planning, design, construction and operation of a sanitary sewer lift station and public main sewers. The facilities will be constructed near the intersection of N. 25th Street and W. Mt. Vernon St. and will serve the area bounded by N. 16th St., N. 25th St., W. Mt. Vernon St. (Ext.) and the Menomonee River which encompasses approximately twenty three (23) acres.

Body

Whereas, Developer of the City Lights Development-Giuffe VIII, LLC is working to redevelop property in the Menomonee Valley; and

Whereas, Redevelopment of property anywhere in the City of Milwaukee (City) requires compliance with the City storm water ordinance, Milwaukee Metropolitan Sewerage District (MMSD) rules and Wisconsin Department of Natural Resources (DNR) rules; and

Whereas, In the mutual interest of the City, RACM and Giuffe VIII, LLC owner of the property being redeveloped in the Menomonee Valley, Giuffe VIII, LLC, RACM and the City have agreed to construct and maintain a sanitary sewer lift station and public main sewers and associated appurtenances. The total estimated cost for this project including the requested amount is \$500,000. This project is anticipated to be completed during the 2010/2011 construction season; and

Resolved, By the Common Council of the City of Milwaukee, that the proper City Officers are authorized and directed to setup funds to RACM for use between the City of Milwaukee, RACM and the Giuffe VIII, LLC regarding construction, maintenance and operation of a sanitary sewer lift station and public main sewers for the approximate 23 acre proposed development defined by the Agreement; and, be it

Further Resolved, That the Department of Public Works is authorized to provide RACM with additional capital funding in an amount not to exceed \$500,000 from the City's 2010 Sewer Maintenance Fund in SM495100100 (File Number 091391) towards the total cost of the project. These funds shall be reimbursed to RACM upon Sewer Maintenance Fund approval of construction expenses based on the terms as set forth in the Term Sheet For City Lights Public Infrastructure/ Riverwalk Development Agreement TID-73.

The \$500,000 shall be made available after expending the initial \$2 million provided by the City Investment fund through TID-73. Any part of the \$500,000 Sewer Maintenance fund contribution not used as part of the

construction costs shall be returned to the Sewer Maintenance Fund.

Requestor

Department of Public Works Infrastructure Services Division

Drafter

Environmental Engineering Section ZY



Department of Public Works Infrastructure Services Division Jeffrey J. Mantes Commissioner of Public Works

Preston D. Cole
Director of Operations

Jeffrey S. Polenske City Engineer



February 5, 2010

To the Honorable, the Common Council

Dear Council Members:

The attached resolution authorizes the Department of Public Works, Infrastructure Services Division to set up \$500,000 in SM495100100 which the Redevelopment Authority of the City of Milwaukee (RACM) can use in TID-73 for the construction of new sewer mains and a sewer lift station. This \$500,000 is part of the \$2.5 million funds that TID-73 will generate to aid in the redevelopment of the (23) twenty three acre area bounded by N. 16th St., N. 25th St., W. Mt. Vernon Ave. and the Menomonee River. The purpose of this project is to install a new sanitary sewer main and sewer lift station to service the renovated buildings which will be used for office space. The resolution authorizes RACM to reimburse the developer for construction expenses incurred on the City Lights Development once the \$2 million from TID-73 are exhausted.

We recommend adoption of the attached resolution.

Very truly yours.

Jeffrey S. Polenske, P.E.

City Engineer

Jeffrey J. Mantes, P.E.

Commissioner of Public Works

Attachment JMP: 3-5

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86)

A) DATE:F	February 5, 2010				FILE NUMBER: _ Original Fiscal N		_ uto [V]	
		pproving construction of st estimated to be \$450,			at various locations and	d appropriating fund		
B) SUBMITTED	BY (name/title/de	ept./ext.): Zafar Yousuf	:/ Design Mana	ger/Environmental/ x2	<u>467</u>			
C) CHECK ONE:	C) CHECK ONE: ☑ ADOPTION OF THIS FILE AUTHORIZES EXPENDITURES. ☐ ADOPTION OF THIS FILE DOES NOT AUTHORIZE EXPENDITURES; FURTHER COMMON COUNCIL ACTION NEEDED. LIST ANTICIPATED COSTS IN SECTION G BELOW. ☐ NOT APPLICABLE/NO FISCAL IMPACT.							
D) CHARGE TO:	☐ CAPITAL PROJ	AL ACCOUNT (DA) ECTS FUND (CPF) /EMENT FUNDS (PIF) FY)	☐ SPE	ITINGENT FUND (CF) CIAL PURPOSE ACC NT & AID ACCOUNTS	OUNTS (SPA)			
E) BURDOCE		SPECIFY TYP		ACCOUNT	EVDENDITUDE	DEVENUE	CAVINGS	
E) PURPOSE SALARIES/WAGE		SPECIFY TYP	E/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SUPPLIES:								
MATERIALS:								
NEW EQUIPMENT:								
EQUIPMENT REP								
OTHER Structure	9							
Paving								
Water				01405	0 450,000			
Sewer				SM495	\$450,000			
TOTALS:					\$ 450,000			
F) FOR EXPENDIT	TURES AND REVE	NUES WHICH WILL OC	CUR ON AN A	ANNUAL BASIS OVEI	R SEVERAL YEARS CH	HECK THE APPRO	PRIATE BOX	
BELOW AND TH	IEN LIST EACH ITE	M AND DOLLAR AMOU	JNT SEPARAT	ΓELY.				
☐ 1-3 YEARS	□ 3-5 Y	/EARS						
☐ 1-3 YEARS	□ 3-5 Y	/EARS						
☐ 1-3 YEARS	□ 3-5 Y	/EARS						
C) LICT ANY ANT	ICIDATED FUTUR	COSTS THE DDO IF	CT WILL DEOL	LIDE FOR COMPLET	TON.			
G) LIST ANY ANT	ICIPATED FUTURE	E COSTS THIS PROJEC	ST WILL REQU	UIRE FOR COMPLET	ION:			
H) LIST ANY ANT	ICIPATED FUTURE	COSTS THIS PROJEC	CT WILL REQU	JIRE FOR COMPLET	ION: The total expend	iture includes the c	ost of	
		tion, and city forces.						
3 3/1								



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091357 **Version:** 0

Type: Communication-Report Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Communication from the Department of Public Works relating to sanitary bypass pumps.

Sponsors: ALD. MURPHY

Indexes: DEPARTMENT OF PUBLIC WORKS, REPORTS AND STUDIES, SANITARY SEWERS

Attachments: Communication

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

Number

091357

Version

ORIGINAL

Reference

Sponsor

ALD. MURPHY

Title

Communication from the Department of Public Works relating to sanitary bypass pumps.

Requestor

Drafter

2/2/10

Ime



Department of Public Works Infrastructure Services Division Jeffrey J. Mantes Commissioner of Public Works Preston D. Cole Director of Operations

Jeffrey S. Polenske City Engineer

October 19, 2009

Honorable Michael J. Murphy Alderman, 10th Aldermanic District Room 205, City Hall

Subject: Sanitary Bypass Pumps in the

10th Aldermanic District

Dear Alderman Murphy:

This is in response to your request during the September 17, 2009 Finance and Personnel meeting for additional information about City of Milwaukee sanitary bypass pumps.

The City of Milwaukee has 83 permitted sanitary bypass pumps, located throughout the City. These are broken down by aldermanic district in the enclosed table. Bypass pumps are located in the sanitary sewer and are designed to protect property owners adjacent to the pumps from basement backwaters during large rain events by pumping excess sanitary flow to the storm sewer.

Bypass pumps are individually programmed to engage at predetermined elevations based on surveys of low basements in the vicinity of the pump. Generally they are set to turn on approximately two to four feet below the low basement. Setting this elevation too low (further below the low-basement elevation) increases the likelihood that the pump will run more frequently. While pumps are in place to protect property owners, their operation becomes a Sanitary Sewer Overflow (SSO), which is a violation of the City's Water Pollution Discharge Elimination System (WPDES) permit with the Department of Natural Resources (DNR). These violations can also result in financial penalties to the City if the DNR determines the overflows are in occurring in storm events that are not considered extreme.

As stated above, the pumps are designed to engage at predetermined levels that are programmed into each pump station. This means that the pumps respond only to the actual water level in the pump manhole, and not to the specific rain event recurrence intervals (10-year, 100-year, 500-year event). Sanitary systems in the City have different levels of inflow and infiltration (I/I), and therefore do not react the same way during the same event, or even from rain event to rain event. Large rain events will impact each

Michael J. Murphy October 19, 2009 Page 2

sanitary system differently, which results in water levels in individual pump manholes to vary.

The specific pump at West Potomac Avenue and North Chapman Place utilizes an electronic level sensing device. This device did not function properly and has since been replaced. There is also a mechanical float located in this manhole (and many others) that is not part of the pump control system, but is an additional tool we use to monitor how sanitary systems perform during rain events.

The City has contracted with ASC Pumping Equipment to perform monthly checks of all bypass pumps. They submit to us a report each month noting 15 electrical readings and observations at each site, along with recommendations (see enclosed summary and detailed reports). We use this information to prioritize work for City forces to investigate and troubleshoot the pumps. We also selectively perform a more comprehensive evaluation of the pumps by simulating a high water condition in the pump manhole. This form of investigation consumes significant time and man power and is only done as needed. We are in the process of working with the DNR to prepare a more comprehensive testing procedure that can be done more efficiently. While we are confident in the results provided by ASC, they only provide a preliminary electrical evaluation of the pumps, and are not able to perform the more comprehensive testing.

If you would like to discuss any of this further, please contact my office.

If you have any questions please contact Mr. Martín A. Aquino at (414) 286-2462.

Very truly yours,

Jeffrey S. Polenske, P.E.

City Engineer

TJT: krs

Enclosures

KRS: 1-3

City of Milwaukee By-Pass Sewer Pump Station Inspection Report June 2009

									,	me 2009										
	Alm. Circ. Entered By Inspection Pe				Discharge Pipe		Power Cable	Wiring	Float	Level Transmitte		Pump Control Cabine		Phase Voltage	Amperage	Thermal Protection			· · · · · · · · · · · · · · · · · · ·	Comments
214 N 072nd St & W Hope Ave 215 N 072nd St & W Capitol Dr	01 Tom & K 01 Tom & K		2-Jun-09 2-Jun-09	Good Good	good	good	good	good	none		None good	good needs paint	241/243/241 245/245/243	3-Phase 3-Phase	12.3/13.2/13.6 14.5/13.8/14.1	.1/.1/.1	550/550/550 550/550/550	good	none	None multi ranger
216 W Potomac Ave & W Chapman Pl	01 Tom & K		2-Jun-09	some loose brick	good good	good	good	good	none none		good	good	243/243/242	3-Phase	12.5/13.5/12.3	.1/.1/.1	39.8/40.0/40.3	good	none	bricks loose in manway
220 N 049th St & W Luscher Ave	01 skip	yic iz	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	no panel
223 N 066th St & W Ruby Ave	01 Tom & K	yle 15	5-Jun-09	Good	good	good	good	good	none	Orap	None	good	241/239/239	3 Phase	7/6.2/6.5	.1/.1/.1	237/246/255	good	none	pump noise on shut down
041 N 037th St & W Kiley Ave	02 Tom & K	yle 15	5-Jun-09	Good	good	good	good	good	none		good	good	243/242/242	3 Phase	11.9/13/13.5	.1/.1/.1	44.2/44.2/44.0	good	none	mini ranger reads short
042 N 053rd St & W Silver Spring Dr	02 Tom & K		5-Jun-09	Good	good	good	good	good	none		good	good	238/236/236	3 Phase	20.6/19.7/19.5	.2/.2/.2	354/360/326	good	none	None
069 N 061st St & W Sheridan Ave	02 Tom & K	yle 16	6-Jun-09	good	good	good	good	good	none		gppd	good	242/242/242		14/16.5/13.6	.1/.1/.1	10.8/10.4/11.0	good	none	gates multi ranger
070 N 0551 O 0 W O A						1			l				1				1	do not		
072 N 055th St & W Custer Ave	02 Tom & K	yle 16	6-Jun-09	does not operate	do no operate		does not operate		does not operate	-1-1	none		does not operate o			does not operate	does not operate	operate	none	line loss, panel smells burnt
200 N 035th St & W Oriole Dr (40' n/o)	02 skip 03 skip		skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip
040 S Burrell St & W Van Norman Ave 048 W Green Ave & W Ramsey Ave	03 skip 03 Tom & K	vio 11	skip 2-Jun-09	skip Good	skip	skip	skip	skip	skip	skip	Skip None	skip	skip 241/241/240	skip 3-Phase	skip 13.2/13.6/12.7	skip .1/.1/.1	skip .57/.57/.57	skip good	skip	skip mini ranger/cabinets leaning
050 S Pine Ave & E Cudahy Ave	03 Tom & K		2-Jun-09	Good	good good	good	good	good	none none		None	good	245/245/245	1-Phase	10.7/11.1	.1/.1/.1	1.64/1.61	good	none	no gates
077 S Whitnall Ave (400' w/o) & E Waterford Ave	03 skip	.,	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip
205 S Quincy Ave & E Ohio St	03 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none	,	None	good	485/485/486	3-Phase	21.6/22.3/22.3	.1/.1/.1	.9/.9/.9	good	none	no gates/miniranger/test@1000v
211 S 001st Pl & W Bolivar Ave (S/S)	03 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none		None	good	244/246/246	3-Phase	13.6/13.3/15	.1/.1/.1	550/550/550	good	none	mini ranger/no gates
032 S 046th St & W Cleveland Ave	04 Tom & K	yle 12	2-Jun-09	excellent	good	good	good	good	none		None	good	244/244/244	3-Phase	7.5/7.2/7.2	.1/.1/.1	550/550/550	good	none	mini ranger
033 S 036th St (170' w/o) & W Lincoln Ave	04 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	240/240/240	3-Phase	6.4/6.8/7.0	.1/.1/.1	282/296/302	good	none	called in to r. c. talley
037 S 077th St & W Oklahoma Ave	04 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	242/243/242	3-Phase	18.2/16.8/17.8	.1/.1/.1	550/550/550	good	none	mini ranger/no gates
038 S 054th St & W Midland Dr	04 Tom & K		2-Jun-09	very good	good	good	good	good	none		None	good	240/239/239	3-Phase	20.6/19.7/19.2	.1/.1/.1	4.38/4.48/4.44	good	none	no gates
039 S 092nd St & W Howard Ave	04 Tom & K 04 Tom & K	, -	2-Jun-09 2-Jun-09	Good Good	good	good	good	good	none none		None None	good	241/242/242 246/248/247	3-Phase 3-Phase	26.3/23.7/25.8 13.3/12.9/13.3	.1/.1/.1	6.37/6.42/6.46 no reading	good	none Possible bad ground	mini ranger/no gates
045 S 086th St & W Ohio Ave 074 S 099th St & W Oklahoma Ave	04 Tom & K		2-Jun-09	Good	good good	good	good	good	none		None	good	247/247/248	3-Phase	27.7/29.4/27.6	.1/.1/.1	no reading	good	Possible bad ground	Possible bad ground Possible bad ground
209 S 057th St & W Euclid Ave	04 Tom & K		2-Jun-09	some loose brick	good	good	good	good	none		None	good	236/237/237	3-Phase	20.7/20.3/20.6	.1/.1/.1	184/183/186	good	none	some loose and cracked bricks
225 S 072nd St & W Honey Creek Dr (N/E)	04 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	very good	246/245/246	3-Phase	12/13.2/12.4	.1/.1/.1	68.2/66.5/65.6	good	none	None
230 S Honey Creek Dr & W Riverbend Dr (S/W)	04 Tom & K		2-Jun-09	some loose brick	good	good	good	good	none		None	very good	246/245/245	3-Phase	12.3/13.8/12.5	.1/.1/.1	55.8/56.1/56.4	good	none	loose bricks
240 S 094th St & W Howard Ave	04 Tom & K	yle 12	2-Jun-09	very good	good	good	good	good	none		None	very good	242/242/242	3-Phase	9.5/9.4/9.4	.1/.1/.1	.94/.95/.97	good	none	no gates
241 W KK River Pkwy & W Cleveland Ave	04 Tom & K		2-Jun-09	cover tarred shut	good	good	good	good	none		None	good	243/243/243	3-Phase	23.4/25.5/24.0	.1/.1/.1	296/316/320	good	none	manhole shut could not open
025 N 060th St (W/S) & W Custer Ave	05 Tom & K		6-Jun-09	good	good	good	good	good	none		None	good	241/241/241		9.6/9.4/9.6	.1/.1/.1	16.3/17.3/18.4	good	none	noise on shut down
026 N 060th St (E/S) & W Custer Ave	05 Tom & K		6-Jun-09	Good	good	good	good	good	none		None	good	242/242/242		10.4/7.5/10.1	.1/.1/.1	11.8/11.7/12.0	good	none	None
027 N 061st St & W Lawn Ave	05 Tom & K		2-Jun-09	Good	good	good	good	good	none		good	good	246/245/245	3-Phase	28.3/28.4/27	.1/.1/.1	no reading	good	Possible bad ground	Possible bad ground
028 N 060th St (W/S) & W Custer Ave (150' s/o)	05 Tom & K 05 Tom & K		6-Jun-09	Good Good	good	good	good	good	none		good	good	241/241/242 242/242/242		5.9/6.1/5.6 15.2/16.5/18.2	.1/.1/.1	550/550/550 550/550/550	good	none	none
029 N 060th St (Center) & W Custer Ave (320' s/o) 030 N 063rd St & W Fairmount Ave (95' w/o)	05 Tom & K 05 skip	yıe It	6-Jun-09 skip	skip	good skip	good	good skip	good skip	none skip	skip	good	good skip	242/242/242 skip	skip	15.2/16.5/18.2 skip	.1/.1/.1 skip	550/550/550 skip	good skip	none	none skip
073 N 056th St & W Villard Ave	05 Tom & K	vle 12	2-Jun-09	Good	good	good	good	good	none	экір	None	good	241/239/239	3 Phase	15/15.6/16.0	.1/.1/.1	118/121/126	good	none	echo multi ranger / no gates
232 N 062nd St & W Fairmount Ave	05 Tom & K		2-Jun-09	skip	skip	pump locked-up	skip	smells burned	none	unknown	None	skip	242/239/240	skip	8.5/7.7/7.8	.1/.1/.1	24.3/24.3/23.7	None	electrical	burned smell in control cabnet
238 N 049th St & W Rohr Ave	05 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	240/240/240	3-Phase	21.6/19.3/19.3	.3/.3/.2	550/550/550	good	none	echo multi ranger/hang elect.box
046 N 107th St & W Lawn Ave	06 Tom & K		6-Jun-09	Good	good	good	good	good	none		None	good	243/243/243		16.4/16.9/16.6	.1/.1/.2	530/530/530	good	none	None
047 N 107th St & W Silver Spring Dr (100' s/o)	06 Tom & K	yle 16	6-Jun-09	Good	good	good	good	good	none		good	very good	239/239/239	3-Phase	10.7/16.3/12.9	.1/.1/.1	550/550/550	good	none	None
075 N 110th St & W Harvest Ln	06 Tom & K		6-Jun-09	Good	good	good	good	good	none		good	good	241/241/241	3-Phase	32.6/28.6/28	.1/.1/.1	.48/.53/.55	good	None	no gates
226 W Crossfield Ave & W Monrovia Ave	06 Tom & K		6-Jun-09	seal rough	good	good	good	good	none		good	good	236/236	1-Phase	2.9/2.8	.2/.2	4.57/4.55	good	None	manhole seal rough
008 N 089th St & W Townsend St	07 Tom & K		2-Jun-09	excellent	excellent	good	good	good	none		None	excellent	245/243/245	3- Phase	16.3/17.4/17.8	.1/.1/.1	550/550/550	excellent	none	None
009 N 090th St & W Townsend St	07 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none	-1-1	None	excellent	244/244/245	3-Phase	13.3/12.8/12.5	.1/.1/.1	550/550/500	good	none	none
016 N 095th St & W Metcalf PI 031 N 096th St & W Auer Ave	07 skip 07 Tom & K	vio 11	skip 2-Jun-09	skip Good	skip	skip	skip	skip	skip none	skip	Skip None	skip	skip 238/238/238	skip 3 -Phase	skip 9.1/8.6/9.4	skip .1/.1/.1	skip 442/426/436	skip good	skip	skip None
060 N 088th St & W Concordia Ave	07 Tom & K		2-Jun-09	Good	good good	good	good	good	none		good	good	244/245/244	3-Phase	12.2/11.8/12.1	.1/.1/.1	550/550/550	good	none	cabinet still leaning
061 N 080th St & W Townsend Ave	07 Tom & K	, -	2-Jun-09	excellent	excellent	good	excellent	good	none		None	excellent	243/242/243	3-Phase	11.1/11.4/10.7	.1/.3/.1	550/550/550	excellent	none	None
062 N 075th St & W Hadley St	07 skip	,	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip
199 N 086th St & W Center St	07 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none		None	good	239/240/240	3-Phase	19.2/19.4/19.2	.1/.1/.1	550/550/550	good	none	None
201 N 088th St & W Center St	07 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none		None	good	237/238/238	3-Phase	17.4/16.4/16.7	.1/.1/.1	502/535/544	good	none	None
203 N 089th St & W Center St (N/S)	07 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	238/237/237	3-Phase	15.6/15.9/16.2	.1/.1/.1	550/550/550	good	none	None
204 N 087th St & W Center St	07 Tom &K		2-Jun-09	Good	good	good	good	good	none		None	Fair	242/243/243	3-Phase	11.2/13.8/14.1	.1/.1/.1	550/550/550	good	none	None
210 N 089th St & W Center St (S/S)	07 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	leaning	239/239/239	3-Phase	10.9/11.1/10.7	.1/.1/.1	.60/.60/.60	good	none	No display on mini-ranger
237 N 067th St & W Center St	07 Tom & K		2-Jun-09	loose brick	good	good	good	good	none		good	good	242/242/241	3-Phase	28.9/28.9/27.9	.1/.1/.1	508/528/550	good	none	pump noise on shut down
002 N 020th St & W Fairmount Ave 034 N Milwaukee River Pkwy & W Lawn Ave	09 Tom & K 09 Tom & K		2-Jun-09 2-Jun-09	good excellent	good good	good	good good	good good	none none		good None	good	240/239/239 240/240/241	3-Phase 3-Phase	5.2/5.8/5.6 13.2/13.1/12.9	.5/.5/.5	550/550/550 124/125/128	good good	none	mini ranger gates mini ranger no gates
035 N Milwaukee River Pkwy & W Lawn Ave (340' ne/o)	09 Tom & K		2-Jun-09	Good	good	good	good	good	none		good	good	248/249/248	3-Phase	9.4/8.8/9.0	.1/.1/.1	72.4/73.5/74	good	none	mini ranger no gates
055 N 023rd St & W Villard Ave	09 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	236/238/239	no-power	14.5/16.1/15.6	.1/.1/.1	550/550/550	None	unknown	mini ranger gates
056 N 024th St & W Villard Ave	09 Tom & K	yle 15	5-Jun-09	Good	good	good	good	good	none		None	good	no reading	no reading	no reading	no reading	no reading	none	good	tripped breaker/ elec. Problem
057 N 024th PI & W Villard Ave	09 Tom & K	yle 12	2-Jun-09	good	excellent	good	good	good	none		None	good	240/237/237	3-Phase	20.0/19.9/23.0	.7/.7/.7	550/550/550	good	none	mini ranger
063 N 027th St & W Villard Ave	09 skip		skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	Station turned off
064 N 028th St & W Villard Ave	09 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	245/245/245	3-Phase	21.2/18.4/20.5	.1/.1/.1	3.90/3.93/3.95	good	unknown	pump control was in off position, Ran pump made test
065 N 029th St & W Villard Ave	09 Tom & K	yle 12	2-Jun-09	Good	good	good	good	good	none		None	good	246/247/247	3-phase	21.8/20.5/20.9	.3/.3/.4	2.73/2.88/2.88	good	none	none
066 N 027th St & W Villard Ave (300' n/o)	09 skip 09 Tom & K	ulo 10	skip	skip some decay	skip	skip	skip	skip	skip	skip	Skip None	skip	skip 245/245/245	skip 3-Phase	skip 30.6/33.8/39.1	skip 1.1/1.1/1.3	skip 70.0/71.1/72.0	skip	skip	Station turned off cord broke on top of pump
198 N 031st St & W Villard Ave	09 TOIII & N	yle 12	2-Jun-09	cannot hear pump	good	good	good	good	none	cant hear	None	good	cannot hear	cannot hear	30.0/33.0/33.1	1.1/1.1/1.3	70.0/71.1/72.0	good cant hear	Hone	cord broke on top or pump
207 N Green Bay Rd & W Fairmount Ave	09 Tom & K	yle 16	6-Jun-09	run	cant hear pump	cant hear pump	can't hear pump	cant hear pump	none	pump	None	cannot hear pum	p pump	pump	cannot hear pump	cannot hear pump	cannot hear pump	pump	cannot hear pump	cannot hear pump run
208 N 019th PI & W Fairmount Ave	09 Tom & K	yle 12	2-Jun-09	good	good	good	good	good	none		good	good	244/245/244	3-Phase	16.7/17.5/18.6	.6/.6/.6	108/123/129	good	none	mini ranger gates
023 N 020th St & W Hampton Ave (N/S)	10 Tom & K		2-Jun-09	Good	good	good	good	good	none		good	good	238/238/237	3-Phase	7.6/7.0/7.9	.5/.5/.5	61.0/61.0/60.0	good	none	mini ranger gates
024 N 020th St & W Hampton Ave (S/S)	10 Tom & K		2-Jun-09	Good	good	good	good	good	none		good	good	241/239/239	3-Phase	7.5/7.8/7.0	.1/.1/.1	550/550/550	good	none	mini ranger gates/ reading ok
058 N 020th St & W Hampton Ave (680' s/o)	10 Tom & K		2-Jun-09	good	good	good	good	good	none		good	good	481/479/483	3-Phase	8.0/8.8/8.8	.1/.1/.1	2.3/2.3/2.8	good	none	float switch sonar
059 N 021st St & W Hampton Ave	10 Tom & K		2-Jun-09	very good	good	good	good	good	none		good	good	238/238/237	3-Phase	10.6/10.9/10.5	.1/.1/.1	550/550/550	good	none	None
233 W Olive St & W Roosevelt Dr (440 ' se/o) 001 N 041st St & W Congress St (S/S)	10 Tom & K	yie 12	2-Jun-09 skip	Good skip	good skip	good	good skip	good skip	none skip	skip	good	good	241/243/243 skip	3-Phase skip	8.6/8.7/9.1 skip	.1/.1/.1 skip	226/237/245 skip	good skip	none	selec switch in off/runs in auto
001 N 041st St & W Congress St (5/5) 003 N 031st St & W Capitol Dr (N/S)	11 Tom & K	vle 11	2-Jun-09	very good	very good	good	good	good	none	οκιμ	None	good	243/243/243	3-Phase	5.0/4.9/4.6	.1/.1/.1	22.4/22.6/22.8	good	none	None
004 N 031st St & W Capitol Dr (N/S)	11 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	242/243/243	3-Phase	7.7/7.5/7.2	.1/.1/.1	550/550/550	good	none	None
014 N 041st St & W Congress St (N/S)	11 Tom & K		2-Jun-09	very good	good	good	good	good	none		None	very good	248/250/248	3-Phase	9.2/8.2/9.4	.1/.1/.1	2.15/2.19/2.25	good	none	no gates
219 N 027th St & W Hope Ave (404' s/o)	11 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	243/243/243	3-Phase	17.1/16.3/16	.1/.1/.1	8.6/8.68/8.8	none	none	None
242 N 036th St & W Toronto St	11 Tom & K		2-Jun-09	very good	good	good	good	good	none		None	good	240/239/240	3-Phase	14.9/15/13.5	.1/.1/.1	21.7/22.1/23.1	good	none	shear gates
243 N 030th St & W Hope Ave	11 Tom & K	yle 12	2-Jun-09	very good	good	good	good	good	none		None	good	242/242	3-Phase	15.8/15.0	.1/.1	247/267	good	none	mini ranger / no gates
052 W Medford Ave & W Grantosa Dr	12 Skip		skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip	skip
234 N 076th St (W/S) & W Glendale St	12 Tom & K		6-Jun-09	Good	good	good	good	good	none		None	good	239/239/239	0 Db-	15.6/16.4/16.3	overload set @ 28A		good	none	gates overload set/multi-ranger
236 N 083rd St & W Hope Ave	12 Tom & K		2-Jun-09	Good	good	good	good	good	none		None	good	246/244/245	3-Phase	23.7/23.1/24.2	.1/.1/.1	11.0/12.4/14.7	good	none	None
239 W Potomac Ave & W Glendale (350' nw/o) 901 N 035th St & W Hopkins St (Pumps To Mis)	12 Tom & K Tom & K		2-Jun-09	Good	good very good	good	good	good	none		None	good	249/247/247 485/484/486	3 Phase 3-Phase	17.9/18/17 16.9/17.4/15.9	.1/.1/.1 overload set @ 40A	196/195/192 A 2.6/3.0/3.1	good	none	None
SOT IN OCCUPACION OF A MA LICENSING OF (LALLIES TO MIS)	TOITI & K	.yı ∪ 12	2-Jun-09	very good	very good	good	good	good	none		None	good	N: 229/229/229	J-F11dSE	N: 67.1/68.7/68.7	overioau set @ 40F	A 2.6/3.0/3.1 N: 550/550/550	good	none	none
A N Lincoln Memorial Dr. & W Belleview	Tom & K	vle 2	4-Jun-09	excellent	good	good	good	good	not used	ok	none	good	S: 238/238/238	3 Phase	S: 68.7/68.7/68.7	N/A	S: 550/550/550		none	H2 Balder Inverter Drive Mini-Ranger
	1011 & 10	.,	. 55 55	SASSIIOTIL .	9500	9500	9000	9500		- OK		9000	N: 247/247/247	J1430	N: 31.9/30.6/31.5					The Balact Interior Brive William Harrigon
B N Lincoln Memorial Dr. & W Lafayette St.	Tom & K	yle 24	4-Jun-09	excellent	good	good	good	see comments	not used	ok	None	good	S: 247/247/247	1 Phase	S: 30.9/32.4/31.3	.1/.1/.1	S: 550/550/550	good	none	Wires hang out of panel, can't close pump door, MR
•												_	N: 241/249/244		N: 6.1/4.8/5.6	N: .1/.1/.1 S:		_		
C N Lake Dr. & W Newport Ct.	Tom & K	yle 24	4-Jun-09	excellent	good	good	good	good	no longer needed	ok	None	good	S: 244/247/243	1 Phase	S: 5.7/5.7/5.1	.1/.1/.1	S: 56.5/56.0/55.6	good	none	Handle on pit door broken Mini Ranger
·					<u> </u>	, ,	<u> </u>	Ĭ	<u> </u>			1								
D N 91st St. & W County line Rd.	Tom & K	yle 24	4-Jun-09	Good	good	good	good	good	not used	ok	None	good	N: 490/491/491	3 Phase	N: 10.2/10.5/11.0	N: .1/.1/.1	N: 11.0/11.0/11.0	good	none	South pump turned off due to plug valve failure
•					-	-	-	-				-	N: 243/243/243							
E N 124th St. & W Brown Deer Rd.	Tom & K	yle 24	4-Jun-09	Good	good	good	good	good	not used	ok	None	good	S: 243/243/243	3 Phase	S: 8.6/8.9/8.8	.1/.1/.1	S: 550/550/550		none	South pump guide rail vibrates when running, MR



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091345 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution directing the Commissioner of Public Works to execute an agreement with the Wisconsin

Department of Transportation for the programming and construction of the improvement of South 27th Street (STH 241) from West College Avenue to West Howard Avenue with Federal/State aid under the State Trunk Highway Program, at a total estimated cost of \$4,303,000, with an estimated grantor

share of \$4,260,000 and an estimated City share of \$43,000.

Sponsors: THE CHAIR

Indexes: AGREEMENTS, HIGHWAYS, STREET IMPROVEMENTS, WISCONSIN DEPARTMENT OF

TRANSPORTATION

Attachments: Cover Letter, Fiscal Note, Agreement, Comptroller's Certificate

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

Number

091345

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution directing the Commissioner of Public Works to execute an agreement with the Wisconsin Department of Transportation for the programming and construction of the improvement of South 27 th Street (STH 241) from West College Avenue to West Howard Avenue with Federal/State aid under the State Trunk Highway Program, at a total estimated cost of \$4,303,000, with an estimated grantor share of \$4,260,000 and an estimated City share of \$43,000.

Analysis

This resolution directs the Commissioner of Public Works to execute a project agreement with the Wisconsin Department of Transportation (WISDOT) for programming and construction of the improvement of South 27 th Street (STH 241) from West College Avenue to West Howard Avenue under the State Trunk Highway Program. Approval of the agreement with the WISDOT will enable the project to be undertaken using 100 percent Federal/State aid for preliminary engineering costs and 100 percent Federal/State aid for construction costs, excluding cost for items designated to be non-participating by the state. The estimated total cost of the project is \$4,303,000 of which the City of Milwaukee's construction share is estimated to be \$43,000 and the grantor share is \$4,260,000. Approval for construction costs will be included in this resolution. City of Milwaukee costs for plan review, which will be funded 100 percent by the City of Milwaukee, are estimated to be \$8,000.

Body

Whereas, South 27 th Street (STH 241) from West College Avenue to West Howard Avenue is scheduled for improvement in 2010 as part of the Wisconsin Department of Transportation's (WISDOT) State Trunk Highway Program; and

Whereas, The WISDOT has undertaken the necessary preliminary engineering and plan preparation for the improvement; and

Whereas, The WISDOT has submitted an agreement to the City of Milwaukee for the programming and construction of the project with Federal/State aid under the State Trunk Highway Program; and

Whereas, Approval of the agreement by the WISDOT will enable the project to be undertaken with 100 percent Federal/State aid for preliminary engineering costs and 100 percent Federal/State aid for construction costs, the City's share of the construction cost being based on items such as water and sanitary sewer adjustments being non-participating and funded 100 percent by the City of Milwaukee; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the Commissioner of Public Works (CPW) is hereby authorized and directed to execute the agreement for programming and construction of the improvement of South 27 th Street from West College Avenue to West Howard Avenue with Federal/State aid under the State Trunk Highway Improvement Program, a copy of which is attached to Common Council File No. 091345 and is incorporated in this resolution by reference as though set forth in full; and, be it

Whereas, The state cannot proceed with any project cost overruns and/or changes in scope of more than five percent without prior DPW approval; and

Whereas, The DPW shall notify the Common Council of the City of Milwaukee of any such project cost overruns and/or changes in scope approved by DPW; and

Whereas, The Common Council of the City of Milwaukee recognizes that the City may be 100 percent liable for any such project cost overruns and/or changes in scope as approved by the DPW; and

Whereas, The Common Council of the City of Milwaukee recognizes that the City may be liable for any cost incurred by

the State should the City decide to withdraw from the project; and, be it

Further Resolved, By the Common Council of the City of Milwaukee that the Comptroller is hereby directed to create within the Capital Improvement Fund, Grant and Aid Projects the necessary Project/Grant Chartfield Values for the plan review (State ID 2265-14-00, 70) and transfer to this account the amount required under the grant agreement and City Accounting Policy but not to exceed a 10 percent increase of the total amounts reserved for grantor's share and local share of \$5,000, whichever is greater as follows:

Infrastructure Services Division Accounts

Project I.D. 2265-14-00 South 27th Street - West College Avenue to West Howard Avenue

City Share Non-Assessable Paving Project/Grant Number ST320100000 Fund Number 0333 \$14,700

Previously authorized for preliminary engineering: \$0

Current estimated costs of the total project prior to this resolution: \$4,303,000 Original estimated costs of the total project (current resolution): \$4,295,000

Project I.D. 2265-14-70 South 27th Street - West College Avenue to West Howard Avenue

City of Milwaukee Share Assessable Paving Project/Grant Number ST320100000 Fund Number 0330 \$28,300

Previously authorized construction: \$0

Current estimated cost of total project including this resolution: \$4,303,000

Original estimated cost of total project: \$4,295,000

; and, be it

Further Resolved, That the City Engineer is hereby directed to approve and make periodic payments to the WISDOT upon receipt of invoices for the City's share of the costs for the above project.

Requestor

Department of Public Works

Drafter

Infrastructure Services Division LCG:amh

January 26, 2010

Reso S 27th St (STH 241) W Colg - W Howrd 012010.rtf

January 26, 2010

To the Honorable, the Common Council

Subject: South 27th Street (STH 241) from West College Avenue to West Howard Avenue

Dear Council Members:

The Wisconsin Department of Transportation (WISDOT) has programmed the subject project for construction in 2010 as part of the State Trunk Highway Program.

South 27th Street (STH 241) from West College Avenue to West Howard Avenue lies within the City of Milwaukee. Consequently, we have received a project agreement from the WISDOT to be executed by the City for its programming and construction. Preliminary engineering costs for this project will have 100 percent Federal/State participation and construction costs will have approximately 100 percent Federal/State cost participation, excluding items designated as non-participating by the state.

City of Milwaukee costs for plan review, estimated at \$8,000, and non-participating construction costs such as water and sanitary sewer adjustments, and walk are estimated at \$35,000, will be funded 100 percent by the City of Milwaukee.

Attached is a resolution which authorizes and directs the Commissioner of Public Works to execute the project agreement with the WISDOT for the programming and construction of the subject project with Federal/State aid. This resolution also authorizes and directs the City Comptroller to transfer funds to the project sub account for the plan review cost to be conducted by the City of Milwaukee and to set up the city's non-participating construction costs for this project.

Very truly yours,

Jeffrey S. Polenske, PE City Engineer

Jeffrey J. Mantes Commissioner of Public Works

LCG:amh

Attachment

c: Alderman Terry Witkowski

CITY OF MILWAUKEE FISCAL NOTE

A) DATE	<u> January</u>	26, 2010					FILE	NUMBER:		
							Origi	inal Fiscal Note X	Substitute	
CIID IECT:	Desclution	authorizina		d din	poting the Commissions	n of E	Public Works to	ovoguto on ogroomor	at with the Wissensin	Department of
SUBJECT.	SUBJECT: Resolution authorizing and directing the Commissioner of Public Works to execute an agreement with the Wisconsin Department of Transportation for the programming and construction of the improvement of South 27 th Street (STH 241) from West College Avenue to West Howard Avenue with Federal/State aid under the State Trunk Highway Program at a total estimated cost of \$4,303,000, with a grantor share									
						runk l	Highway Progran	at a total estimated	cost of \$4,303,000, with	a grantor share
	01 \$4,268,0	00 and a Ci	ty sh	are of	\$43,000.					
B) SUBI	MITTED BY (N	lame/title/d	ept./	/ext.):	Jeffrey S. Pole	nske,	PE / City Engine	er / Infrastructure S	Services Division / ex	tension 2400
	-									
C) CHE	CK ONE:			_	THIS FILE AUTHORIZ	_				
	L				THIS FILE DOES NOT ANTICIPATED COST				R COMMON COUNCIL	. ACTION
	Г				BLE/NO FISCAL IMPAC		SECTION G BEEC	JVV.		
	L	NOT	466	LICAI	BLE/NO FISCAL IIVIPAC	J1.				
									·	1
D) CHAI	RGE TO:				ACCOUNT(DA)			CONTINGENT FUND	• ,	
	<u>_</u>				JECTS FUND (CPF)			SPECIAL PURPOSE	` ,	
	<u>_</u>				VEMENT FUNDS (PIF)	1	<u>X</u> (GRANT & AID ACCO	UNTS (G & AA)	
	L	OTHE	∃R (\$	SPEC	IFY)					
E' 51151	2005	1			EV TVDE#10E		400011117	EVENIBITUE	DEVENUE	041/11/00
E) PURI			SI	PECII	FY TYPE/USE		ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SALARIES/	WAGES:									
SUPPLIES:										
MATERIAL	S:									
NEW EQUI	PMENT:									
EQUIPMEN	T REPAIR:									
								411-11		
OTHER:		City Sha	e No	on-As	ssessable Paving Fun		ST320100000	\$14,700		
		City Sha			sble Paving Fund	-	Fund 0333 ST320100000	28,300		
		City Sila	C As	33633	sble ravilly ruliu		Fund 0330	20,300		
		Grantor	Non-	-reim	bursable Paving Fund			4,260,000	4,260,000	
TOTALS								\$4,303,000	\$4,260,000	
		ı								
F) FOR E	XPENDITURE	S AND RE	VEN	UES	WHICH WILL OCCUR	ON AN	N ANNUAL BASI	S OVER SEVERAL	YEARS CHECK THE	
APPRO	OPRIATE BOX	(BELOW A	ND T	THEN	I LIST EACH ITEM AND	D DOL	LAR AMOUNT S	EPARATELY.		
		<u> </u>								
-=	-3 YEARS		<u>l</u>		3-5 YEARS		Expenditures: \$4	• •		
	-3 YEARS		<u>_</u>	#	3-5 YEARS	ŀ	Revenues: \$4	4,260,000		
1.	-3 YEARS				3-5 YEARS					
G) LIST	ANY ANTICIF	ATED FUT	URE	COS	STS THIS PROJECT W	ILL RE	EQUIRE FOR CO	MPLETION:		
					w and non-participatin				is estimated to be \$4	,295,000.
H) LIST	ANY ANTICIF	ATED FUT	URE	COS	STS THIS PROJECT W	ILL RE	EQUIRE FOR CO	OMPLETION:		
		• .								
PLEASE LI	ST ANY COM	MENTS ON	RE\	VERS	SE SIDE AND CHECK I	HERE				

STATE/MUNICIPAL AGREEMENT FOR A HIGHWAY IMPROVEMENT PROJECT

DATE: January 15, 2010

PROJECT DESIGN ID: 2265-14-00

PROJECT CONSTRUCTION ID: 2265-14-70 HIGHWAY: S 27th Street LENGTH: 5 miles LIMITS: College Avenue to Howard Avenue

COUNTY: Milwaukee

The signatory city, village, town or county, hereinafter called the Municipality, through its undersigned duly authorized officers or officials, hereby requests the State of Wisconsin Department of Transportation, hereinafter called the State, to initiate and effect the highway or street improvement hereinafter described.

The authority for the Municipality to enter into this agreement with the State is provided by Section 86.25(1), (2), and (3) of the Statutes.

NEEDS AND ESTIMATE SUMMARY:

Signed for and in behalf of the City of Milwaukee.

Name

Existing Facility - Describe and give reason for request: Improvement.

Proposed Improvement - Nature of work: As determined by project scoping.

Describe non-participating work included in the project and other work necessary to finish the project completely which will be undertaken independently by the municipality: A nominal amount is included to cover items in paragraph 4 (to be adjusted in the final plan).

PHASE	ESTIMATED COST									
	Tota	tl	Fed	eral/		Muni	cipal			
•	Est.	Cost	Stat	e Funds	%	Fund	s	%		
Preliminary Engineering:	•			,			•			
Plan Development	\$	540,000	\$	540,000	100%	\$	-	0%		
Real Estate Acquisition:		•					•			
Acquisition	\$	100,000	\$	100,000	100%	\$		0%		
Compensable Utilities	\$	20,000	\$	20,000	100%	\$	-	0%		
Construction:				•						
Participating	\$	3,600,000	\$	3,600,000	100%	\$	-	0%		
Traffic Control Devices	\$		\$	-		\$	-			
New Sidewalk	\$	-	\$	-		\$	-			
New Lighting	\$	-	\$	=		\$	-			
Landscaping	\$	-	\$	-		\$.	-			
Non-Participating	\$	35,000	\$	-		\$	35,000	100%		
Total Cost Distribution	\$	4,295,000	\$	4,260,000	-	\$	35,000			

This request is subject to the terms and conditions that follow (pages 2 and 3) and is made by the undersigned under proper authority to make such request for the designated Municipality and upon acceptance by the State shall constitute agreement between the Municipality and the State.

Name Title Date

Title

Date

TERMS AND CONDITIONS:

- 1. The initiation and accomplishment of the improvement will be subject to the applicable Federal and State regulations.
- 2. The Municipality will pay to the State all costs incurred by the State in connection with the improvement which exceeds Federal/State financing commitments or are ineligible for Federal/State financing. The Municipality's concurrence is required before award of the contract for the improvement when the contracts exceed 5% of the estimate. The Municipality must also concur with contract modifications to contracts awarded by the State over \$25,000.00, unless the authorized representative of the State determines that a prompt change order is needed to preserve the work in progress, prevent extraordinary damage avoid unreasonable & costly delay, or other extraordinary condition of necessity, safety or emergency exists. The authorized representative of the State shall provide notice of the prompt change order to the Municipality or its authorized representative as soon as practicable thereafter and the Municipality shall pay its share of the prompt change order cost.
- 3. Funding of each project phase (preliminary engineering, real estate, construction, and other) is subject to inclusion in an approved program. Federal aid and/or State transportation fund financing will be limited to participation in the costs of the following items as specified in the estimate summary:
 - (a) The grading, base, pavement, and curb and gutter.
 - (b) Catch basins and inlets for surface water drainage of the improvement, with connections to the storm sewer main.
 - (c) Construction engineering incident to inspection and supervision of actual construction work.
 - (d) Signing and pavement marking, including detour routes.
 - (e) Storm sewer mains necessary for the surface water drainage.
 - (f) Construction of new sidewalks and driveways, replacement of sidewalks and private driveways resulting from roadway construction.
 - (g) New installations or alteration resulting from roadway construction of standard State street lighting and traffic signals or devices.
 - (h) Real Estate for the improvement.
 - (i) Preliminary engineering and state review services.
- 4. Work necessary to complete the improvement to be financed entirely by the Municipality or other utility or facility owner includes the following items:
 - (a) New installations of or alteration of sanitary sewers and connections, water, gas, electric, telephone, telegraph, fire or police alarm facilities, parking meters, and similar utilities.
- 5. As the work progresses, the Municipality will be billed for work completed which is not chargeable to Federal/State funds. Upon completion of the project, a final audit will be made to determine the final division of costs.
- 6. If the Municipality should withdraw the project, it shall reimburse the State for any costs incurred by the State in behalf of the project.
- 7. The work will be administered by the State and may include items not eligible for Federal/State participation.
- 8. The Municipality shall at its own cost and expense:
 - (a) Maintain all portions of the project that lie within its jurisdiction for such maintenance through statutory requirements, in a manner satisfactory to the State and shall make ample provision for such maintenance each year.

- (b) Maintenance of sidewalks and landscaping features along the project.
- (c) Maintenance of lighting systems, to include energy.
- (d) Maintenance of all features outside the travel lanes when additional pavement width is added at the request of the Municipality, with the exception of turn lanes.
- (e) Prohibit angle parking.
- (f) Regulate or prohibit all parking at locations where and when the pavement area usually occupied by parked vehicles will be needed to carry active traffic in the street.
- (g) Assume general responsibility for all public information and public relations for the project and to make fitting announcement to the press and such outlets as would generally alert the affected property owners and the community of the nature, extent, and timing of the project and arrangements for handling traffic within an around the projects.
- (h) Provide complete plans, specifications, relocation order, real estate plat, estimates, appraisals, and acquiring the parcels.
- (i) Use the WisDOT Utility Accommodation Policy unless it adopts a policy, which has equal or more restrictive controls.
- 9. Basis for local participation: Construction of standard roadway items will be funded 100% State/Federal.

Capital Grant Resolution Certification from the Comptroller's Office

The Comptroller's Office has reviewed Common Council	
Resolution File No for the preliminary design of	S 27 th
Street from W College Ave to W Howard Ave (City Share \$4	
Grantor Share \$4,260,000) and approved the resolution as to	:
x Sufficiency of funds	
x Funding sources (per estimated grant funding agreement	nt)
x Sufficiency of reporting for purposes of internal auditing)
The following deficiencies were noted:	
· · · · · · · · · · · · · · · · · · ·	
The resolution should be corrected and returned to the	
Comptroller's Office for review.	
Signature: Culisinhi	
Date: $1/2u/10$	



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091361 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution authorizing the City Comptroller to transfer funds to various State and/or Federal Aid

project subaccounts for the estimated remaining Wisconsin Department of Transportation and City of Milwaukee preliminary engineering and construction costs totaling \$1,535,644, City share is \$899,844

and the Grantor's share is \$635,800.

Sponsors: THE CHAIR

Indexes: STREET IMPROVEMENTS, STREET LIGHTING, WISCONSIN DEPARTMENT OF

TRANSPORTATION

Attachments: Cover Letter, Fiscal note, Comptroller's Certificate

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

Number

091361

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution authorizing the City Comptroller to transfer funds to various State and/or Federal Aid project subaccounts for the estimated remaining Wisconsin Department of Transportation and City of Milwaukee preliminary engineering and construction costs totaling \$1,535,644, City share is \$899,844 and the Grantor's share is \$635,800. Analysis

This resolution authorizes the City Comptroller to transfer funds to the previously established subaccounts for the remaining Wisconsin Department of Transportation and City of Milwaukee preliminary engineering and construction costs in the amount of \$1,535,644. The City of Milwaukee's share is \$899,844 and the Grantor share is \$635,800. Body

Whereas, The Common Council has previously adopted resolutions authorizing the City Comptroller to transfer funds to various State and/or Federal Aid project subaccounts for preliminary engineering and construction; and

Whereas, Additional planning and review during the design state and additional work during the construction stage have resulted in increased costs charged against the projects; and

Whereas, Additional funds are, therefore, necessary for the estimated remaining Wisconsin Department of Transportation and City of Milwaukee preliminary engineering and construction costs for the projects; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee that the City Comptroller is hereby authorized and directed to transfer funds to the project grant chartfields as follows:

Further Resolved, That the Commissioner of Public Works is authorized to execute a revised project agreement between the City of Milwaukee and the Department of Transportation for the South 2nd Street paving project from West National Avenue to a point north of the Menomonee River which accounts for additional construction monies equal to the final project estimate.

<u>Project Grant Value</u>
State I.D. 2445-06-70
ST320061110
West North Avenue - West Lisbon Avenue to North 31st Street

City Share Non-Assessable Paving ST320100000 Fund 0333 \$14,000.00

Grantor Reimbursable Paving SP0320100100 Fund 0306 \$56,000.00

Construction was completed in 2009.

Previously authorized for construction: \$2,490,000.00

Current estimated cost of total project including this resolution: \$3,205,000.00 Original estimated cost of total project (Resolution File No. 071381): \$2,579,000.00

Project Grant Value State I.D. 2400-09-70 ST520061210

West Oklahoma Avenue - South 72nd Street to South 60th Street (ARRA)

City of Milwaukee Share Non-Assessable Paving ST320100000 Fund 0333 \$80,000.00

Construction is currently under way and will be completed in 2010.

Previously authorized for construction engineering: \$2,248,000 Current estimated cost of total project including this resolution: \$3,713,000 Original estimated cost of total project (Resolution File No. 060158): \$3,420,000

Project Grant Value
State I.D. 2245-02-00 (ARRA)
ST520091301
South 2nd Street Decorative Lighting
West National Avenue to West St. Paul Avenue

City Share Non-Assessable Paving ST32010000 Fund 0333 \$25,000.00

Construction is scheduled for 2010.

Previously authorized for engineering: \$104,500.00 Current estimated cost of total project including this resolution: \$717,000.00 Original estimated cost of total project (Resolution File No. 051254): \$672,000.00

Project Grant Value State I.D. 2245-01-00 (ARRA/IMPACTED) ST320021301 South 2nd Street West National Avenue to West St. Paul Avenue

City Share Non-Assessable Paving ST32010000 Fund 0333 \$50,000.00

Construction is scheduled for 2010.

Previously authorized for engineering: \$371,739.82 Current estimated cost of total project including this resolution: \$3,726,739.82 Original estimated cost of total project (Resolution File No. 051254): \$1,832,420.00

Project Grant Value
State I.D. 2245-01-70 (ARRA/IMPACTED)
ST320021311
South 2nd Street
West National Avenue to a point north of the Menomonee River

Grantor Non-Reimbursable Paving \$727,305.00

Grantor Reimbursable Paving SP0320100100 (\$158,505.00)

City of Milwaukee Share Non-Assessable Paving ST320100000 \$547,200.00

Construction is scheduled for 2010.

Previously authorized for street construction: \$1,519,000.00 Current estimated cost of total project including this resolution: \$3,726,739.82 Original estimated cost of total project (Resolution File No. 010810): \$1,832,420.00

<u>Project Grant Value</u>
State I.D. 2059-00-01 (ARRA)
ST320042001
East/West Keefe Avenue
North 7th Street to North Humboldt Avenue

City Share Non-Assessable Paving ST32010000 Fund 0333 \$30,000.00

Construction is scheduled for 2010.

Previously authorized for engineering: \$231,600.00 Current estimated cost of total project including this resolution: \$2,132,774.74 Original estimated cost of total project (File Number 051254): \$1,844,000.00

Project Grant Value
State I.D. 2984-18-71
ST320060310
West Vliet Street
Intersection with North 40th Street

City Share Non-Assessable Paving ST32010000 Fund 0333 \$45,000.00

Construction was completed in 2009.

Previously authorized for street construction: \$180,300.00 Current estimated cost of total project including this resolution: \$445,300.00 Original estimated cost of total project (File Number 051254): \$196,899.00

Project Grant Value
State I.D. 2590-03-00 (ARRA)
ST320042301
North Lisbon Avenue
North Sherman Boulevard to Soo Line Railroad
City Share Non-Assessable Paving
ST320100000
Fund 0333
\$5,000.00

Construction is underway and will be completed in 2010.

Previously authorized for engineering: \$432,802.00

Current estimated cost of total project including this resolution: \$3,232,287.24 Original estimated cost of total project (File Number 040400): \$1,533,935.00

Project Grant Value
State I.D. 2667-03-20 (Real Estate)
ST32001720
North Humboldt Avenue Bridge
Over North Riverboat Road

City Share Non-Assessable Fund Paving ST320100000 Fund 0333 \$1,000.00

Grantor Reimbursable Cash Fund Paving SP032010100 Fund 0306 \$3,000.00

Previously authorized for real estate: \$27,540.00

Current estimated cost of total project including this resolution: \$4,180,180.00 Original estimated cost of total project (File Number 041495): \$1,035,000.00

Project Grant Value
State I.D. 2060-09-00
ST320062301
Howell Avenue Bridge
Over UP Railroad

City Share Non-Assessable Fund Paving ST320100000 Fund 0333 \$2,000.00

Grantor Reimbursable Cash Fund Paving SP 032010100 Fund 0306 \$8,000.00

Previously authorized for engineering: \$170,620.00

Current estimated cost of total project including this resolution: \$1,045,620.00 Original estimated cost of total project (File Number 060882): \$1,022,000.00

Project Grant Value
State I.D. 2615-00-72
ST520090110
South Cesar E. Chavez Drive
West Greenfield Avenue to West Pierce Street

City of Milwaukee Share Non-Assessable Paving ST320100000 Fund 0333 \$100,644.00

Construction is scheduled in 2010.

Previously authorized for construction: \$30,000.00 Current estimated cost of total project including this resolution: \$1,407,527.67 Original estimated cost of total project (Resolution File No. 090910): \$1,280,000.00

Summary of projects in this resolution:

Version: 0 File #: 091361

City of Milwaukee Share Non-Assessable Paving (0333): \$899,844.00

Grantor Reimbursable Paving (0306): \$635,800.00 Resolution total: \$1,535,644.00

Requestor

Department of Public Works

Drafter

Infrastructure Services Division

LCG:amh

February 9, 2010

(15) Reso Vari Fed Sta Aid Pjec Saccou 020910.rtf



February 2, 2010

To the Honorable, the Common Council

Subject: Federal/State Aid Project Subaccounts

Dear Council Members:

Please find the attached resolution to authorize the City Comptroller to transfer funds to the subaccounts for various State and/or Federal Aid street and bridge improvement projects as listed in the body of the resolution.

Additional funds are necessary for the estimated remaining Wisconsin Department of Transportation (WISDOT) and City of Milwaukee preliminary engineering and construction costs for these projects.

We have, therefore, prepared and recommend adoption of the attached resolution authorizing the City Comptroller to transfer funds to the respective project subaccounts for the estimated remaining preliminary engineering and construction costs.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

LG:amh

Attachment

c: Mr. W. Martin Morics

CITY OF MILWAUKEE FISCAL NOTE

A)	DATE		February	/ 2, 2010		FILE	NUMBER:	091361	
						Origi	nal Fiscal Note X	Substitute	
SUB	JECT:	remaining \	Wisconsin D	epartmen	comptroller to transfer fund t of Transportation and Cit 44 and the Grantor's share	y of Milwaukee preli	nd/or Federal Aid pro minary engineering a	eject subaccounts for the sand construction costs	he estimated totaling
	•		•						
В)	SUBMI	TTED BY (N	lame/title/de	ept./ext.):	Jeffrey S. Polenske	, PE / City Engineer	/ Infrastructure Serv	ices Division / extension	on 2400
C)	CHECK	(ONE: [ADOF NEED	TION OF ED. LIST	THIS FILE AUTHORIZES THIS FILE DOES NOT AL ANTICIPATED COSTS IN SLE/NO FISCAL IMPACT.	JTHORIZE EXPEND		R COMMON COUNCIL	ACTION
D)	CHARG	_	X CAPIT	TAL PROJ	ACCOUNT(DA) ECTS FUND (CPF) /EMENT FUNDS (PIF) FY)	s	CONTINGENT FUND SPECIAL PURPOSE GRANT & AID ACCO	ACCOUNTS (SPA)	
E)	PURPO	SE		SPECIF	Y TYPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SALA	ARIES/W	AGES:							
SUPI	PLIES:								
MATI	ERIALS:								
WAII	ERIALS.								
NEW	EQUIPM	MENT:							
EQUI	IPMENT	REPAIR:							
ОТН	ER:		City of Mi Paving	ilwaukee	Share Non-Assessable	ST320100000 (Fund 0333)	\$899,844		
			Grant & A	Aid Funds	Reimbursable Paving	SP0320100100 (Fund 0306)	\$635,800	\$635,800	
TOTA	ALS						\$1,535,644	\$635,800	
F)	FOR EX				VHICH WILL OCCUR ON LIST EACH ITEM AND DO		S OVER SEVERAL		
	X 1-3	YEARS			3-5 YEARS	Expenditure: \$1,			
		YEARS			3-5 YEARS	Revenue: \$899,8	344		
	1-3	YEARS			3-5 YEARS				
G)	LIST A	NY ANTICIP	ATED FUT	URE COS	TS THIS PROJECT WILL	REQUIRE FOR CO	MPLETION:		
H)	COMPL	JTATIONS (JSED IN AR	RIVING A	T FISCAL ESTIMATE:				
PLE/	ASE LIST	ANY COMI	MENTS ON	REVERS	E SIDE AND CHECK HER	E			

Capital Grant Resolution Certification from the Comptroller's Office

The Comptroller's Office has reviewed Common Council Resolution File No for various State and Federal Aid project preliminary engineering and construction costs (Grantor Share \$635,800 City Share \$899,844) and approved the resolution as to:
x Sufficiency of funds _x_ Funding sources (per estimated grant funding agreement) _x_ Sufficiency of reporting for purposes of internal auditing
The following deficiencies were noted:
The resolution should be corrected and returned to the Comptroller's Office for review.
Signature:
Date:
2445-06-70 North Ave – W Lisbon Ave to N 41 st Street 2400-09-70 W Oklahoma – S 72 nd to S 60 th Street 2245-02-00 S 2 nd Street Decorative Lighting – W National Ave to W St Paul Ave 2245-01-00/70 S 2 nd – W National Ave to W St Paul Ave 2059-00-01 E/W Keefe Ave – N 7 th St to N Humboldt Ave 2984-18-71 W Vliet St Intersection with N 40 th St 2590-03-00 N Lisbon Ave – N Sherman Boulevard to Soo Line Railroad 2667-03-20 N Humboldt Ave Bridge over N Riverboat Road 2060-09-00 Howell Ave Bridge over UP Railroad 2615-00-72 S Cesar Chavez Dr – W Greenfield Ave to W Pierce St



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091355 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution authorizing the Commissioner of Public Works to execute a Revised Project Agreement

titled "State/Municipal Agreement for a Highway Improvement Project" between the City of Milwaukee and Wisconsin Department of Transportation associated with the rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad with 80 percent Federal and State aid under the Local

Bridge Rehabilitation Program.

Sponsors: THE CHAIR

Indexes: AGREEMENTS, BRIDGES, WISCONSIN DEPARTMENT OF TRANSPORTATION

Attachments: Cover Letter, Fiscal Note, Revised Agreement

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

Number

091355

Version

ORIGINAL

Reference

060882

Sponsor

THE CHAIR

Title

Resolution authorizing the Commissioner of Public Works to execute a Revised Project Agreement titled "State/Municipal Agreement for a Highway Improvement Project" between the City of Milwaukee and Wisconsin Department of Transportation associated with the rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad with 80 percent Federal and State aid under the Local Bridge Rehabilitation Program.

Analysis

This resolution authorizes the Commissioner of Public Works to execute a Revised Project Agreement with the Wisconsin Department of Transportation (WISDOT) associated with the rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad. The Revised Project Agreement provides for 80 percent Federal/State aid and 20 percent local cost sharing for the increased construction costs for the project. The total estimated cost for the project is \$1,537,000 of which \$307,400 is the City of Milwaukee's share and \$1,229,600 is the grantor share. Construction funds will be requested in a separate Common Council resolution.

Body

Whereas, The Common Council of the City of Milwaukee adopted Resolution File Number 060882 authorizing and directing the Commissioner of Public Works to execute an agreement with the Wisconsin Department of Transportation (WISDOT) for rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad with 80 percent Federal and/or State aid under the Local Bridge Rehabilitation Program; and

Whereas, As part of the preliminary engineering process, construction costs have been refined and increased since the original agreement was drafted three years ago; and

Whereas, The WISDOT has submitted a Revised Project Agreement that includes additional monies for the construction associated with the bridge rehabilitation for City execution; and

Whereas, This project is scheduled for construction in 2010 and construction funds for this project will be requested in a separate resolution, now therefore, be it

Resolved, By the Common Council of the City of Milwaukee that the Commissioner of Public Works is hereby authorized to execute the Revised Project Agreement updating and revising the construction costs associated with the rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad with 80 percent Federal and/or State aid under the Local Bridge Rehabilitation program, a copy of which is attached to Common Council File Number 091355 and incorporated in this resolution as though set forth therein in full.

Requestor

Department of Public Works

Drafter

Infrastructure Services Division

CSL: ns

February 2, 2010



February 2, 2010

To the Honorable, the Common Council

Subject: South Howell Avenue Bridge over

Union Pacific Railroad

Dear Council Members:

Common Council Resolution File Number 060882, adopted on November 14, 2006, authorized the Commissioner of Public Works to execute a project agreement with the Wisconsin Department of Transportation (WISDOT) for rehabilitation of the South Howell Avenue Bridge over Union Pacific Railroad. The project agreement provided funding participation of 80 percent Federal and/or State aid with 20 percent City participation, under the Local Bridge Replacement program.

Since the time of executing the original project agreement, preliminary engineering work has been completed and construction estimates have been further refined and increased. Consequently, we have requested, and the WISDOT has authorized, additional funds for construction associated with the bridge rehabilitation. The amounts are reflected in the attached revised project agreement.

We have prepared and recommend adoption of the attached resolution authorizing the Commissioner of Public Works to execute the revised project agreement. The construction funds for this project will be requested in a separate resolution.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

CSL: ns

Attachment

c: Alderman Tony Zielinski

bc: Ms. Lois Gresl

Ms. Cynthia Wisneski Ms. Lila Gorney

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86) Ref: GEN\FISCALNT.MST

SUBJECT: Resolution "State/Municipal Agree Department of Transpo Pacific Railroad with 8 B) SUBMITTED BY (N	authoric ement for tation 0 perce	izing the Commissi or a Highway Impr (WISDOT) associa nt Federal and/or S	ovement Proj ated with the state aid unde	ject" between the Grehabilitation of the treatment that the treatment to t	te a Revised Proj City of Milwauke ne South Howell Rehabilitation P	ect Agreement ti ee and Wisconsir Avenue Bridge of Program.	tled 1
× ADC	PTION O	OF THIS FILE AUTHO OF THIS FILE DOES CIPATED COSTS IN S CABLE/NO FISCAL IN	NOT AUTHORIS	ZE EXPENDITURES;	FURTHER COMMON (COUNCIL ACTION 1	NEEDED.
⊠ CAI □ PER	PITAL P	FAL ACCOUNT (DA) ROJECTS FUND (CPF) ROVEMENT FUNDS (PI			IT FUND (CF) PURPOSE ACCOUNTS AID ACCOUNTS (G		
E) PURPOSE		SPECIFY TY	PE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SALARIES/WAGES:		0110111		110000112			5111 21105
CURRI TEG							
SUPPLIES:							
MATERIALS:							
NEW EQUIPMENT:							
EQUIPMENT REPAIR:							
OTHER:							
TOTALS:							
F) FOR EXPENDITURES AN	ND REVE	NUES WHICH WILL O	CCUR ON AN A	NNUAL BASIS OVER	SEVERAL YEARS C	HECK THE APPROP	RIATE BOX
BELOW AND THEN LIST	r each	ITEM AND DOLLAR A	MOUNT SEPARA	TELY.			
□ 1-3 YEARS	□ 3-5	YEARS					
□ 1-3 YEARS		YEARS					
□ 1-3 YEARS	□ 3-5	YEARS					
G) LIST ANY ANTICIPATE	ED FUTU	RE COSTS THIS PRO	JECT WILL RE	QUIRE FOR COMPLET	!ION:		
Construction funds wil	ll be r	equested in a sep	arate resolu	tion			
II) COMPUENTANTONO NOTE							
H) COMPUTATIONS USED T	IN ARRI	VING AT FISCAL ES	TIMATE:				
H/ F							

REVISED STATE/MUNICIPAL AGREEMENT FOR A HIGHWAY IMPROVEMENT PROJECT

Date:

January 29, 2010

ID:

2060-09-00/70

Highway:

South Howell Avenue (LOC BRIDGE)

Bridge over Union Pacific Rail Road

Bridge ID:

P-40-0509

County:

Milwaukee

The signatory city, village, town or county, hereinafter called the Municipality, through its undersigned duly authorized officers or officials, hereby requests the State of Wisconsin Department of Transportation, hereinafter called the State, to initiate and effect the highway or street improvement hereinafter described.

The authority for the Municipality to enter into this agreement with the State is provided by Section 86.25(1), (2) and (3) of the Statutes. This agreement replaces the previous agreement dated May 2, 2006.

NEEDS AND ESTIMATE SUMMARY:

Existing Facility - Describe and give reason for request:

Deteriorated Structure.

SR=75.8

Proposed Improvement - Nature of work:

Bridge Rehabilitation

The apportionment of costs for work necessary to finish the project (including non-participating work and work which will be undertaken by the Municipality) is as follows:

	Estimated C	ost		· 	
	Total Estimated Cost	Federal Funds	%	Municipal Funds	%
Design	\$131,000.00	\$104,800.00	80%	\$26,200.00	20%
State Design Review	\$26,000.00	\$20,800.00	80%	\$5,200.00	20%
Construction **	\$1,380,000.00	\$1,104,000.00	80%	\$276,000.00	20%
Total Cost Distribution	\$1,537,000.00	\$1,229,600.00		\$3 07,400.00	

Federal funds for construction are capped at \$1,104,000.

This request is subject to the terms and conditions that follow (pages 2 and 3) and Is made by the undersigned under proper authority to make such request for the designated Municipality and upon acceptance by the State shall constitute agreement between the Municipality and the State.

Signature	Title
Name (Written Clearly)	Date
Signature (Comptroller)	Title
Name (Written Clearly)	Date -

TERMS AND CONDITIONS

- 1. The initiation and accomplishment of the improvement will be subject to the applicable Federal and State regulations.
- 2. The Municipality will pay to the State all costs incurred by the State in connection with the improvement which exceed Federal/State financing commitments or are ineligible for Federal/State financing. The Municipality's concurrence is required before award of the contracts for the improvement when the contracts exceed 5% of the estimate. The Municipality must also concur with contract modifications to contracts awarded by the State over \$25,000.00, unless the authorized representative of the State determines that a prompt change order is needed to preserve the work in progress, prevent extraordinary damage, avoid unreasonable and costly delay, or other extraordinary condition of necessity, safety or emergency exists. The authorized representative of the State shall provide notice of the prompt change order to the Municipality or its authorized representative as soon as practicable thereafter and the Municipality shall pay its share of the prompt change order cost.
- 3. Funding of each project phase (preliminary engineering, real estate, construction, and other) is subject to inclusion in an approved program. Federal aid and/or State transportation fund financing will be limited to participation in the costs of the following items as specified in the estimate summary:
 - a. Preliminary engineering and State review services.
 - b. The grading, base, pavement, and curb and gutter.
 - c. Catch basins and inlets for surface water drainage of the improvement, with connections to the storm sewer main.
 - d. Construction engineering incidental to inspection and supervision of actual construction work.
 - e. Signing and pavement marking, including detour routes.
 - f. Storm sewer mains necessary for the surface water drainage.
 - g. Construction or replacement of sidewalks and surfacing of private driveways.
 - h. New installations or alteration of street lighting and traffic signals or devices.
 - i. Real Estate for the improvement, if required
- 4. Work necessary to complete the improvement to be financed entirely by the Municipality or other utility or facility owner or other responsible party (not including the State) includes the following items:
 - a. New installations of or alteration of sanitary sewers and connections, water, gas, electric, telephone, telegraph, fire or police alarm facilities, parking meters, and similar utilities.
 - b. Damages to abutting property due to change in street or sidewalk widths, grades or drainage.

- c. Conditioning, if required, and maintenance of detour routes.
- d. Repair of damages to roads or streets caused by reason of their use in hauling materials incidental to the improvement.
- e. Bridge width in excess of standards.
- 5. As the work progresses, the Municipality will be billed for and agrees to pay for work completed which is not chargeable to Federal/State funds. Upon completion of the project, a final audit will be made to determine the final division of costs and the Municipality agrees to pay any required reimbursement to the State.
- 6. If the Municipality should withdraw from the project, it will reimburse the State for any costs incurred by the State on behalf of the project.
- 7. The work will be administered by the State and may include items not eligible for Federal/State participation.
- 8. The Municipality will at its own cost and expense:
 - a. Maintain all portions of the project that lie within its jurisdiction for such maintenance through statutory requirements, in a manner satisfactory to the State and will make ample provision for such maintenance each year.
 - b. Prohibit angle parking.
 - c. Regulate or prohibit all parking at locations where and when the pavement area usually occupied by parked vehicles will be needed to carry active traffic in the street.
 - d. Regulate and prohibit parking at all times in the vicinity of the proposed improvements during their construction.
 - e. Assume general responsibility for all public information and public relations for the project and to make fitting announcements to the press and such outlets as would generally alert the affected property owners and the community of the nature, extent, and timing of the project and arrangements for handling traffic within and around the project.
 - f. Provide complete plans, specifications, relocation order, real estate plat, and estimates, except as provided in Paragraph 3 above.
 - g. Use the WisDOT Utility Accommodation Policy unless it adopts a policy which has equal or more restrictive controls.
- 9. Basis for local participation: 80% Federal; balance by Municipality, as specified in Surface Transportation Program—Local Bridge Program regulations. Federal funds for construction are capped at \$1,104,000.

(End of Document)



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091359 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution directing the Commissioner of Public Works to execute a document titled

"Federal/State/Project Sponsor Transportation Enhancements Program, Project Agreement" with the Department of Transportation for the programming of a project known as Open Metal Grate Bridge Bicycle Lanes Project with preliminary engineering costs of \$121,197 with a Grantor share of \$90,031 and a City share of \$31,166 and with total project costs of \$730,925 with a Grantor share of \$542,968

and a City share of \$187,957.

Sponsors: THE CHAIR

Indexes: AGREEMENTS, BICYCLES, BRIDGES, STREET IMPROVEMENTS, WISCONSIN DEPARTMENT

OF TRANSPORTATION

Attachments: Cover Letter, Fiscal Note, Agreement, Comptroller's Certification

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091359 **Version:** 0

Number

091359

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution directing the Commissioner of Public Works to execute a document titled "Federal/State/Project Sponsor Transportation Enhancements Program, Project Agreement" with the Department of Transportation for the programming of a project known as Open Metal Grate Bridge Bicycle Lanes Project with preliminary engineering costs of \$121,197 with a Grantor share of \$90,031 and a City share of \$31,166 and with total project costs of \$730,925 with a Grantor share of \$542,968 and a City share of \$187,957.

Analysis

This resolution authorizes and directs the Commissioner of Public Works to execute the Project Agreement with the Wisconsin Department of Transportation for the programming of the Open Metal Grate Bridge Bicycle Lanes Project which will be funded 74 percent by Federal and State participation and 26 percent by City funds with preliminary engineering costs of \$121,197 with a Grantor share of \$90,031 and a City share of \$31,166 and with total project costs of \$730,925 with a Grantor share of \$542,968 and a City share of \$187,957.

Body

Whereas, The City of Milwaukee has actively promoted the expansion of bicycle and pedestrian facilities; and

Whereas, Transportation Enhancements (TE) Funds will fund the federal portion of the project; and

Whereas, WISDOT has submitted a Project Agreement to be executed by the City of Milwaukee for the programming of the project; and

Whereas, The State cannot proceed with any project cost overruns and/or changes in scope of more than 5% without prior Department of Public Works (DPW) approval; and

Whereas, The DPW shall notify the Common Council of the City of Milwaukee at the next scheduled meeting of any such project overruns and/or changes in scope approved by DPW; and

Whereas, The Common Council of the City of Milwaukee recognizes that the City may be 100% liable for any such project cost overruns and/or changes in scope as approved by DPW; and

Whereas, The Common Council of the City of Milwaukee recognizes that the City may be liable for any costs incurred by the State should the City decide to withdraw from the project; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the Commissioner of Public Works is hereby authorized and directed to execute the Project Agreement for the programming of the Open Metal Grate Bridge Bicycle Lanes Project, a copy of which is attached to Common Council Resolution File Number 091359 and is incorporated in this resolution by reference as though set forth in full; and, be it

Further Resolved, That the Commissioner of Public Works is hereby authorized and directed to undertake or engage a consultant to undertake the above-mentioned project and to reimburse WISDOT for costs they incur for the project; and, be it

Further Resolved, That the City Comptroller is hereby authorized to create within the Capital Grant and Aid Projects Funds the appropriate Project/Grant Chartfield Value for Preliminary Engineering for this project; and

File #: 091359 **Version:** 0

transfer to these accounts the amount required under the grant agreement and City accounting policy, but not to exceed a ten percent increase of the total amounts reserved for the grantor's share and local share or \$5,000, whichever is greater as follows:

Open Metal Grate Bridge Bicycle Lanes Preliminary Engineering Project I.D. 2984-19-01

Local Share Fund Number 0333 Project Grant Number ST320100000 \$31,166

Grantor Reimbursable Share Fund Number 0306 Project Grant Number SP032100100 \$74,285

Grantor Share (Non-Reimbursable) \$15,746

Previously authorized for preliminary engineering: \$0

Current estimated cost of total project including this resolution: \$730,925

Original estimated cost of total project: \$730,925

;and, be it

Further Resolved, That the City Engineer is hereby authorized and directed to approve and make periodic payments to WISDOT upon receipt of invoices for the local share of the project.

Requestor

Department of Public works

Drafter

Infrastructure Services Division

MDL: ns

February 2, 2010

Open Metal Grate Bridge Bicycle Lanes



February 2, 2010

To the Honorable, the Common Council

Subject: Project I.D. 2984-19-01/71

Open Metal Grate Bridge Bicycle Lanes

Dear Council Members:

The Wisconsin Department of Transportation (WISDOT) has informed the City of Milwaukee that the Open Metal Grate Bridge Bicycle Lanes project has been approved for funding under the Transportation Enhancements (TE) program. The project consists of installing plates on various bridges in the City of Milwaukee's CBD.

WISDOT has submitted the attached Project Agreement to be executed by the City of Milwaukee for the programming of the subject project with 74 percent TE funds. The remaining 26 percent of the project costs will be City funds.

We have prepared and recommend adoption of the attached resolution which authorizes and directs the Commissioner of Public Works to execute the Project Agreement and authorizes and directs the City Comptroller to create the proper accounts for the project.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

MDL: ns

Attachment c: W. M. Morics

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86)
Ref: GEN\FISCALNT.MST

A) DATE: February 2, 2010

FILE NUMBER:

Original Fiscal Note \square Substitute \square

SUBJECT: Resolution authorizing and directing the Commissioner of Public Works to execute a document titled "Federal/State/Project Sponsor Transportation Enhancements (TE) Program, Project Agreement" with the Department of Transportation for the programming of a project known as Open Metal Grate Bridge Bicycle Lanes Project with preliminary engineering costs of \$121,197 with a Grantor share of \$90,031 and a City share of \$31,166 and with total project costs of \$730,925 with a Grantor share of \$542,968 and a City share of \$187,957.

\$31,166 and with	n total projec	ct costs of \$7	30,925 with a	Grantor share of	f \$542,968 and a	City share of S	\$187,957.
B) SUBMITTED E	BY (NAME/TI	TLE/DEPT./EXT	.): Jeffrey S.	Polenske, City F	Engineer, DPW, ex	t. 2 4 00	
	ADOPTION OF LIST ANTICE	F THIS FILE DO	IN SECTION G BE	ZE EXPENDITURES;	FURTHER COMMON C	COUNCIL ACTION	NEEDED.
	CAPITAL PRO	AL ACCOUNT (DA DJECTS FUND (C DVEMENT FUNDS CIFY)	CPF)	☐ SPECIAL	ENT FUND (CF) PURPOSE ACCOUNTS AID ACCOUNTS (G		
E) PURPOSE		SPECIFY TY	PE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SALARIES/WAGES:			,				
SUPPLIES:							
MATERIALS:							
MATERIALS:							4
NEW EQUIPMENT:							
EQUIPMENT REPAIR:							
OTHER:		Share Non-asse	essable Paving	ST320100000	\$31,166		
	- #033		,		, , , ,		
	Granto	or Reimbursab	le Paving	SP032100100	\$74,285	\$74,285	+
	Granto	or Non-Reimbu	rsable Paving		\$15,746	\$15,746	
TOTALS:					\$121,197	\$90,031	-
F) FOR EXPENDITUR			R AMOUNT SEPARA		R SEVERAL YEARS C	HECK THE APPROI	PRIATE BOX
BELOW AND THEN	LISI EACH I	TEM AND DOLLA	R AMOUNI SEPARA				
☑ 1-3 YEARS	□ 3-5	YEARS	Expenditure	es \$ 121,197	Revenue \$90	,031	
☐ 1-3 YEARS	□ 3-5		1		,,,,	,	
☐ 1-3 YEARS	□ 3-5						
	_						
G) LIST ANY ANTIC	IPATED FUTUR	E COSTS THIS	PROJECT WILL RE	QUIRE FOR COMPL	ETION:		
H) COMPUTATIONS U	SED IN ARRIV	ING AT FISCAL	ESTIMATE:				

Federal/State/Project Sponsor Transportation Enhancements (TE) Program Project Agreement

Project ID: 2984-19-01/71 County: Milwaukee

Municipality: City of Milwaukee

Project Name: Open Metal Grate Bridge Bike Lanes

Limits (if applicable): Bridges at Water Street, Pleasant Street, Wisconsin Avenue, and Juneau Avenue

The signatory Project Sponsor, through its undersigned duly authorized officers or officials, and WisDOT enter into this agreement to accomplish the described project.

The authority for the Project Sponsor and WisDOT to enter into this agreement is provided by the Wis. Stats. 66.0301 and 86.25.

The payment period for each project phase (e.g., design, real estate, and construction) shall begin with written authorization by WisDOT to the Project Sponsor.

Needs and Estimate Summary: Open metal grates within bike lanes on the bridge decking create an unsafe environment for bicyclists. Total cost of the project is \$730,925.

Description of the project: This project retrofits the existing lift bridges with 4' anti-slip treatments on the outside edge to improve the deck for bicyclists. The existing bridge decks are open metal grate and very slippery when wet. The outside one foot area (not usable by cyclists) will be left open to allow for drainage.

	Estimated Cost				
	Total Estimated Cost	TE Funds	%	Project Sponsor Funds	%
Design:	\$100,000	\$74,285	74.285	\$25,715	25.715
Consultant Review:	\$18,000	\$13,371	74.285	\$ 4,629	25.715
State Review + Pro- ratable:	\$3,197	\$ 2,375	74.285	\$ 822	25.715
Construction:	\$600,000	\$445,710	74.285	\$154,290	25.715
Consultant Review:	\$5,200	\$3,863	74.285	\$1,337	25.715

State Review + Pro- ratable:	\$4,528	\$3,364	74.285	\$1,164	25.715
Total Cost Distribution:	\$730,925	\$542,968	74.285	\$187,957	25.715

This request is subject to the terms and conditions that follow (see pages 3-6) and is made by the undersigned under proper authority to make such request for the designated Project Sponsor and upon acceptance by WisDOT shall constitute agreement between the Project Sponsor and WisDOT.

The TE funding is capped at the total amount of federal funds \$542,968.

DBE participation is encouraged, but discretionary, for this project.

The Catalogue of Federal Domestic Assistance (CFDA) number for this project is 20.205 – Highway Planning and Construction.

Signed for and in behalf of the Project Sponsor(s):

Name	Title	Date
Name	Title	Date
Name	Title	Date

Terms and Conditions:

- 1. The initiation and accomplishment of the improvement will be subject to the applicable State and Federal laws, rules, and regulations, as referenced in the document A Sponsor's Guide to Non-Traditional Transportation Project Implementation.
- 2. The construction of the enhancement will be in accordance with the appropriate standards unless an exception to standards is granted by the Federal Government or WisDOT prior to construction. The entire cost of the construction project, not constructed to standards, will be the responsibility of the project sponsor unless such exception is granted.
- 3. The project sponsor will assume all responsibility for complying with germane environmental requirements for the project.
- 4. Where applicable, all contracts will be let by competitive bid and awarded to the lowest responsible bidder. All contracts for design related services shall be awarded and administered in accordance with the requirements of 23 CFR 172 and procedures published in the Wisconsin Department of Transportation Facilities Development Manual (FDM), Chapter 8, Consulting Services.
- 5. The work eligible for Federal and State participation will be administered by the Project Sponsor. The Project Sponsor is an eligible recipient of these grant funds pursuant to Section 1404(e) of SAFETEA-LU.
- 6. The Project Sponsor will assume all responsibility for complying with the applicable Disadvantaged Business Enterprise (DBE) goal assigned to this project. The DBE goal is waived if the Project Sponsor constructs the project with its own permanent staff and if the project is not subcontracted out.
- 7. The maximum participation of Federal financing will be limited to 80% of the actual eligible project cost or the Total Cost Distribution of Transportation Enhancements Funds, as shown on page 1 of this agreement, whichever is less.
- 8. The Project Sponsor will assume all responsibility for retaining a complete project file that includes not only construction documentation but also copies of letting documents, all local and WisDOT submittals and approvals contained in these instructions and other pertinent documents to support project procurement, development, implementation and cost and any other item required by 49 CFR part 18 and submitting such information, upon request, in order to receive reimbursement. The Project Sponsor will keep all project records and have them available for inspection by representatives of the Federal Government and WisDOT and will furnish copies thereof when requested.

- 9. Federal Single Audits of the Project Sponsor:
 - a) The Project Sponsor shall have a single organization audit performed by a qualified independent auditor if required to do so under Federal law and regulations. (See federal Office of Management and Budget (OMB) Circular No. A-133.)
 - b) This audit shall be performed in accordance with federal OMB Circular No. A-133 and State single audit guidelines issued by the Wisconsin Department of Administration (DOA).
 - The Project Sponsor will keep records of costs of construction, inspection tests and maintenance done by it to enable the federal government and the state to review the amount and nature of the expenditure for those purposes. Such accounting records and any other related records shall be retained for three years from the date of final payment. If any litigation, claim, or audits are started before the expiration of the three year period, the records shall be retained until all litigations, claims or audit findings involving the records have been resolved.

10. State Disbursements:

- a) Payment by WisDOT to the Project Sponsor shall be made on a quarterly basis upon presentation of vouchers for expenditures incurred during prior quarterly periods of the project duration subject to the allowable maximum payment, as referenced above in Section 7.
- b) A final adjustment of state payments will be made upon completion of WisDOT's audit of the project. If WisDOT's audit establishes that WisDOT paid more than its share of the eligible project costs, the Project sponsor shall refund to WisDOT upon demand a sum equal to the overpayment.
- 11. The Project Sponsor will maintain, at its own costs and expense, all portions of the project that lie within its jurisdiction. The Project Sponsor will ensure that facilities are available in all weather conditions including clearing snow from sidewalks and multi-use trails if applicable.
- 12. In connection with the performance of work under this Project Agreement, the Project Sponsor agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as define in S. 51.01(5), sexual orientation or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Except with respect to sexual orientation, the Project Sponsor further agrees to take affirmative action to ensure equal employment opportunities. The Project Sponsor agrees to post in conspicuous places, available for employees and applicants for employment, notices to be provided by the employment officer setting forth the provisions of the nondiscrimination clause.

13. Responsibility for Damage and Tort Claims: The Project Sponsor and the Project Sponsor's surety shall indemnify and save harmless the State, its officers and employees, from all suits, actions or claims of any character brought because of any injuries or damages received or sustained by any person, persons or property on account of the operations of the Project Sponsor; or on account of or in consequence of any neglect in safeguarding the work; or because of any act or omission, neglect or misconduct of the Project Sponsor; or because of any claims or amounts recovered for any infringement by the Project Sponsor of patent, trademark or copyright; or from any claims or amounts arising or recovered under the Worker's Compensation Act, relating to the Project Sponsor's employees; or any other law, ordinance, order or decree relating to the Project Sponsor's operations. So much of the money due the Project Sponsor under and by virtue of the contract as shall be considered necessary by the Department for such purposes, may be retained for the use of the State; or, in case no money or insufficient money is retained, the Project Sponsor's surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department: except that money due the Project Sponsor will not be withheld when the Project Sponsor produces satisfactory evidence that the Project Sponsor is adequately protected by public liability and property damage insurance. The Project Sponsor also shall comply with all of the above requirements indemnifying and saving harmless the county, town, or municipality in which the improvement is made and each of them separately or jointly and officers and employees.

The State shall not be liable to the Project Sponsor for damages or delays resulting from work by third parties. The State also shall be exempt from liability to the Project Sponsor for damages or delays resulting from injunctions or other restraining orders obtained by third parties except where the damage or delay is a direct result of an injunction or restraining order obtained by a citizen's action alleging violations of 42 U.S.C. 4331 - 4332, 23 U.S.C. 138 or Public Law 91-646.

It shall be the Project Sponsor's responsibility to see that all of the contract operations incident to the completion of the contract are covered by public liability and property damage liability insurance so the general public or any representative of the contracting authority may have recourse against a responsible party for injuries or damages sustained as a result of the contract operations This requirement shall apply with equal force, whether the work is performed by the Project Sponsor, by a subcontractor or by anyone directly or indirectly employed by either of them.

- a) The word, "surety" in the above paragraphs refers to the issuer of a payment and performance bond under section 779.14 Wis. Stats. (1997 98).
- b) Nothing in this section should be construed as a waiver of any statutory defenses that may be available to any governmental party.
- 14. No term or provision of the Project Agreement nor any of its attachments may be changed, waived or terminated orally but only by an instrument in writing signed by both parties to the Project

Agreement.

- 15. The project must be completed within three years from the acceptance date of the Project Agreement by WisDOT central office. Extensions are available upon approval of a written request by the Project Sponsor to WisDOT. The written request shall explain the reasons for project implementation delay and revised timeline for project completion.
- 16. The Project Sponsor, also known as the primary participant, as that term is defined in 49 CFR Part 29, certifies to the best of its knowledge and belief, that it and its principals, as that term is defined in 49 CFR Part 29:
 - a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded by any State of Wisconsin or Federal department or agency;
 - b) Have not, within a three year period preceding this agreement, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated above;
 - d) Have not within a three-year period preceding this agreement had one or more public transactions (Federal, State or local) terminated for cause or default; and
 - e) That all grantees or contractors, also known as lower tier participant as that term is used in 49 CFR Part 29, have certified in writing that neither they or their principals are presently debarred, suspended, proposed for debarment have been declared ineligible, or have voluntarily been excluded from participation in this or any other Federal, state or local transaction by any Federal, State or local department, agency or official.

Revised by WisDOT: December 2008

<u>Capital Grant Resolution Certification from the Comptroller's Office</u>

The Comptroller's Office has reviewed Common Council
Resolution File No for the preliminary engineering on
the State /Federal Aid project Open Metal Gate Bridge Bicycle
Lanes Project (Grantor Share \$90,031 City Share \$31,166) and
approved the resolution as to:
x Sufficiency of funds
x Funding sources (per estimated grant funding agreement)
x Sufficiency of reporting for purposes of internal auditing
The following deficiencies were noted:
The resolution should be corrected and returned to the
Comptroller's Office for review.
Signature: Culiniki
Date: 2/2/10



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091365 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution authorizing execution of a Connecting Highway Rescission with the Wisconsin Department

of Transportation on South 5th Street and West Washington Street.

Sponsors: THE CHAIR

Indexes: AGREEMENTS, HIGHWAYS, STREET IMPROVEMENTS, WISCONSIN DEPARTMENT OF

TRANSPORTATION

Attachments: Cover Letter, Fiscal Note, Agreement

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091365 **Version**: 0

Number

091365

Version

ORIGINAL

Sponsor

THE CHAIR

Title

Resolution authorizing execution of a Connecting Highway Rescission with the Wisconsin Department of Transportation on South 5th Street and West Washington Street.

Analysis

This resolution authorizes the execution of a Connecting Highway Rescission with the Wisconsin Department of Transportation for the relocation of State Trunk Highway (STH) 38 on the Connecting Highway System, including Traffic Signal Operation and Maintenance on West Washington Street from South 6th Street to South 5th Street and on South 5th Street from West Washington Street to West National Avenue.

Body

Whereas, Section 86.32(1), Wisconsin Statutes enables the State to designate certain marked routes of the state highway system over the streets or highways in any municipality for which the municipality will be responsible for maintenance and traffic control; and

Whereas, The conversion to two-way traffic on South 5th and South 6th Streets between West Washington Street and West Florida Street has eliminated the need to maintain two roadways for the operation of STH 38; and

Whereas, The designation of STH 38 will be retained on South 6th Street for both northbound and southbound traffic between West Washington Street and West Florida Street to provide a more direct route for a Connecting Highway; and

Whereas, The proposed designation of STH 38 will result in the removal of West Washington Street from South 6th Street to South 5th Street and South 5th Street from West Washington Street to West National Avenue from the Connecting Highway System; and

Whereas, The proposed designation of STH 38 will delete traffic control signals on South 5th Street at West Mineral Street and West Washington Street from the Connecting Highway System; and

Whereas, The reduction in Connecting Highway lane miles caused by the change in routing of STH 38 will result in an annual decrease in state funding of \$7,533.00; now, therefore, be it,

Resolved, By the Common Council of the City of Milwaukee, that the Commissioner of Public Works and Comptroller are authorized to enter into an agreement with the Wisconsin Department of Transportation to rescind the designation of STH 38 from the Connecting Highway System on West Washington Street from South 6th Street to South 5th Street and on South 5th Street from West Washington Street to West National Avenue.

Requestor

Department of Public Works

Drafter

Infrastructure Services Division

RWB: ns

February 2, 2010



February 2, 2010

To The Honorable, the Common Council

Subject: Connecting Highway Rescission STH 38

West Washington Street/South 5th Street

Dear Council Members:

The conversion from one-way to two-way traffic operation of South 5th and South 6th Streets between West Washington Street and West Florida Street, has removed the need to maintain two roadways for the designation of State Trunk Highway (STH) 38. The proposed designation of STH 38 will be on South 6th Street both north and southbound between West Washington Street and West National Avenue. This will result in the removal of West Washington Street from South 6th Street to South 5th Street and South 5th Street from West Washington Street to West National Avenue and the traffic signals on South 5th Street at West Washington Street and West Mineral Street from the Connecting Highway System.

We have, therefore, prepared the attached resolution authorizing the Commissioner of Public Works and Comptroller to execute a Connecting Highway Rescission on STH 38 in the 12th Aldermanic District.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

RWB: ns

Attachment

c: Honorable James N. Witkowiak, Alderman, 12th District

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86) Ref: GEN\FISCALNT.MST

A) DATE: February 2, 2010

FILE NUMBER:

Original Fiscal Note **Substitute SubJECT:** Resolution authorizing execution of a Connecting Highway Rescission with the Wisconsin Department of Transportation on South 5th Street and West Washington Street.

B) SUBMITTED BY	(NAME/TITLE/DEPT./EXT.): J	effrey S. Polenske, Cit	y Engineer, DPW, ex	t. 2 4 00	
□ ADO	OPTION OF THIS FILE AUTHOR: OPTION OF THIS FILE DOES NO ST ANTICIPATED COSTS IN SEC I APPLICABLE/NO FISCAL IMPA	OT AUTHORIZE EXPENDITURI CTION G BELOW.	ES; FURTHER COMMON	COUNCIL ACTION 1	NEEDED .
□ CAI	PARTMENTAL ACCOUNT (DA) PITAL PROJECTS FUND (CPF) RM. IMPROVEMENT FUNDS (PIF) HER (SPECIFY)	☐ SPECI	NGENT FUND (CF) LAL PURPOSE ACCOUNTS LE AID ACCOUNTS (G		
E) PURPOSE	SPECIFY TYPE	/USE ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SALARIES/WAGES:					
SUPPLIES:					
MATERIALS:					
NEW EQUIPMENT:					
EQUIPMENT REPAIR:					
OTHER:	Connecting Highway	. Funding		(\$7,533.00)	
OTHER.	Annual Reduction	runarny		(\$7,333.00)	
moma z o				(47 522 00)	
TOTALS:				(\$7,533.00)	
F) FOR EXPENDITURES A	ND REVENUES WHICH WILL OCC	UR ON AN ANNUAL BASIS O	OVER SEVERAL YEARS O	CHECK THE APPROP	PRIATE BOX
BELOW AND THEN LIS	T EACH ITEM AND DOLLAR AMO	UNT SEPARATELY.			
☐ 1-3 YEARS	3-5 YEARS				
☐ 1-3 YEARS ☐ 1-3 YEARS	☐ 3-5 YEARS ☐ 3-5 YEARS				
L 1-3 YEARS	U 3-5 TEARS				
G) LIST ANY ANTICIPAT	ED FUTURE COSTS THIS PROJE	CT WILL REQUIRE FOR COM	IPLETION:		
None					
					_
H) COMPUTATIONS USED	IN ARRIVING AT FISCAL ESTI	MATE:			
N/A					

CONNECTING HIGHWAY RESCISSION

CONNECTING HIGHWAY RESCISSION - HIGHWAY 38 - MILWAUKEE COUNTY:

A change in the Connecting Highway System (STH 38), in the City of Milwaukee, in Milwaukee County, having been proposed, and due notice having been given to the localities concerned, in accordance with the statutes in such cases made and provided, it was decided that, subject to approval by the DOT Secretary, the following proposed change in the Connecting Highway System be approved and adopted:

The Department of Transportation hereby finds and determines and makes this decision that the public good and public travel will best be served by removing from the Connecting Highway System the road described as:

Beginning at a point on the east limits of the intersection of West Washington Street and South 6th Street; thence, easterly along West Washington Street a distance of 0.06 miles to its easterly intersection with South 5th Street all in the southeast quarter of Section 22, Township 7 North, Range 22 East, City of Milwaukee, Milwaukee County AND Beginning at a point on the north limits of the intersection of South 5th Street and West Washington Street; thence, northerly along South 5th Street a distance of 0.20 miles to its southerly intersection with West National Avenue all in the southeast quarter of Section 22, Township 7 North, Range 22 East, City of Milwaukee, Milwaukee County.

This decision, having been made in accordance with Section 86.32(1) of the Wisconsin Statutes, proposing to rescind a connecting highway, shall become effective January 1, 2010.

This Agreement is approved and enacted by:

	·		
Authorized Signature City of Milwaukee Commissioner of Public Works	Date		
Authorized Signature City of Milwaukee Comptroller	Date		
Authorized Signature Wisconsin Department of Transportation	Date	<u>-</u>	



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091368 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution authorizing the City Engineer to apply for five Highway Safety Improvement Program

grants.

Sponsors: THE CHAIR

Indexes: HIGHWAYS, STREET IMPROVEMENTS, TRAFFIC CONTROL SIGNALS, WISCONSIN

DEPARTMENT OF TRANSPORTATION

Attachments: Cover Letter, Fiscal Note, Application for 28 Connecting Highway Interesections, Application for 37

Local Street Interesections, Application for 117 Local Street Interesections, Application for 119 Local

Street Interesections, Application for 129 Connecting Highway Interesections

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091368 **Version:** 0

Number

091368

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution authorizing the City Engineer to apply for five Highway Safety Improvement Program grants.

Analysis

The Wisconsin Department of Transportation is soliciting applications for funds under the Federal Highway Safety Improvement Program (HSIP). The program is intended to reduce the number and severity of vehicle and pedestrian crashes. Successful grant applications will be funded 90 percent by the grant program. The Department of Public Works intends to submit five applications.

Body

Whereas, The Wisconsin Department of Transportation is soliciting applications for funds under the Federal Highway Safety Improvement Program (HSIP); and

Whereas, The program is intended to reduce the number and severity of vehicle and pedestrian crashes; and

Whereas, The Department of Public Works (DPW) has identified five projects for infrastructure related improvements; and

Whereas, Three hundred sixty five signalized intersections have been identified for the installation of pedestrian countdown timers; and

Whereas, Sixty five intersections with a high frequency of crashes have been identified for the installation of larger 12 inch signal indications; and

Whereas, DPW intends to submit applications for the following projects:

- 1. 117 Local Street Intersections Pedestrian Countdown Grant #4
- 2. 119 Local Street Intersections Pedestrian Countdown Grant #5
- 3. 129 Connecting Highway Intersections Pedestrian Countdown Grant #6
- 4. 28 Connecting Highway Intersections 12 Inch Signal Grant #1
- 5. 37 Local Street Intersections 12 Inch Signal Grant #2

; now, therefore be it

Resolved, By the Common Council of the City of Milwaukee that the City Engineer is authorized to submit applications for the Highway Safety Improvement Program at the following locations:

- 1. 117 Local Street Intersections Pedestrian Countdown Grant #4 (\$908,400.00)
- 2. 119 Local Street Intersections Pedestrian Countdown Grant #5 (\$960,200.00)
- 3. 129 Local Street Intersections Pedestrian Countdown Grant #6 (\$969,900.00)
- 4. 28 Connecting Highway Intersections 12 Inch Signal Grant #1 (\$140,100.00)
- 5. 37 Local Street Intersections 12 Inch Signal Grant #2 (\$231,000.00)

Total Estimated Cost - \$3,209,600.00 (\$2,888,640 Federal Share/\$320,960.00 Local Share)

File #: 091368 **Version**: 0

; and, be it

Further Resolved, That any successful grant projects will be brought to the Common Council for approval to enter into Project Agreements.

Requestor

Department of Public Works

Drafter

Infrastructure Services Division

RWB: ns

February 2, 2010

2010 HSIP Grant Applications



February 2, 2010

To the Honorable, the Common Council

Subject: Resolution Regarding Funding for

Highway Safety Improvement Program Projects

Dear Council Members:

The Wisconsin Department of Transportation is soliciting applications for funds under the Federal Highway Safety Improvement Program. The program is intended to reduce the number and severity of vehicle and pedestrian crashes.

The Department of Public Works intends to submit applications for the following projects:

- 1. 117 Local Street Intersections Pedestrian Countdown Grant #4
- 2. 119 Local Street Intersections Pedestrian Countdown Grant #5
- 3. 129 Connecting Highway Intersections Pedestrian Countdown Grant #6
- 4. 28 Connecting Highway Intersections 12 Inch Signal Grant #1
- 5. 37 Local Street Intersections 12 Inch Signal Grant #2

The successful grant applications are expected to be announced this year. All projects will be funded 90 percent by the grant with a 10 percent local match. We have, therefore, prepared the attached resolution authorizing the Department to apply for these grants.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

RWB: ns

Attachment

CITY OF MILWAUKEE FISCAL NOTE

CC-170 (REV. 6/86) Ref: GEN\FISCALNT.MST

A) DATE: Fe	bruary 2,	2010				FILE NUMBER:	
SUBJECT: Res	solution autho	orizing the City E	ngineer to ap	oply for five Hig	_	scal Note 🗹 s provement Pro	
B) SUBMITTED	BY (NAME/T	ITLE/DEPT./EXT.):	Jeffrey S. P	Polenske, City Er	ngineer, DPW, ext	. 2400	
C) CHECK ONE:	☑ ADOPTION (☐ LIST ANTIC	OF THIS FILE AUTHO OF THIS FILE DOES CIPATED COSTS IN S CABLE/NO FISCAL IN	NOT AUTHORIZE SECTION G BEL	E EXPENDITURES;	FURTHER COMMON CO	OUNCIL ACTION 1	NEEDED.
D) CHARGE TO:	CAPITAL P	FAL ACCOUNT (DA) ROJECTS FUND (CPF) ROVEMENT FUNDS (PECIFY)		☐ SPECIAL 1	NT FUND (CF) PURPOSE ACCOUNTS AID ACCOUNTS (G &		
E) PURPO SALARIES/WAGES:		SPECIFY TY	PE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS
SUPPLIES:							
MATERIALS:							
NEW EQUIPMENT:							
EQUIPMENT REPAI	R:						
OTHER:							
TOTALS:							
		NUES WHICH WILL O			SEVERAL YEARS CH	ECK THE APPROF	PRIATE BOX
BELOW AND TH	EN LIST EACH	ITEM AND DOLLAR A	MOUNT SEPARAT	PELY.			
☐ 1-3 YEARS	□ 3-5	YEARS					
☐ 1-3 YEARS	□ 3-5	YEARS					
☐ 1-3 YEARS	□ 3-5	YEARS					
G) LIST ANY ANT	CIPATED FUTU	RE COSTS THIS PRO	JECT WILL REΩ	QUIRE FOR COMPLE	TION:		
Ten percent loc	al match requ	ired for any proj	ects approved	1.			
H) COMPILEATIONS	USED IN ARRI	VING AT FISCAL ES	TIMATE:				
Engineering Est		12.0 11. 110.11 10					

PLEASE LIST ANY COMMENTS ON REVERSE SIDE AND CHECK HERE lacksquare

Project Application for 2008-2011 HIGHWAY SAFETY IMPROVEMENT PROGRAM DESIGN ID: RELATED ID(s): (R/W) (CONST) Project Description 1. NAME OF ROAD/INTERSECTION HWY NO. 28 Connecting Highway Intersections - Traffic Signal Face 12-IH 43/94, USH 18, STH Inch Installation 32/38/57/59/181/190 COUNTY CITY OF **TOWN OF** Milwaukee Milwaukee NAME OF THE MPO THE PROJECT IS REPRESENTED BY **SEWRPC**

Is the estimated cost of the project less than \$25,000? \square Yes \square Yes If YES, be sure to complete Box 6 in addition to the rest of this form.

	Project Length		
			Miles
Crash Rate	•	Shoulder Width	
			÷
	Crash Rate		

2B. INTERSECTION	Crash Rate	Entering Vehicle Volume
Roadway Width	Varies	Varies

Identification of Hazard

2C. Explain identified hazards such as: Visibility Restrictions, Curves, Hills, Intersection Problems, Bike/Ped Conflicts, Narrow Shoulders, Rutting, Etc.

Twenty eight connecting highway intersections with 8-inch traffic signal faces were identified as experiencing a high number and frequency of crashes including disregard of red and rear end crashes from 2006-08.

Inters	ecti	ion	Crashes (2006-08)	Entering Volume	Crash Rate	E	st. Cost
Burleigh	&	20th	33	18,500	1.77	\$	4,500
Capitol	&	7th	33	37,300	0.88	\$	3,700
Capitol	&	20th	28	37,000	0.75	\$	2,500
Capitol	&	Holton	27	43,500	0.62	\$	5,300
Capitol	&	Richards	18	46,700	0.38	\$	6,300
Center	&	20th	21	22,400	0.93	\$	5,300
Center	&	Fond du Lac	33	36,400	0.90	\$	2,500
Chase	&	Oklahoma	32	35,300	0.90	\$	6,200
Fond du Lac	&	27th	28	37,700	0.74	\$	2,500
Fond du Lac	&	60th	34	52,100	0.65	\$	3,500
Fond du Lac	&	68th	33	36,900	0.89	\$	7,300
Fond du Lac	&	Hampton	41	52,300	0.78	\$	2,000
Fond du Lac	&	Maxwell	35	34,000	1.02	\$	9,300
Fond du Lac	&	North	16	38,900	0.41	\$	4,200
Fond du Lac	&	Roosevelt	17	40,800	0.41	\$	7,300
Hampton	&	76th	33	43,600	0.75	\$	4,800
Hopkins	&	20th	17	18,300	0.92	\$	3,300
Lincoln Memorial	&	Michigan	49	38,900	1.25	\$	4,700
Locust	&	20th	21	17,800	1.17	\$	7,700
National	&	1st	39	30,800	1.26	\$	6,700

National	&	5th	17	16,600	1.02	\$ 3,300
National	&	6th	49	27,500	1.77	\$ 4,300
North	&	20th	40	22,400	1.78	\$ 4,200
Old World 3rd	&	State	20	13,600	1.46	\$ 9,000
Park Hill	&	35th (north)	21	23,500	0.89	\$ 4,500
Park Hill	&	35th (south)	15	29,000	0.51	\$ 3,500
Saint Paul	&	27th	.38	54,300	0.70	\$ 2,500
State	&	4th	20	11,000	1.81	\$ 9,200
		Totals	808	917,100	0.88	\$ 140,100

Proposed Improvement

3. In some detail, describe the proposed project and how it will address the identified hazard.

The installation of larger 12-inch traffic signal faces at the 28 intersections identified will reduce the number and severity of crashes by reducing the number of disregard of red and rear end crashes.

Project Cost

Estimate project costs in today's dollars)	FY 2009	FY 2010	FY 2011	FY 2012	HSIP Funds Requested
Preliminary Engineering- Design*: Include state review (-00)			\$15,000		\$15,000
Construction Inspection (-71)			\$10,000		\$10,000
Traffic Signals (-90)			\$115,100		\$115,100
** TOTAL	.		\$140,100		\$140,100

Proj	ect	Chec	KIISt

nplete this box only for projects less than \$25,000:			
project affect or use land from a property on the National Register of Historic Places?	Yes] _{No}	
I project require the use of any publicly-owned land from a public park, recreation area, wildlife and waterfowl refuge?	Yes] _{No}	
our municipality adequately staffed and equipped to do the work?	☐ Yes ☐] _{No}	
es your municipality have prior commitments that would impair your performance of this work?	Yes] _{No}	

Contact Information and Signature

NAME	TITLE		
Jeffrey S. Polenske, P.E.	City Engine	er	
ADDRESS	TELEPHONE		
841 North Broadway, Room 701	(414) 286-24	400	
MUNICIPALITY	STATE	ZIP	•
City of Milwaukee	WI	53202	
7. SIGNATURE OF LOCAL APPROVING AUTHORITY		DATE	
7. SIGNATURE OF LOCAL APPROVING AUTHORITY		DATE	

WisDOT Information - Shaded areas to be completed by WisDOT staff only.

A. Environmental Documentation Type	B I	Hazard Elimination Type	
C PMSID	D. Functional Class		E PEF

REGION APPROVAL	
Project Supervisor	Date 3 7 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Planning Supervisor	Date

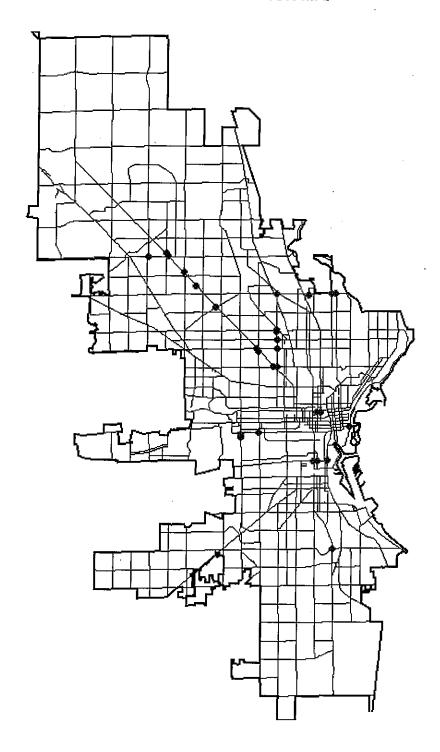
^{*} Ineligible cost for Small Local HSIP Project (less than \$25,000).

** The project sponsors will be responsible for any project costs in excess of the approved project cost.

C.O. Concurrence	Approved Disapproved
Approving Authority PENJOSED 42/42/06	Date

REVISED 12/12/06

PROJECT LOCATION MAP



CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS HSIP GRANT APPLICATION SIGNAL FACE 3-12 INCH INSTALLATION 28 CONNECTING HIGHWAY INTERSECTIONS

Project Application for 2008-2011 HIGHWAY SAFETY IMPROVEMENT PROGRAM RELATED ID(s): (R/W) (CONST) Project Description 1. NAME OF ROAD/INTERSECTION HWY NO. 37 Local Street Intersections – Traffic Signal Face 12-Inch Installation COUNTY CITY OF TOWN OF Milwaukee *Milwaukee* NAME OF THE MPO THE PROJECT IS REPRESENTED BY *SEWRPC* X_{No} Yes Is the estimated cost of the project less than \$25,000? If YES, be sure to complete Box 6 in addition to the rest of this form.

Current Average Daily Traffic Miles Roadway Width Crash Rate Shoulder Width	
Roadway Width Crosh Date	
Roadway Width Crash Rate Shoulder Width	<u> </u>

2B. INTERSECTION	Crash Rate	Entering Vehicle Volume
Roadway Width	Varies	Varies

Identification of Hazard

2C. Explain identified hazards such as: Visibility Restrictions, Curves, Hills, Intersection Problems, Bike/Ped Conflicts, Narrow Shoulders, Rutting, Etc.

Thirty seven local street intersections with 8-inch traffic signal faces were identified as experiencing a high number and frequency of crashes including disregard of red and rear end crashes from 2006-08.

Intersection	Crashes (2006-08)	Entering Volume	Crash Rate	Est. Cost
Brown & 27th	22	25,700	0.85	\$ 6,700
Burleigh & 51st	43	28,300	1.51	\$ 3,300
Center & Shermai	n 54	41,200	1.30	\$ 7,000
Greenfield & Layton E	llvd. 28	40,300	0.69	\$ 7,500
Hampton & 32nd	19	36,500	0.52	\$ 5,000
Hampton & 37th	25	32,800	0.76	\$ 4,500
Hampton & 51st	38	37,400	1.01	\$ 7,200
Hampton & 60th	47	48,700	0.96	\$ 7,200
Hampton & 68th	28	24,100	1.16	\$ 8,300
Hampton & Hopkins	36	39,200	0.91	\$ 6,300
Hampton & Shermar	36	54,800	0.65	\$ 7,300
Hampton & Teutonia	41	47,700	0.86	\$ 7,200
Layton & 13th	37	44,500	0.83	\$ 5,200
Layton Blvd. & Lincoln/2	7th 36	41,900	0.85	\$ 5,300
Lincoln & 16th	35	28,400	1.23	\$ 6,000
Lincoln & 20th	22	22,000	1.00	\$ 7,000
Lincoln & Windlake	e 17	23,900	0.71	\$ 7,200
Lisbon & 27th	31	31,800	0.97	\$ 5,300
Locust & 27th	27	27,100	0.99	\$ 5,300
Locust & 35th	26	25,000	1.03	\$ 4,200
Locust & Oakland	24	37,200	0.64	\$ 5,000

Locust	& Sherman	34	40,700	0.83	\$ 11,300
Locust	& Teutonia	21	29,700	0.70	\$ 4,300
Michigan	& 35th	38	22,900	1.65	\$ 5,800
Mill	& 60th	39	37,100	1.05	\$ 3,300
Mill	& 91st	38	35,800	1.06	\$ 7,000
MIII	& Teutonia	18	26,100	0.69	\$ 9,700
North	& 12th	26	21,000	1.23	\$ 6,200
North	& 27th	31	33,100	0.93	\$ 3,300
North	& Oakland	25	30,600	0.81	\$ 5,000
North	& Teutonia	41	25,100	1.63	\$ 6,000
Oklahoma	& 35th	31	35,000	0.88	\$ 8,300
Saint Paul	& 35th	30	22,000	1.36	\$ 8,700
Silver Spring	& 64th	35	35,100	0.99	\$ 5,200
Townsend	& 35th	20	18,100	1.10	\$ 7,000
Villard	& 60th	29	35,400	0.82	\$ 6,700
Walnut	& 12th	19	16,400	1.15	\$ 5,300
	Totals	1,147	1,202,600	0.95	\$ 231,000

Proposed Improvement
3. In some detail, describe the proposed project and how it will address the identified hazard.

The installation of larger 12-inch traffic signal faces at the 37 intersections identified will reduce the number and severity of crashes by reducing the number of disregard of red and rear end crashes.

Project Cost

Estimate project costs in today's dollars)	FY 2009	FY 2010	FY 2011	FY 2012	HSIP Funds Requested
Preliminary Engineering- Design*: Include state review (-00)			\$20,000		\$20,000
Construction Inspection (-71)			\$10,000		\$10,000
Traffic Signals (-90)			\$201,000		\$201,000
** TOTAL			\$231,000		\$231,000

Project Checklist

i roject oncoknot	
Complete this box only for projects less than \$25,000:	
5. Will project affect or use land from a property on the National Register of Historic Places?	Yes No
Will project require the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge?	Yes No
Is your municipality adequately staffed and equipped to do the work?	Yes No
Does your municipality have prior commitments that would impair your performance of this work?	Yes No

Contact Information and Signature

6. PRIMARY CONTACT PERSON or AGENCY NAME	TITLE			
Jeffrey S. Polenske, P.E.	City Engine	er		
ADDRESS	TELEPHONE			
841 North Broadway, Room 701	(414) 286-2	(414) 286-2400		
MUNICIPALITY	STATE	ZIP		
City of Milwaukee	WI	53202		
7. SIGNATURE OF LOCAL APPROVING AUTHORITY		DATE		

^{*} Ineligible cost for Small Local ныр Project (less than \$25,000).
** The project sponsors will be responsible for any project costs in excess of the approved project cost.

WisDOT Information — Shaded areas to be completed by WisDOT staff only.

A. Environmental Documentation Type

C. PMSID

D. Functional Class

REGION APPROVAL
Project Supervisor

Planning Supervisor

Date

C.O. Concurrence

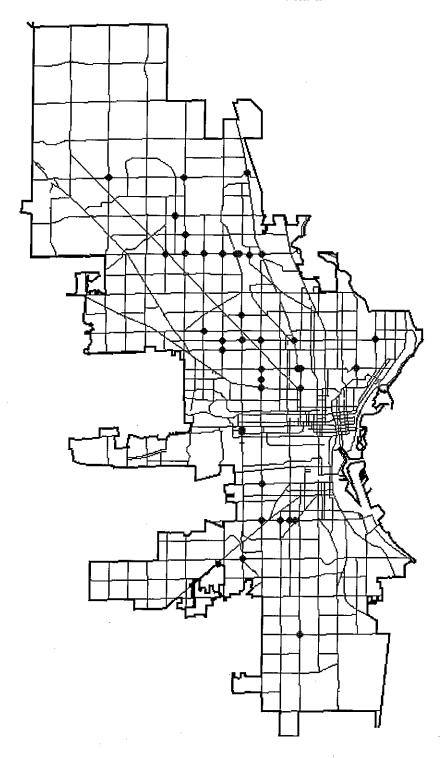
Approved

Disapproved

Date

REVISED 12/12/06

PROJECT LOCATION MAP



CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS HSIP GRANT APPLICATION SIGNAL FACE 3-12 INCH INSTALLATION 37 LOCAL STREET INTERSECTIONS

Project Application for 2008-2011 HIGHWAY SAFETY IMPROVEMENT PROGRAM DESIGN ID RELATED ID(s) (R/W) (CONST) Project Description 1. NAME OF ROAD/INTERSECTION HWY NO. 117 Local Street Intersections (Grant #4) TOWN OF Milwaukee Milwaukee NAME OF THE MPO THE PROJECT IS REPRESENTED BY SEWRPC \mathbf{X}_{No} Ves Is the estimated cost of the project less than \$25,000? If YES, be sure to complete Box 6 in addition to the rest of this form. 2A. SEGMENT Project Length Current Average Daily Traffic Miles Roadway Width Crash Rate Shoulder Width 2B. INTERSECTION Crash Rate Entering Vehicle Volume Roadway Width Varies - see Attachment A Varies - see Attachment A

Identification of Hazard

2C. Explain identified hazards such as: Visibility Restrictions, Curves, Hills, Intersection Problems, Bike/Ped Conflicts, Narrow Shoulders, Rutting, Etc.

Existing "Walk/Don't Walk" housings at signalized intersections do not provide the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval. Since pedestrians do not know how much time they have prior to the start of the yellow change interval, conflicts occur with vehicles because pedestrians fail to clear the crossing before the start of the conflicting green phase.

One hundred seventeen signalized local street intersections in the City of Milwaukee have been identified for improvements. These intersections had 1,172 crashes between 2006 and 2008 resulting in 609 injuries, including 39 pedestrians (See Attachment A).

Proposed Improvement

3. In some detail, describe the proposed project and how it will address the identified hazard.

The installation of 860 pedestrian countdown timers with 774 larger 12" combination "Walk/Don't Walk" housings will reduce the conflicts between pedestrians and vehicles to the extent practical and assist pedestrians in crossing safely at 117 local street intersections by providing the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval.

Project Cost

Estimate project costs in today's dollars)	FY 2009	EV 0040	EV 2044	FW 0040	HSIP Funds
Preliminary Engineering-	F1 2009	FY 2010	FY 2011	FY 2012	Requested
Design*: Include state review (-00)			\$85,000		\$85,000
Construction Inspection (-71)			\$15,000		\$15,000
Traffic Signals (-90)			\$808,400		\$808,400
** TOTAL			\$908,400		\$908,400

* Ineligible cost for Small Local HSIP Project (less than \$25,000).

^{**} The project sponsors will be responsible for any project costs in excess of the approved project cost.

REGION APPROVAL: Project Supervisor Planning Supervisor C.O. Concurrence Approved Disapproved Date	Project Checklist		
Will project require the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge? Is your municipality adequately staffed and equipped to do the work?	Complete this box only for projects	less than \$25,000:	· · · · · · · · · · · · · · · · · · ·
Is your municipality adequately staffed and equipped to do the work?	5. Will project affect or use land from a property on the Na	ational Register of Historic Place	es? Yes No
Contact Information and Signature 6. PRIMARY CONTACT PERSON or AGENCY NAME Jeffrey S. Polenske, P.E. ADDRESS At 1 North Broadway, Room 701 MUNICIPALITY City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type C. PMSID D. Functional Class REGION APPROVAL Project Supervisor Planning Supervisor Planning Supervisor Planning Supervisor Approved Disapproved Date Date Date Date Date		from a public park, recreation a	rea, Yes No
Contact Information and Signature 6. PRIMARY CONTACT PERSON or AGENCY NAME Jeffrey S. Polenske, P.E. ADDRESS ADDRESS AS TELEPHONE (414) 286-2400 MUNICIPALITY STATE City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY Wis DOT Information — Shaded areas to be completed by Wis DOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEF REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approved	Is your municipality adequately staffed and equipped to	do the work?	Yes No
6. PRIMARY CONTACT PERSON or AGENCY NAME Jeffrey S. Polenske, P.E. ADDRESS 841 North Broadway, Room 701 MUNICIPALITY City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEF REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approved Disapproved Disapproved Date	Does your municipality have prior commitments that wo	ould impair your performance of	this work? Yes No
NAME Jeffrey S. Polenske, P.E. ADDRESS ATELEPHONE (414) 286-2400 MUNICIPALITY City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEF REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approved Disapproved Disapproved Disapproved Date	Contact Information and Signature		
Jeffrey S. Polenske, P.E. City Engineer		751775	
ADDRESS 841 North Broadway, Room 701 (414) 286-2400 STATE City of Milwaukee WI 53202 7. SIGNATURE OF LOCAL APPROVING AUTHORITY WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type C. PMSID D. Functional Class E. PEF REGION APPROVAL Project Supervisor Planning Supervisor Planning Supervisor Planning Authority Date Approved Approved Disapproved Date		i e	
MUNICIPALITY	ADDRESS		er
MUNICIPALITY City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY DATE WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEF REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approving Authority Date			
City of Milwaukee 7. SIGNATURE OF LOCAL APPROVING AUTHORITY DATE WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEE REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approving Authority Date	MINICIPALITY		
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WisDOT Information — Shaded areas to be completed by WisDOT staff only. A. Environmental Documentation Type B. Hazard Elimination Type C. PMSID D. Functional Class E. PEF Project Supervisor Planning Supervisor Date C.O. Concurrence Approving Authority Date			
A Environmental Documentation Type C. PMSID D. Functional Class REGION APPROVAL Project Supervisor Planning Supervisor C.O. Concurrence Approved Date Date			
A Environmental Documentation Type C. PMSID D. Functional Class REGION APPROVAL Project Supervisor Planning Supervisor C.O. Concurrence Approved Date Date	WisDOT Information – Shaded areas to i	pe completed by WisDOT	staff only.
REGION APPROVAL Project Supervisor Planning Supervisor Date C.O. Concurrence Approving Authority Date	A. Environmental Documentation Type	∍B. Hazard Elimination Typ)e
Planning Supervisor Planning Supervisor C.O. Concurrence Approving Authority Date	C. PMSID D. Functional Cla	388 	
C.O. Concurrence Approved Disapproved Approving Authority Date	REGION APPROVAL Project Supervisor		Date
Approved Disapproved Approving Authority Date	Planning Supervisor		Date
Approving Authority Date	C.O. Concurrence		
Approving Authority Date			Approved Disapproved
20-44-4-4	Approving Authority		THE DESCRIPTION OF THE PROPERTY OF THE SECOND SECON
	REVISED 12/12/06		

Attachment A: Countdown HSIP Grant #4 (Local Street Locations - Southside)

		2006-08						
No.	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost
1	Virginia	6th	5	0	19	19,700	0.96	\$ 8,900
2	Virginia	749 West	0	0	0	3,000	0.00	\$ 2,200
3	Cesar Chavez	Pierce/16th	7	0	21	20,400	1.02	\$ 8,900
4	Layton Blvd.	Scott	2	0	12	28,700	0.42	\$ 8,900
5	Scott	35th	1	0	10	20,700	0.48	\$ 8,900
6	Greenfield	21st	2	1	7	16,300	0.43	\$ 8,900
7	Greenfield	Layton Blvd.	12	1	28	40,300	0.69	\$ 8,900
8	Greenfield	31st	0	0	6	15,800	0.38	\$ 8,900
9	Greenfield	35th	8	1	27	33,200	0.81	\$ 8,900
10	Lapham	2nd	13	0	25	12,000	2.07	\$ 8,900
11	Lapham	11th	8	2	8	20,400	0.39	\$ 4,400
12	Cesar Chavez	Lapham	1	0	9	22,300	0.40	\$ 6,700
13	Lapham	Layton Blvd.	1	0	6	28,600	0.21	\$ 8,900
14	Mitchell	4th	16	0	12	5,900	2.02	\$ 6,700
15	Mitchell	5th	3	0	7	7,300	0.95	\$ 8,900
16	Mitchell	7th	7	1	11	12,400	0.88	\$ 8,900
17	Mitchell	9th	2	0	4	12,600	0.32	\$ 8,900
18	Mitchell	11th	8	1	12	19,000	0.63	\$ 4,400
19	Mitchell	13th	3	0	9	17,500	0.51	\$ 8,900
20	Forest Home	13th	6	0	10	14,400	0.69	\$ 8,900
21	Cesar Chavez	Mitchell/16th	15	3	27	27,900	0.96	\$ 8,900
22	Mitchell	Muskego	4	1	8	18,900	0.42	\$ 4,400
23	Mitchell	21st	0	0	2	9,600	0.21	\$ 8,900
24	Layton Blvd.	Mitchell	4	1	18	32,400	0.55	\$ 8,900
25	Mitchell	35th	10	0	17	24,300	0.70	\$ 8,900
26	Maple	11th	2	0	6	8,400	0.71	\$ 8,900
27	Burnham	16th	11	0	19	20,500	0.92	\$ 8,900
28	Forest Home	16th	6	. 0	10	14,600	0.68	\$ 8,900
29	Burnham	Muskego	1	0	8	16,900	0.00	\$ 8,900
30	Burnham	Layton Blvd.	6	3	24	34,700	0.47	\$ 8,900
31	Burnham	35th	13	2	32	27,900	1.14	\$ 8,900
	Becher	Windlake	14	1	15	14,400	1.14	
	Becher	16th	12	0	10		0.70	\$ 8,900
	Becher	Forest Home/20th	6	0	7	14,300		\$ 8,900
	Becher	Muskego	8	0	8	17,300 12,800	0.40 0.62	\$ 17,800
	Becher	Layton Blvd.	19	1	12			\$ 8,900
	Becher	35th	2	0		29,900	0.40	\$ 8,900
	Howell	Lincoln	5		6 9	22,300	0.27	\$ 8,900
	Lincoln	4th	9	1 0		12,600	0.71	\$ 8,900
	Lincoln	5th	 	0	11	9,300	1.18	\$ 6,700
	Lincoln	9th Pl.	4	0	3 4	10,000	0.30	\$ 6,700
			0	0		14,300	0.28	\$ 6,700
	Lincoln	Windlake	11	1	17	23,800	0.71	\$ 8,900
	Lincoln	16th	13	3	35	27,100	1.29	\$ 8,900
	Lincoln	20th	19	0	22	23,000	0.95	\$ 8,900
	Forest Home	Lincoln	6	0	14	33,800	0.41	\$ 4,400
	Layton Blvd.	Lincoln/27th	23	2	. 45	43,000	1.04	\$ 8,900
	Lincoln	31st	10	0	9	19,800	0.45	\$ 8,900
	Lincoln	35th	7	1	18	38,800	0.46	\$ 8,900
	Lincoln	43rd	34	0	62	44,900	1.37	\$ 8,900
	Windlake	16th	3	2	3	14,700	0.20	\$ 8,900
51	KK River Pkwy	43rd	4	0	8	27,100	0.29	\$ 4,400

CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS

25

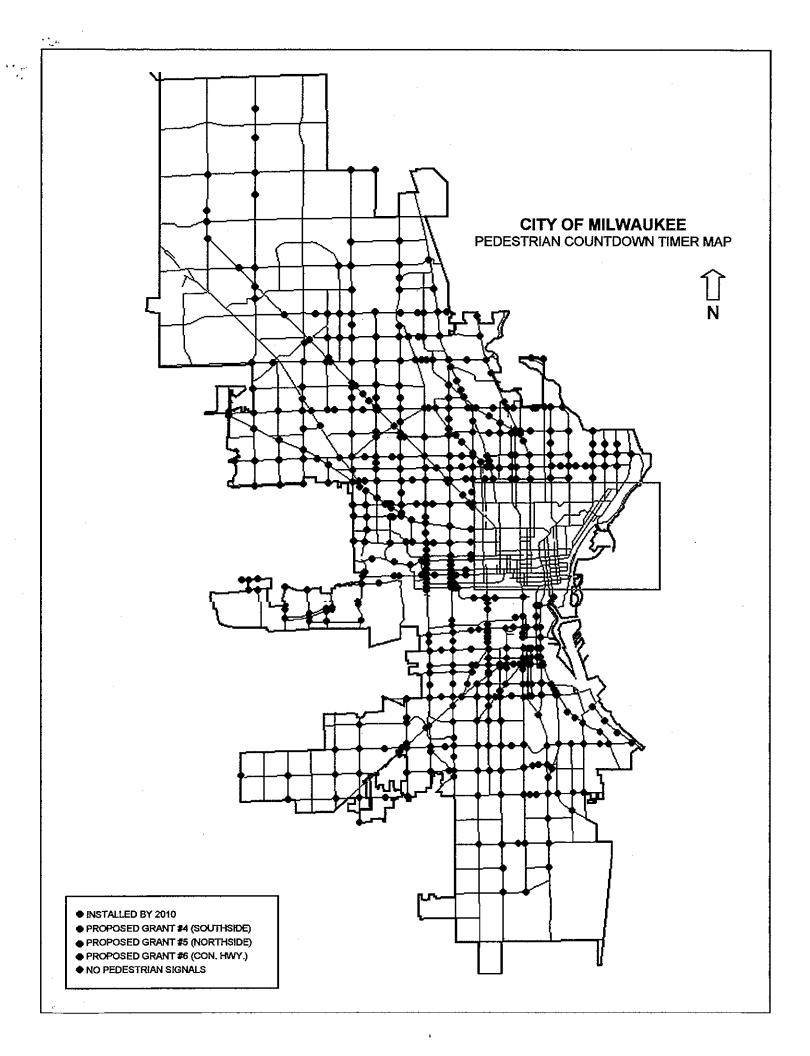
Attachment A: Countdown HSIP Grant #4 (Local Street Locations - Southside)

			2006-08						
No.	Street 1	Street 2	Injuries	Ped- estrian	Tota!	ADT	Crashes/ MEV	Est. Cost	
52	Cleveland	16th	4	0	10	13,700	0.73	\$ 8,900	
53	Cleveland	20th	5	0	7	15,400	0.45	\$ 4,400	
54	Cleveland	43rd	3	Ö	13	27,200	0.48	\$ 8,900	
55	Cleveland	60th	3	0	9	22,400	0.40	\$ 8,900	
56	Russell	Superior	0	0	1	9,500	0.10	\$ 8,900	
57	Nock	Superior	0	0	1	5,800	0.17	\$ 8,900	
58	Rusk	Superior	0	0	0	5,300	0.00	\$ 6,700	
59	Oklahoma	Superior	0	0	1	7,200	0.14	\$ 6,700	
60	Clement	Oklahoma	18	2	16	25,900	0.61	\$ 8,900	
61	Oklahoma	Pine	3	0	8	23,100	0.34	\$ 8,900	
62	Howell	Oklahoma	9	0	19	30,500	0.62	\$ 8,900	
63	Oklahoma	6th	8	1	19	29,200	0.65	\$ 8,900	
64	Oklahoma	9th Pl.	10	0	18	21,200	0.84	\$ 8,900	
65	Oklahoma	13th	5	0	18	31,600	0.57	\$ 8,900	
66	Oklahoma	16th	9	0	18	28,600	0.63	\$ 8,900	
67	Oklahoma	20th	15	1	30	31,200	0.96	\$ 8,900	
68	Oklahoma	30th	1	<u>.</u>	6	23,500	0.25	\$ 6,700	
69	Oklahoma	35th	23	2	31	35,000	0.88	\$ 8,900	
70	Oklahoma	51st	1		8	23,500	0.34	\$ 8,900	
71	Lakefield	35th	5	1	6	14,400	0.41	\$ 4,400	
72	Howell	Morgan	2	.	7	10,900	0.64	\$ 8,900	
73	Holt	2nd	3	0	10	18,800	0.53	\$ 6,700	
74	Holt	Morgan/6th	15	0	23	28,900	0.79	\$ 8,900	
75	Morgan	13th	15	1	29	26,900	1.07	\$ 8,900	
76	Morgan	16th	7	0	8	20,600	0.39	\$ 8,900	
77	Morgan	20th	10	0	28	31,100	0.90	\$ 8,900	
78	Lakefield	Morgan	1	0	10	12,900	0.90	\$ 6,700	
	Morgan	35th	10	0	15	15,900	0.77	\$ 4,400	
	Morgan	43rd	7	0	24	19,300	1.24	\$ 8,900	
	Morgan	60th	7	0	8	21,600	0.37	\$ 8,900	
	Morgan	68th	5	0	6	11,800	0.57		
	Morgan	84th	5	0	4	12,800	0.31	\$ 8,900 \$ 8,900	
	Beloit	Morgan/100th	13	0	30	20,100	1.49	\$ 8,900	
	Clement	Howard	2	0	12	18,800			
	Howard	Pine	3	0	11	17,700	0.64 0.62	\$ 4,400	
	Howard	Whitnall	15	0	19	26,100	0.62	\$ 8,900	
	Howard	6th	12	0	21	28,900		\$ 8,900	
	Howard	13th	2	0	13		0.72	\$ 8,900	
	Howard	20th	9	1		28,000	0.46	\$ 8,900	
	Howard	60th			13	26,300	0.49	\$ 8,900	
	Pine	Whitnall	8 1	0	16	22,800	0.70	\$ 8,900	
	Cold Spring	60th		0	4	12,700	0.31	\$ 8,900	
	_		12	0	25	23,700	1.05	\$ 8,900	
	Layton	6th	5	2	15	41,900	0.36	\$ 8,900	
	Layton	8th (800 West)	0	0	2	31,500	0.06	\$ 4,400	
	Layton	13th	20	0	37	47,600	0.77	\$ 8,900	
	Layton	20th	18	6	25	42,000	0.59	\$ 4,400	
	Edgerton	13th	3	0	9	18,800	0.48	\$ 2,200	
	Grange	6th	0	0	0	10,900	0.00	\$ 4,400	
	Grange	13th	8	0	15	22,000	0.68	\$ 8,900	
	Hawley	Main	3	0	9	24,200	0.37	\$ 8,900	
102	Main	70th	5	1 1	10	20,400	0.49	\$ 8,900	

CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS

Attachment A: Countdown HSIP Grant #4 (Local Street Locations - Southside)

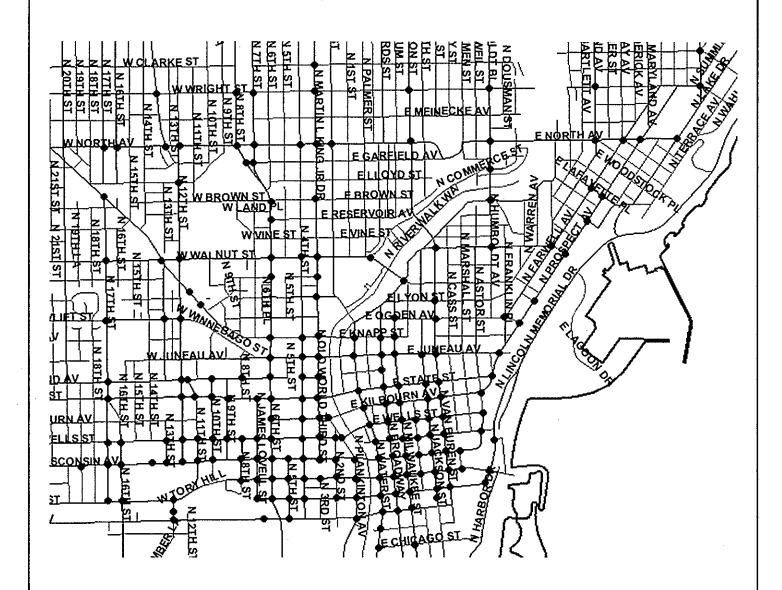
				2006-08					
Š.	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost	
103	Main	76th	2	0	11	13,400	0.82	\$ 6,700	
	Kearney	76th	3	0	3	13,700	0.22	\$ 6,700	
105	O'Connor	76th	2	0	2	14,400	0.14	\$ 6,700	
	Canal	6th	9	0	15	19,100	0.78	\$ 8,900	
	Canal	Emmber	2	1	6	21,300	0.28	\$ 4,400	
108	Canal	16th/Potawatomi	1	0	6	15,200	0.39	\$ 3,300	
	Canal	20th/Potawatomi	. 0	0	0	15,200	0.00	\$ 6,700	
	Potawatomi Ramp	16th	0	0	0	21,400	0.00	\$ 1,100	
	Emmber Ramp	16th	1	0	2	14,600	0.14	\$ 2,200	
	Hawley	Wisconsin	8	0	11	28,100	0.39	\$ 8,900	
		92nd	2	0	5	17,000	0.29	\$ 1,100	
114	Hawley	Wells	10	2	15	16,600	0.90	\$ 8,900	
115	State	40th/41st	1	0	2	10,200	0.20	\$ 11,100	
	State	46th	0	0	1	12,300	0.08	\$ 2,200	
117	State	54th	1	0	2	7,000	0.28	\$ 2,200	
	-	TOTALS	646	39	1,243	1,858,700	0.67	\$ 908,400	



CITY OF MILWAUKEE

PEDESTRIAN COUNTDOWN TIMER MAP (DOWNTOWN DETAIL)





- INSTALLED BY 2010
- PROPOSED GRANT #4 (SOUTHSIDE)
- PROPOSED GRANT #5 (NORTHSIDE)
- PROPOSED GRANT #6 (CON. HWY.)
- NO PEDESTRIAN SIGNALS

Project Application for 2008-2011 HIGHWAY SAFETY IMPROVEMENT PROGRAM RELATED ID(s): (R/W) (CONST) Project Description 1. NAME OF ROAD/INTERSECTION HWY NO. 119 Local Street Intersections (Grant #5) COUNTY CITY OF **TOWN OF** Milwaukee Milwaukee NAME OF THE MPO THE PROJECT IS REPRESENTED BY SEWRPCX Is the estimated cost of the project less than \$25,000? Ves If YES, be sure to complete Box 6 in addition to the rest of this form. 2A. SEGMENT Project Length Current Average Daily Traffic Miles Roadway Width Crash Rate Shoulder Width 2B. INTERSECTION Crash Rate Entering Vehicle Volume Roadway Width Varies - see Attachment A Varies - see Attachment A

Identification of Hazard

2C. Explain identified hazards such as: Visibility Restrictions, Curves, Hills, Intersection Problems, Bike/Ped Conflicts, Narrow Shoulders, Rutting, Etc.

Existing "Walk/Don't Walk" housings at signalized intersections do not provide the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval. Since pedestrians do not know how much time they have prior to the start of the yellow change interval, conflicts occur with vehicles because pedestrians fail to clear the crossing before the start of the conflicting green phase.

One hundred nineteen signalized local street intersections in the City of Milwaukee have been identified for improvements. These intersections had 1,922 crashes between 2006 and 2008 resulting in 1,165 injuries, including 54 pedestrians (See Attachment A).

Proposed Improvement

3. In some detail, describe the proposed project and how it will address the identified hazard.

The installation of 932 pedestrian countdown timers with 796 larger 12" combination "Walk/Don't Walk" housings will reduce the conflicts between pedestrians and vehicles to the extent practical and assist pedestrians in crossing safely at 119 local street intersections by providing the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval.

Project Cost

Estimate project costs in today's dollars)	FY 2009	FY 2010	FY 2011	FY 2012	HSIP Funds Requested
Preliminary Engineering- Design*: Include state review (-00)			\$85,000		\$85,000
Construction Inspection (-71)			\$15,000		\$15,000
Traffic Signals (-90)			\$860,200		\$860,200
** TOTAL			\$960,200		\$960,200

* Ineligible cost for Small Local HSIP Project (less than \$25,000).

^{**} The project sponsors will be responsible for any project costs in excess of the approved project cost.

Project Checklist					
Complete this box only for projects less the	an \$25,000:				
5. Will project affect or use land from a property on the National Regi	ster of Historic Places?	Yes No			
Will project require the use of any publicly-owned land from a publ or wildlife and waterfowl refuge?	ic park, recreation area,	Yes No			
ls your municipality adequately staffed and equipped to do the wor	k?	Yes No			
Does your municipality have prior commitments that would impair	your performance of this wo	rk? Yes No			
Contact Information and Signature					
6. PRIMARY CONTACT PERSON or AGENCY					
NAME	TITLE				
Jeffrey S. Polenske, P.E.	City Engineer				
ADDRESS	TELEPHONE				
841 North Broadway, Room 701	(414) 286-2400				
MUNICIPALITY	STATE	ZIP			
City of Milwaukee	WI	53202			
7. SIGNATURE OF LOCAL APPROVING AUTHORITY		DATE			
WisDOT Information – Shaded areas to be completed	eted by WisDOT staff	only.			
A. Environmental Documentation Type B. Ha	zard Elimination Type				
C. PMSID D. Functional Class		E, PEF			
REGION APPROVAL Project Supervisor					
Planning Supervisor	Date				
	Date				
C.O. Concurrence					
		roved Disapproved			
Approving Authority	Date				

REVISED 12/12/06

Attachment A: Countdown HSIP Grant #5 (Local Street Locations - Northside)

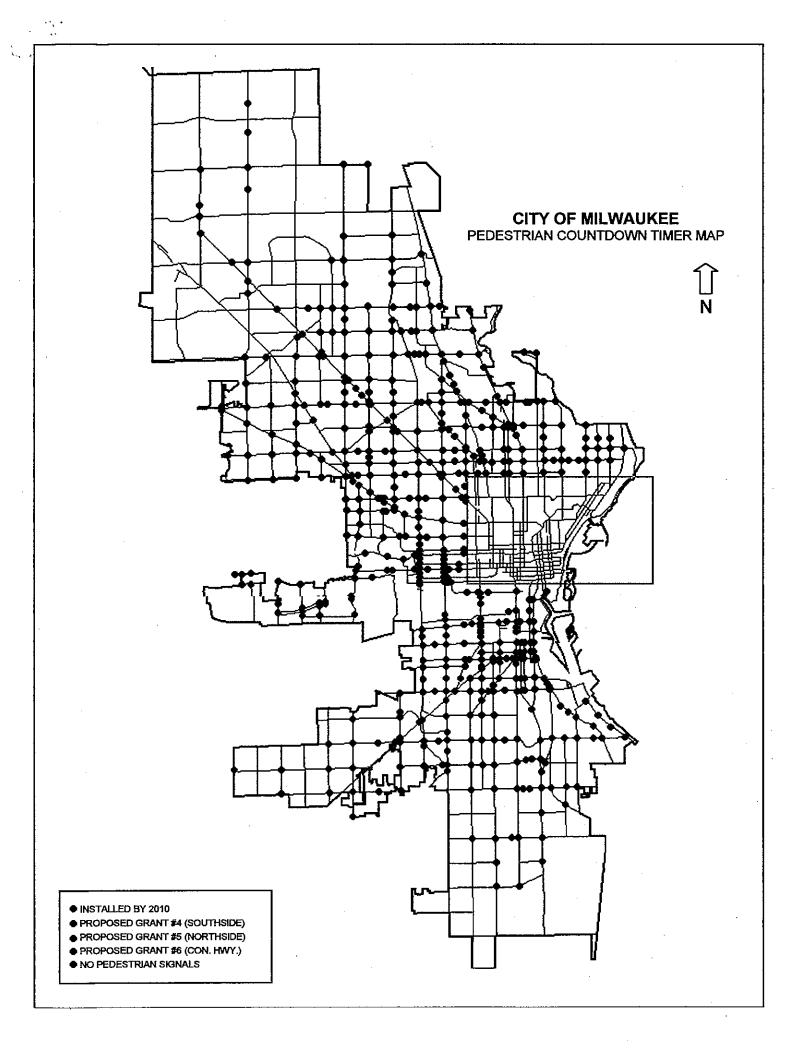
				2006-08				
Š	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost
1	Highland	Vliet	8	2	15	21,700	0.69	\$ 8,900
2	Vliet	47th	9	0	9	11,200	0.80	\$ 6,700
3	Hawley	Vliet	6	1	14	23,800	0.59	\$ 4,400
4	Vliet	60th	1	0	5	18,300	0.27	\$ 8,900
5	Brown	35th	18	1	20	22,300	0.89	\$ 8,900
6	Lloyd	Sherman	1	1	4	20,700	0.19	\$ 4,400
7	Lloyd	55th	2	0	5	16,600	0.30	\$ 8,900
8	Lloyd	60th	2	0	6	13,900	0.43	\$ 8,900
9	North	49th	2	Ö	9	13,700	0.65	\$ 8,900
10	North	55th	8	0	12	21,900	0.55	\$ 8,900
11	North	60th	15	0	25	21,700	1.15	\$ 8,900
12	Sherman	Wright	3	1	8	28,100	0.28	\$ 8,900
13	Center	27th	32	0	57	30,100	1.88	\$ 8,900
14	Center	35th	39	3	69	29,500	2.33	\$ 8,900
15	Center	39th	2	0	6	16,200	0.37	\$ 4,400
16	Center	Sherman	37	0	54	41,800	1.29	\$ 8,900
17	Center	51st	3	0	9	23,600	0.38	\$ 8,900
18	Center	55th	10	0	17	18,800	0.90	\$ 8,900
19	Center	Lisbon/60th	16	0	23	30,700	0.75	\$ 15,500
20	Center	68th	1	0	1	10,300	0.10	\$ 8,900
21	Center	84th	0	0	0	10,000	0.00	\$ 8,900
22	Center	92nd	0	0	3	20,000	0.00	
23	Locust	24th	5	2	10	13,900	0.13	\$ 8,900
	Locust	27th	27	1	27			\$ 8,900
	Locust	35th	17			26,300	1.02	\$ 8,900
	Locust	Sherman		2	26	23,100	1.12	\$ 8,900
27	Locust	51st	18 7	2	34	41,100	0.82	\$ 8,900
	Chambers	51st		1	9	14,800	0.61	\$ 8,900
			5	0	6	13,900	0.43	\$ 8,900
	Burleigh	24th	8	1	12	11,700	1.02	\$ 8,900
	Burleigh	27th	19	4	43	27,700	1.54	\$ 8,900
	Burleigh	Sherman	27	3	44	47,300	0.93	\$ 8,900
32	Burleigh	46th	1	0	7	15,500	0.45	\$ 8,900
	Burleigh	51st	31	1	43	24,700	1.73	\$ 8,900
	Burleigh	55th	5	0	6	17,500	0.34	\$ 8,900
	Burleigh	Lisbon	6	0	10	28,800	0.35	\$ 13,300
	Burleigh	84th	1	0	4	20,100	0.20	\$ 8,900
	Burleigh	92nd	8	0	18	30,400	0.59	\$ 8,900
	Burleigh	Meno. River Pkwy.	1	0	5	25,200	0.20	\$ 6,700
	Hopkins	24th	3	0	5	10,500	0.47	\$ 8,900
	Hopkins	Townsend/24th Pl.	12	0	11	13,600	0.80	\$ 8,900
	Hopkins	27th	11	0	22	24,500	0.89	\$ 8,900
	Townsend	27th	3	1	17	20,900	0.81	\$ 8,900
	Townsend	35th	9	1	20	19,800	1.01	\$ 8,900
	Sherman	Townsend	6	1	14	32,600	0.43	\$ 6,700
45	Roosevelt	51st	2	0	8	19,700	0.40	\$ 8,900
46	Lisbon	68th	0	0	3	16,300	0.18	\$ 8,900
47	Lisbon	84th	2	0	8	18,900	0.42	\$ 8,900
	Lisbon	92nd	2	1	10	28,400	0.35	\$ 8,900
	Keefe	60th	5	0	18	28,400	0.63	\$ 8,900
	Lisbon	100th	2	0	7	15,300	0.46	\$ 8,900

Attachment A: Countdown HSIP Grant #5 (Local Street Locations - Northside)

			 _	2006-08		<u> </u>		
No.	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost
51	Vienna	27th	4	0	8	15,600	0.51	\$ 8,900
52	Roosevelt	Sherman	4	0	11	35,600	0.31	\$ 8,900
53	Atkinson	Teutonia	15	0	22	27,000	0.81	\$ 8,900
54	Норе	27th	4	0	8	15,300	0.52	\$ 8,900
55	Hope	Sherman	10	0	18	27,800	0.64	\$ 8,900
56	Hope	51st	8	0	16	13,000	1.22	\$ 8,900
57	Норе	60th	4	0	10	24,200	0.41	\$ 8,900
58	Atkinson	27th	5	2	15	21,800	0.68	\$ 8,900
59	Congress	Sherman	16	0	21	24,800	0.84	\$ 6,700
60	Congress	51st	13	0	13	15,100	0.86	\$ 8,900
61	Congress	60th	7	0	8	27,400	0.29	\$ 8,900
62	Congress	92 n d	18	1	18	21,600	0.83	\$ 8,900
63	Ruby	Teutonia	5	0	7	14,200	0.49	\$ 4,400
64	Cornell	Teutonia	7	0	15	25,500	0.59	\$ 4,400
65	Hampton	Santa Monica	4	0	15	17,500	0.85	\$ 8,900
66	Hampton	Lydell	3	1	6	17,500	0.34	\$ 8,900
67	Hampton	22nd	3	0	3	24,500	0.12	\$ 8,900
68	Hampton	Teutonia	17	1	41	43,500	0.94	\$ 4,400
69	Hampton	32nd	25	1	19	30,500	0.62	\$ 8,900
70	Hampton	35th	10	0	11	31,700	0.35	\$ 3,300
71	Hampton	37th	11	1	25	33,200	0.75	\$ 8,900
72	Hampton	Hopkins	17	4	35	39,700	0.88	\$ 8,900
73	Hampton	Sherman	23	Ö	36	52,600	0.68	\$ 8,900
74	Hampton	51st	20	1	38	39,100	0.97	\$ 8,900
75	Hampton	60th	39	0	47	47,900	0.98	\$ 8,900
76	Hampton	68th	18	Ö	28	25,400	1.10	\$ 8,900
77	Grantosa	Hampton	8	0	17	19,000	0.89	\$ 8,900
78	Hampton	92nd	14	0	18	33,800	0.53	\$ 6,700
79	Teutonia	Villard	33	0	50	31,100	1.60	\$ 4,400
80	Villard	35th	11	1	14	17,300	0.81	\$ 8,900
81	Villard	37th	4	i	10	15,800	0.63	\$ 8,900
82	Hopkins	Villard	23	1	16	20,500	0.78	\$ 8,900
-	Sherman	Villard	19	0	21	36,300	0.78	\$ 8,900
84	Villard	51st	10	0	17	23,800	0.71	\$ 8,900
85	Villard	60th	31	2	29	35,400	0.71	\$ 8,900
	Villard	64th	1	0	6	14,200	0.62	\$ 8,900
	Villard	68th	3	0	9	13,800	0.42	
	Fond du Lac	Grantosa	17	0	23	18,600	1.23	
	Custer	Sherman	8	0	13	22,400		\$ 8,900
	Custer	60th	13	0		23,300	0.58	\$ 4,400
					20		0.85	\$ 8,900
	Silver Spring	27th	0	0	5	32,200	0.15	\$ 4,400
	Silver Spring	35th	11	1	19	33,300	0.57	\$ 4,400
	Silver Spring	37th	13	0 .	17	30,800	0.55	\$ 4,400
	Hopkins	Silver Spring/43rd	2	. 1	10	31,300	0.32	\$ 3,300
	Silver Spring	51st	11	0	16	36,100	0.44	\$ 4,400
	Silver Spring	64th	20	0	35	35,100	0.99	\$ 4,400
	Silver Spring	68th	7	0	' 10	32,800	0.30	\$ 4,400
	Silver Spring	72nd	0	0	3	25,600	0.12	\$ 8,900
	Fond du Lac	Silver Spring	15	0	24	29,800	0.80	\$ 8,900
100	Florist	Teutonia	17	1	24	27,500	0.87	\$ 8,900

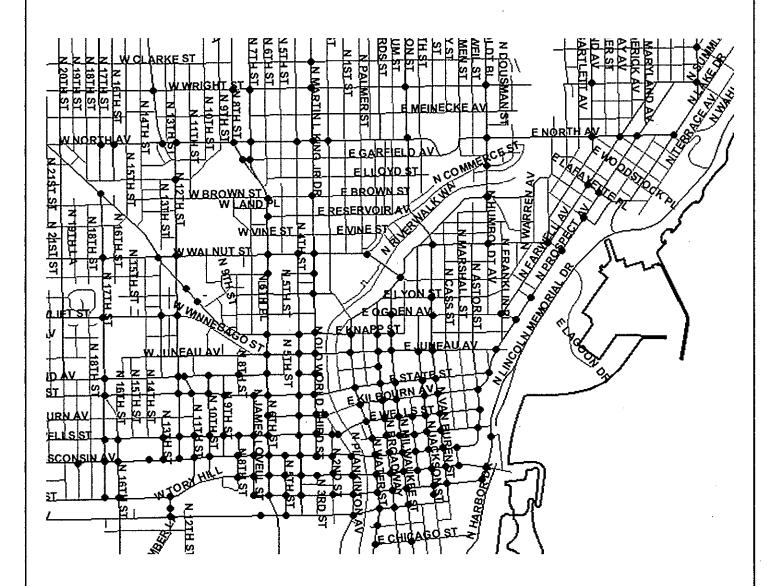
Attachment A: Countdown HSIP Grant #5 (Local Street Locations - Northside)

				2006-08					
No.	Street 1	Street 2	Injurie s	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost	
101	Florist	Sherman	7	0	8	17,300	0.46	\$ 8,9	900
102	Florist	60th	0	0	2	26,400	0.08	\$ 8,9	900
103	Flagg	91st	4	0	13	24,000	0.54	\$ 4,4	400
104	Fond du Lac	91st	11	0	15	24,700	0.60	\$ 4,4	400
105	Douglas	Sherman	3	0	3	27,400	0.11	\$ 8,9	900
106	Mill	Teutonia	11	0	18	26,100	0.69	\$ 8,9	900
107	Mill	Sherman/43rd	24	0	25	33,800	0.74	\$ 8,9	900
108	Mill	60th	16	0	39	37,100	1.05	\$ 8,9	900
109	Industrial	Mill/64th	8	0	13	26,900	0.48	\$ 8,9	900
110	Mill	91st	15	2	38	35,800	1.06	\$ 4,4	400
111	Fond du Lac	Mill	5	1	7	12,200	0.57	\$ 8,9	900
112	Green Tree	43rd	9	0	8	19,000	0.42	\$ 4,4	400
113	Green Tree	60th	6	0	5	20,900	0.24	\$ 8,9	900
114	Calumet	91st	2	2	7	22,400	0.31	\$ 8,9	900
115	Bradley	51st	6	0	13	16,800	0.77	\$ 8,9	900
116	Bradley	60th	18	0	24	24,400	0.98	\$ 8,9	900
117	Bradley	91st	11	0	17	29,700	0.57	\$ 8,9	900
118	Heather	91st	7	0	8	17,600	0.45	\$ 6,7	700
119	Allyn	91st	0	0	1	8,400	0.12	\$ 4,4	400
		TOTALS	1222	55	2,002	2,898,500	0.69	\$960,2	200



CITY OF MILWAUKEE PEDESTRIAN COUNTDOWN TIMER MAP (DOWNTOWN DETAIL)





- INSTALLED BY 2010
- PROPOSED GRANT #4 (SOUTHSIDE)
- PROPOSED GRANT #5 (NORTHSIDE)
- PROPOSED GRANT #6 (CON. HWY.)
- NO PEDESTRIAN SIGNALS

Project Application for 2008-2011 HIGHWAY SAFETY IMPROVEMENT PROGRAM **DESIGN ID:** TIED PROJECT IDs: RELATED ID(s): (R/W) (CONST) Project Description 1. NAME OF ROAD/INTERSECTION HWY NO. 129 Connecting Highway Intersections (Grant #6) IH 43/94/794, USH 18/41/45, and STH 32/38/57/59/145/181/190 COUNTY CITY OF TOWN OF Milwaukee Milwaukee NAME OF THE MPO THE PROJECT IS REPRESENTED BY SEWRPC X No Is the estimated cost of the project less than \$25,000? Yes If YES, be sure to complete Box 6 in addition to the rest of this form. 2A. SEGMENT Project Length Current Average Daily Traffic Miles Roadway Width Crash Rate Shoulder Width 2B. INTERSECTION Crash Rate Entering Vehicle Volume

Identification of Hazard

Roadway Width

2C. Explain identified hazards such as: Visibility Restrictions, Curves, Hills, Intersection Problems, Bike/Ped Conflicts, Narrow Shoulders, Rutting, Etc.

Varies - see Attachment A

Varies - see Attachment A

Existing "Walk/Don't Walk" housings at signalized intersections do not provide the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval. Since pedestrians do not know how much time they have prior to the start of the yellow change interval, conflicts occur with vehicles because pedestrians fail to clear the crossing before the start of the conflicting green phase.

One hundred twenty nine signalized connecting highway intersections in the City of Milwaukee have been identified for improvements. These intersections had 2,256 crashes between 2006 and 2008 resulting in 1,189 injuries, including 62 pedestrians (See Attachment A).

Proposed Improvement

3. In some detail, describe the proposed project and how it will address the identified hazard.

The installation of 936 pedestrian countdown timers with 810 larger 12" combination "Walk/Don't Walk" housings will reduce the conflicts between pedestrians and vehicles to the extent practical and assist pedestrians in crossing safely at 129 connecting highway intersections by providing the time remaining in the flashing "Don't Walk" phase prior to the start of the yellow change interval.

Project Cost

Estimate project costs in today's dollars)	FY 2009	FY 2010	FY 2011	FY 2012	HSIP Funds Requested
Preliminary Engineering- Design*: Include state review (-00)			\$85,000		\$85,000
Construction Inspection (-71)			\$15,000		\$15,000
Traffic Signals (-90)			\$869,900		\$869,900
** TOTAL			\$969,900		\$969,900

* Ineligible cost for Small Local HSIP Project (less than \$25,000).

^{**} The project sponsors will be responsible for any project costs in excess of the approved project cost.

Project Checklist				
Complete this box only	for projects les	ss than \$25,000) <u>;</u>	
5. Will project affect or use land from a Will project require the use of any p or wildlife and waterfowl refuge?				Yes No
Is your municipality adequately staff	ed and equipped to do	the work?		Yes No
Does your municipality have prior co			of this wor	
Contact Information and	Signature			
NAME	TOLITO!		<u> </u>	
Jeffrey S. Polenske, P.E.		noor		
ADDRESS		City Engir		
841 North Broadway, Room	701	(414) 286-	•	
MUNICIPALITY	, 01	STATE	2.700	ŽIP
City of Milwaukee		WI		53202
7. SIGNATURE OF LOCAL APPROVI	NG AUTHORIT			DATE
WisDOT Information - St	naded areas to be o	completed by WisD(OT staff o	nlv.
A. Environmental Documentation Type		B. Hazard Elimination		
C. PMSID	D. Functional Class		73 12 1	E. PEF
REGION APPROVAL Project Supervisor			Date	
Planning Supervisor		Date		
C.O. Concurrence				
			Appro	oved Disapproved
Approving Authority			Date	

REVISED 12/12/06

Attachment A: Countdown HSIP Grant #6 (Connecting Highway Locations)

				2006-08			T -	Est. Cost
Š	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	
1	Appleton	60th	7	0	18	37,000	0.48	\$ 8,900
2	Appleton	76th	13	0	34	44,200	0.77	\$ 8,900
3	Appleton	Burleigh	8	0	22	39,300	0.56	\$ 8,900
4	Appleton	Capitol	24	2	45	56,100	0.80	\$ 8,900
5	Appleton	Center	12	0	24	35,500	0.67	\$ 8,900
6	Appleton	Lisbon	5	0	5	32,500	0.15	\$ 6,700
7	Appleton	Nash/Vienna	1	0	5	28,700	0.17	\$ 8,900
8	Bay/Becher	Kinnickinnic	1	0	10	21,500	0.46	\$ 8,900
9	Becher	4th	2	. 0	23	24,300	0.94	\$ 11,100
10	Becher	5th	6	0	16	16,300	0.98	\$ 11,100
11	Becher	6th	4	0	16	23,100	0.69	\$ 4,400
12	Bluemound	52nd	1	0	6	11,900	0.50	\$ 4,400
13		92nd	1	0	8	24,300	0.33	\$ 8,900
14	Bluemound	95th	4	0	15	25,400	0.59	\$ 8,900
15	Bluemound	Hawley	7	0	17	27,900	0.61	\$ 4,400
16	Bolivar	Howell	5	1	5	20,400	0.24	\$ 8,900
17	Burleigh	20th	33	1	33	18,600	1.77	\$ 8,900
18	Burleigh	Fond du Lac/35th	36	8	64	48,200	1.32	\$ 13,300
19	Capitol	27th	16	4	34	53,800	0.63	\$ 8,900
20	Capitol	31st	8	1	19	54,600	0.35	\$ 6,700
21	Capitol	34th	10	0	15	50,800	0.29	\$ 2,200
22	Capitol	51st	15	2	50	42,300	1.18	\$ 4,400
23	Capitol	56th	2	0	16	34,400	0.46	\$ 4,400
24	Capitol	60th	14	0	31	56,200	0.55	\$ 4,400
25	Capitol	66th	0	0	4	34,400	0.12	\$ 6,700
26	Capitol	68th	14	1	19	36,700	0.52	\$ 8,900
27	Capitol	84th	5	0	8	31,100	0.26	\$ 8,900
28	Capitol	92nd	12	1	19	47,400	0.40	\$ 8,900
29	Capitol	Fond du Lac	25	1	42	63,800	0.66	\$ 4,400
30	Capitol	Lisbon/100th	7	1	18	26,600	0.67	\$ 13,300
31	Capitol	Roosevelt/35th	60	5	69	58,100	1.18	\$ 11,100
32	Capitol	Sherman	23	3	41	53,400	0.76	\$ 4,400
	Center	20th	10	2	21	22,400	0.93	\$ 8,900
34	Center	Fond du Lac	22	0	32	37,000	0.86	\$ 8,900
35	Chase	1st	0	0	1	14,400	0.07	\$ 4,400
	Chase	Lincoln/6th	15	1	24	27,800	0.86	\$ 15,500
37	Chase	Oklahoma	13	0	32	34,200	0.93	\$ 8,900
38	Clement	Kinnickinnic	4	0	13	14,100	0.92	\$ 8,900
39	Cleveland	27th	21	1	22	35,700	0.61	\$ 4,400
	Congress	76th	14	1	16	31,800	0.50	\$ 8,900
41	Congress	Fond du Lac	18	Ö	13	35,600	0.36	\$ 8,900
42	Dana	84th	0	0	2	25,700	0.08	\$ 6,700
43	Dover	Kinnickinnic	0	0	1	14,000	0.07	\$ 6,700
44	Edgerton	Howell	7	0	15	31,000	0.48	\$ 2,200
45	Ellen	Kinnickinnic	2	0	5	11,900	0.48	\$ 8,900
46	Ellen	Oklahoma	7	1	7	21,200	0.42	\$ 4,400
7 0 47	Ely	Fond du Lac	3	1	10	31,600	0.33	
48	Evergreen	Layton Blvd.	2	0	6	23,200	0.31	
4 0 49	Fiebrantz	Green Bay	2	0	12		0.26	\$ 8,900
49 50	Fond du Lac	17th	0	0	3	31,500	0.38	\$ 2,200
	I JIIU UU LAU	5 (19 17 U)	U	U	J	23,900	U. IZ	\$ 4,400

CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS

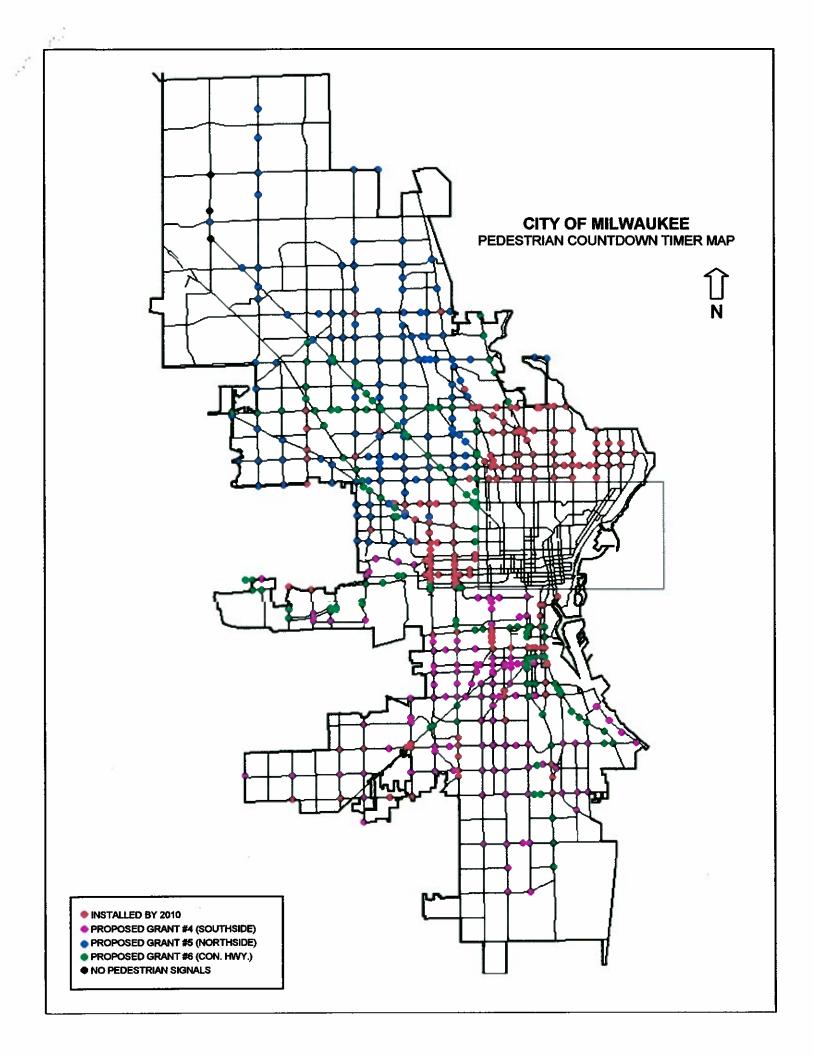
Attachment A: Countdown HSIP Grant #6 (Connecting Highway Locations)

	7-37	ent A. Countdown I		2006-08				
Š.	Street 1	Street 2	Injuries	Ped- estrian	Total	ADT	Crashes/ MEV	Est. Cost
52	Fond du Lac	27th	21	1	29	31,300	0.92	\$ 8,900
53	Fond du Lac	51st	7	0	16	42,300	0.38	\$ 8,900
54	Fond du Lac	60th	28	2	37	50,800	0.72	\$ 13,300
55	Fond du Lac	68th	32	0	33	32,900	1.00	\$ 8,900
56	Fond du Lac	Hampton	35	0	41	48,500	0.84	\$ 13,300
57	Fond du Lac	I-43 NB Ramps	0	0	3	26,600	0.11	\$ 1,100
58	Fond du Lac	I-43 SB Ramps	0	0	3	27,400	0.11	\$ 1,100
59	Fond du Lac	Locust	17	0	40	31,800	1.25	\$ 8,900
60	Fond du Lac	Maxwell	22	0	35	36,700	0.95	\$ 8,900
61	Fond du Lac	North	5	0	16	34,500	0.46	\$ 8,900
62	Fond du Lac	Oak/23rd	3	0	11	16,900	0.65	\$ 8,900
63	Fond du Lac	Roosevelt	10	1	17	46,700	0.36	\$ 8,900
64	Fond du Lac	Sherman	19	1	39	63,000	0.62	\$ 13,300
65	Fond du Lac	Townsend	4	0	12	32,600	0.37	\$ 8,900
66	Fond du Lac	Walnut	12	0	23	29,400	0.78	\$ 8,900
67	Forest Home	27th	4	2	27	41,000	0.66	\$ 8,900
68	Forest Home	35th	6	0	16	31,200	0.51	\$ 8,900
69	Forest Home	KK River Pkwy	7	0	10	20,000	0.50	\$ 3,300
70	Glendale	Green Bay	6	1	10	24,000	0.41	\$ 8,900
71	Grantosa	76th	11	0	13	28,600	0.45	\$ 8,900
72	Green Bay	Hampton	15	0	16	42,800	0.37	\$ 8,900
73	Green Bay	Silver Spring Ramp	2	0	8	20,300	0.39	\$ 6,700
74	Green Bay	Villard	3	0	7	20,700	0.34	\$ 6,700
75	Hampton	76th	17	0	33	44,800	0.73	\$ 8,900
76	Hawley	I-94 Ramps	4	0	8	17,600	0.45	\$ 2,200
77	Holt	4th	3	0	9	24,500	0.37	\$ 4,400
78	Hopkins	20th	13	3	17	18,300	0.92	\$ 8,900
79	Howard	3rd	0	0	5	35,600	0.14	\$ 6,700
80	Howard	5th	5	0	7	26,400	0.26	\$ 6,700
81	Howell	Kinnickinnic	1	0	2	22,100	0.09	\$ 6,700
82	Jackson	I-794 Ramp	4	0	6	13,600	0.44	\$ 2,200
83	Kearney	68th	4	0	3	10,500	0.28	\$ 6,700
84	Kearney	70th	2	0	8	10,000	0.80	\$ 6,700
85	Kearney	O'Connor/84th	20	0	30	27,700	1.08	\$ 13,300
86	Keefe	20th	0	0	5	11,900	0.42	\$ 8,900
87	Kinnickinnic	Lincoln	5	0	11	18,000	0.61	\$ 11,100
88	Kinnickinnic	Logan/Russell	9	0	15	28,000	0.53	\$ 11,100
89	Kinnickinnic	Oklahoma	9	2	8	23,600	0.34	\$ 8,900
90		Ward	0	0	3	15,900	0.19	\$ 8,900
91	Lapham	1st	2	0	5	22,500	0.22	\$ 6,700
92	Lapham	4th	9	0	20	18,600	1.07	\$ 6,700
93		5th	11	0	19	21,800	0.87	\$ 6,700
94	Lapham	6th	17	0	24	23,700	1.01	\$ 8,900
	Layton Blvd.	Pierce	10	0	19	29,500	0.64	\$ 8,900
	Lisbon	46th	7	0	17	22,600	0.75	\$ 6,700
97	Lisbon	51st	16	2	24	43,800	0.55	\$ 8,900
98		55th	12	0	26	39,700	0.65	\$ 8,900
99	Lloyd	46th	4	0	13	19,400	0.67	\$ 6,700
	Lloyd	47th	0	0	4	17,500	0.23	\$ 6,700
	Locust	20th	11	1	21	17,900	1.17	\$ 8,900
	Maple	6th	5	Ö	11	15,000	0.73	\$ 4,400

CITY OF MILWAUKEE DEPT. OF PUBLIC WORKS

Attachment A: Countdown HSIP Grant #6 (Connecting Highway Locations)

-				2006-08			Crashes/ MEV	
Š	Street 1	Street 2	injuries	Ped- estrian	Total	ADT		Est. Cost
	Mineral	6th	9	1	23	20,000	1.14	\$ 8,900
104	Mitchell	6th	9	0	20	20,300	0.98	\$ 8,900
105	National	1st	13	2	37	26,000	1.42	\$ 8,900
106	National National	5th	2	0	18	16,300	1.10	\$ 8,900
107	National	6th	15	1	49	26,500	1.84	\$ 8,900
108	National	9th	4	1	25	23,200	1.07	\$ 8,900
109	National	11th	6	0	17	25,200	0.67	\$ 4,400
110	National	19th	7	0	13	24,600	0.53	\$ 8,900
111	National	21st	14	2	19	23,900	0.79	\$ 8,900
112	North	20th	32	0	40	22,400	1.78	\$ 4,400
113	O'Connor	68th	1	0	8	18,000	0.44	\$ 4,400
114	O'Connor	70th	1	0	8	24,800	0.32	\$ 6,700
115	Park Hill (north)	35th	15	0	21	23,500	0.89	\$ 6,700
116	Park Hill (south)	35th	11	0	15	29,000	0.51	\$ 4,400
	Saint Paul	25th	7	0	19	21,200	0.89	\$ 8,900
118	Saint Paul	26th	9	0	27	20,200	1.33	\$ 1,100
119	Saint Paul	I-794 Ramp	0	0	0	12,000	0.00	\$ 1,100
	Teutonia	20th	2	0	10	20,600	0.48	\$ 4,400
121	Vliet	20th	8	0	8	13,400	0.59	\$ 8,900
122	Walnut	20th	6	0	10	19,900	0.50	\$ 8,900
123	Washington	1st	3	1	7	20,200	0.34	\$ 8,900
	Washington	6th	8	0	9	17,200	0.52	\$ 8,900
	Wisconsin	45th	0	0	7	21,900	0.32	\$ 8,900
	Wisconsin	46th	1	0	7	15,600	0.45	\$ 6,700
	Wisconsin	95th	8	0	19	17,000	1.11	\$ 2,200
	Wisconsin	97th	14	0	20	15,400	1.29	\$ 4,400
	Wright	20th	10	0	8	10,500	0.76	\$ 8,900
		TOTALS	1211	62	2,294	3,647,200	0.63	\$ 969,900



CITY OF MILWAUKEE PEDESTRIAN COUNTDOWN TIMER MAP (DOWNTOWN DETAIL)

Î N



- INSTALLED BY 2010
- PROPOSED GRANT #4 (SOUTHSIDE)
- PROPOSED GRANT #5 (NORTHSIDE)
- PROPOSED GRANT #6 (CON. HWY.)
- NO PEDESTRIAN SIGNALS



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091370 **Version**: 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution relative to acceptance and funding of a 2010 Urban Non Point Source & Storm Water

Management Program Grant for the Green Streets project on West Grange Avenue between South 23rd Street and South 27th Street and directing the proper City officers to execute a Grant Award Agreement between the City of Milwaukee and the Wisconsin Department of Natural Resources

regarding the project grant.

Sponsors: THE CHAIR

Indexes: AGREEMENTS, ENVIRONMENT, GREEN SPACE, WISCONSIN DEPARTMENT OF NATURAL

RESOURCES

Attachments: Cover Letter.PDF, Fiscal Note

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091370 **Version:** 0

Number 091370 Version ORIGINAL

Reference

Sponsor THE CHAIR

Title

Resolution relative to acceptance and funding of a 2010 Urban Non Point Source & Storm Water Management Program Grant for the Green Streets project on West Grange Avenue between South 23rd Street and South 27th Street and directing the proper City officers to execute a Grant Award Agreement between the City of Milwaukee and the Wisconsin Department of Natural Resources regarding the project grant.

Analysis

This resolution authorizes the Department of Public Works, Infrastructure Services Division to accept and fund a Wisconsin Department of Natural Resources Urban Nonpoint Source and Storm Water Management Program (UNPS&SW) Grant in the amount of \$304,000 with a City share of \$154,000 and a grantor share of \$150,000. The purpose of the grant is to install Green Streets on the medians of West Grange Avenue between South 23rd Street and South 27th Street as structural best management practices. Funding under this grant will enable the City to control pollutants and improve water quality. This resolution also authorizes and directs the proper City officers to execute a UNPS&SW Grant Award Agreement between the City of Milwaukee and the DNR.

Body

Whereas, The City of Milwaukee (City) is eligible for UNPS&SW grant funds from the Wisconsin Department of Natural Resources (DNR) for the installation of Green Streets on the medians of West Grange Avenue between South 23rd Street and South 27th Street as structural best management practices; and

Whereas, Stormwater pollution control is an important component of the City of Milwaukee's (City) storm water management regulation and the City's permit with the WDNR; and

Whereas, The proposed Green Streets consist of creating bioinfiltration areas in the medians of West Grange Avenue between South 23rd Street and South 27th Street by removing the existing grass area and replacing it with an engineered soil mix; and

Whereas, Green Streets are an established and cost effective means of removing sediment from public streets and will infiltrate and treat storm water runoff from the West Grange Avenue right of way; and

Whereas, The City is proposing to construct a Green Streets project in West Grange Avenue between South 23rd Street and South 27th Street and has submitted a grant application to the DNR to assist in funding of the project; and

Whereas, The DNR has awarded the City with matching grant funds not to exceed \$150,000 to construct the Green Streets; and

Whereas, The operation of the grant for the Green Street project is from January, 2010 through December, 2011 and is estimated to cost \$304,000, of which \$154,000 would be provided by the DNR; and

Whereas, Department of Public Works/Infrastructure Services has committed funds for the entire cost of the project per common council file Number 091234 (SM493100101); now, therefore, be it

File #: 091370 **Version**: 0

Resolved, By the Common Council of the City of Milwaukee, that the proper City officers and/or the herein named department head are hereby authorized to accept such a grant without further Common Council approval unless the terms of the grant change as indicated in Common Council file 030712 (Grant Ordinance); and, be it

Further Resolved, That upon approval of this contract, the City Comptroller is hereby authorized to create within the Capital Grant and Aid Projects Fund the appropriate Project/Grant Chartfield Value for this project; and transfer to these accounts the amount required under the agreement and City accounting policy, but not to exceed a ten percent increase of the total amounts reserved for the grantor's share and local share or \$5,000, whichever is greater as follows:

Project/Grant Parent Grantor Share

Project/Grant SP032100100

Fund 0306

Organization 9990

Program 0001

Amount \$150,000

Further Resolved, That these funds are appropriated to the Department of Public Works, Infrastructure Services Division which is authorized to expend from the amount budgeted for specific purposes as indicated in the grant budgets and incur costs consistent with the award date; and, be it

Further Resolved, That the Infrastructure Services/Sewer Maintenance commit \$154,000 (common council file Number 091234) to fund the project titled 2010 Urban Non Point Source & Storm Water Management Grant Program for the Green Streets project on West Grange Avenue; and, be it

Further Resolved, That these funds are budgeted for the Department of Public Works which is authorized to expend from the amount budgeted for specific purposes as indicated in the grant and incur costs consistent with the grant; and, be it

Further Resolved, That the proper City officers are authorized and directed to execute a Grant Award Agreement between the City of Milwaukee and the DNR regarding the Urban Nonpoint Source and Storm Water Management Program (Green Streets in West Grange Avenue project) grant; and, be it

Further Resolved, That the Commissioner of Public Works of the Department of Public Works shall have the authority to authorize transfers within the project budget so long as the amount expended for any purpose shall not exceed the amount authorized by the budget by 10% and such transfers are in accordance with grantor regulations; and, be it

Further Resolved, That the Commissioner of Public Works on behalf of the City of Milwaukee be authorized to enter into subcontracts (and leases) as detailed in the project budget and in accordance with City purchasing procedures and grant and aid guidelines for awarding such contracts.

Requestor
Department of Public Works
Infrastructure Services Division
Drafter
Environmental Engineering Section
TJT/SB
January 28, 2010

File #: 091370 **Version**: 0



Department of Public Works Infrastructure Services Division Jeffrey J. Mantes Commissioner of Public Works

Preston D. Cole Director of Operations

Jeffrey S. Polenske City Engineer



Milwaukee's Future:

February 2, 2010

To the Honorable, the Common Council

Dear Council Members:

The attached resolution authorizes the Department of Public Works, Infrastructure Services Division to accept and fund a Wisconsin Department of Natural Resources Urban Nonpoint Source and Storm Water Management Program (UNPS&SW) Grant in the amount of \$304,000 with a City share of \$154,000 and a grantor share of \$150,000. The purpose of the grant is to install Green Streets on the medians of West Grange Avenue between South 23rd Street and South 27th Street as structural best management practices. The resolution also authorizes and directs the proper City officers to execute a UNPS&SW Grant Award Agreement between the City of Milwaukee and the Wisconsin Department of Natural Resources.

We recommend adoption of the attached resolution.

Very truly yours

City/Enginee

Jeffre

Jeffrey J. Mantes, P.E.

Commissioner of Public Works

TJT: sb
Attachment
SB: 3-5

CITY OF MILWAUKEE FISCAL NOTE CC-170 (REV. 6/86) Ref: GEN\FISCALNT.MST

A) DATE: Januar	ry 28, 2010	y 28, 2010 FILE NUMBER: Original Fiscal Note ☑ Substitute ☐							
				Original Fis	cal Note 🛛 S	ubstitute 📙			
SUBJECT: Original Resolution relative to acceptance and funding of a 2010 Urban Non Point Source & Storm Water Management Program Grant for the Green Streets project on West Grange Avenue between South 23 rd Street and South 27 th Street and authorizing and directing the proper City officers to execute a Grant Award Agreement between the City of Milwaukee and the DNR regarding the project grant.									
B) SUBMITTED BY (NAME/TITLE/DEPT./EXT.): Jeffrey S. Polenske, P.E./City Engineer/Public Works/2400									
C) CHECK ONE: ADOPTION OF THIS FILE AUTHORIZES EXPENDITURES. ADOPTION OF THIS FILE DOES NOT AUTHORIZE EXPENDITURES; FURTHER COMMON COUNCIL ACTION NEEDED. LIST ANTICIPATED COSTS IN SECTION G BELOW. NOT APPLICABLE/NO FISCAL IMPACT.									
D) CHARGE TO: DEPARTMENTAL ACCOUNT (DA) CAPITAL PROJECTS FUND (CPF) PERM. IMPROVEMENT FUNDS (PIF) OTHER (SPECIFY) CONTINGENT FUND (CF) SPECIAL PURPOSE ACCOUNTS (SPA) GRANT & AID ACCOUNTS (G & AA)									
E) PURPOSE	SPECIFY TYPE/	USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS			
SALARIES/WAGES:									
SUPPLIES:									
MATERIALS:									
NEW EQUIPMENT:									
EQUIPMENT REPAIR:									
0.000									
OTHER:	Grantor Reimbursable Fu	nd 0306	SP032100100	\$150,000	\$150,000				
TOTALS:				\$150,000	\$150,000				
					1 ' '				
F) FOR EXPENDITURES AN	ND REVENUES WHICH WILL O	OCCUR ON AN A	ANNUAL BASIS OVER	SEVERAL YEARS CH	HECK THE APPROF	PRIATE BOX			
	/-								
N/	Γ_		s = \$150,000	Revenue = \$150,00	20				
	☐ 3-5 YEARS ☐ 3-5 YEARS	Experiultures	5 - \$130,000	Revenue – \$130,00					
☐ 1-3 YEARS	☐ 3-5 YEARS								
1 1 3 1111110									
G) LIST ANY ANTICIPATE	ED FUTURE COSTS THIS PRO)JECT WILL RE	QUIRE FOR COMPLE	TION:					
. N/	'A								
H) LIST ANY ANTICIPATE		JECT WILL RF	QUIRE FOR COMPIFE	TION:					
H) LIST ANY ANTICIPATED FUTURE COSTS THIS PROJECT WILL REQUIRE FOR COMPLETION: N/A									

PLEASE LIST ANY COMMENTS ON REVERSE SIDE AND CHECK HERE \Box



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 090416 **Version:** 1

Type: Resolution Status: In Committee

File created: 7/28/2009 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Substitute resolution granting a special privilege to Marquette University to install and maintain a fixed

awning, two bollards and an ash can for the premises at 706 North 17th Street, in the 4th Aldermanic

District.

Sponsors: THE CHAIR

Indexes: SPECIAL PRIVILEGE PERMITS

Attachments: Fiscal Note, Special Privilege Petition and Drawing, Letter, Pictures, Map

Date	Ver.	Action By	Action	Result	Tally
7/28/2009	0	COMMON COUNCIL	ASSIGNED TO		
8/5/2009	0	CITY CLERK	REFERRED TO		
2/11/2010	1	CITY CLERK	DRAFT SUBMITTED		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 090416 **Version:** 1

Number

090416

Version

SUBSTITUTE 1

Reference

Sponsor

THE CHAIR

Title

Substitute resolution granting a special privilege to Marquette University to install and maintain a fixed awning, two bollards and an ash can for the premises at 706 North 17th Street, in the 4th Aldermanic District.

Analysis

This resolution grants a special privilege to Marquette University to install and maintain a non-code compliant fixed awning, two bollards and an ash can for the premises at 706 North 17th Street.

Body

Whereas, Marquette University is seeking permission to install and maintain a fixed awning in the public right-of-way that does not meet the code for slope; and

Whereas, A site visit also revealed the presence of two bollards and an ash can in the public right-of-way; and

Whereas, Said items may only legally encroach into the public right-of-way by granting of a special privilege resolution adopted by the Common Council; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee that Marquette University, Service Building 4th Floor, 517 North 14th Street, Milwaukee, WI 532332 is hereby granted the following special privileges:

- 1. To install and maintain a non-code compliant fixed awning projecting 6 feet into the east, 12-foot wide sidewalk area of North 17th Street. Said awning is a semicircular dome with a radius of 10 feet. The roof of the awning slopes away from the top of the center of the awning, instead of away from the building, which does not meet Section 245-6-c of the Milwaukee Code of Ordinances.
- 2. To install and maintain two 6-inch diameter bollards in the east, 12-foot wide sidewalk area of North 17th Street. Said bollards are centered about a point approximately 97 feet north of the northline of West Wisconsin Avenue and 1 foot west of the eastline of North 17th Street.
- 3. To install and maintain a 2- foot tall concrete ash can in the east, 12-foot wide sidewalk area of North 17th Street. Said square ash can is centered approximately 92 feet north of the northline of West Wisconsin Avenue and 1 foot west of the eastline of North 17th Street.

Said items shall be used, kept and maintained to the satisfaction of the Commissioners of Public Works and Department of Neighborhood Services.

Said items shall be maintained or removed from the public right-of-way, at such future time as they are no longer needed, to the satisfaction of the Commissioners of Public Works and Department of Neighborhood Services.

; and, be it

Further Resolved, That this special privilege is granted only on condition that by acceptance of this special privilege the grantee, Marquette University, shall:

- 1. Become primarily liable for damages to persons or property by reason of the granting of this special privilege.
- 2. File with the City Clerk a certificate of insurance indicating applicant holds a public liability policy in the sum of at least \$25,000 covering bodily injury to any one person and \$50,000 covering bodily injury to more than one person in any one accident and \$10,000 covering property damage to any own owner on the area or areas included within the special

File #: 090416 **Version**: 1

privilege and naming the City of Milwaukee as an insured. The insurance policy shall provide that they shall not be cancelled until after at least thirty days' notice in writing to the City Clerk.

- 3. Pay to the City Treasurer an annual fee, which has an initial amount of \$60.00. The subsequent annual fee is subject to change pursuant to the annual fee schedule in effect at the time of annual billing.
- 4. Whenever this special privilege is discontinued for any reason whatsoever, including public necessity whenever so ordered by resolution adopted by the Common Council not only remove all construction work executed pursuant to this special privilege, but shall also restore to its former condition and to the approval of the Commissioner of Public Works and curb, pavement or other public improvement which was removed, changed or disturbed by reason of the granting of this special privilege. Such grantee shall be entitled to no damages due to the alteration and/or removal for such purposes.
- 5. Waive the right to contest in any manner the validity of Section 66.0425 of the Wisconsin Statutes (1999), or the amount of the annual fixed fee, payable on or before July 1st of each year.
- 6. Put this special privilege into use within one year after approval by the Common Council of the City of Milwaukee; failing to do so in the time specified, the Commissioner of Neighborhood Services shall have the authority to seek, by resolution, revocation of said special privilege.

Requestor
Department of Public Works
Drafter
Infrastructure Services Division
MDL:ns
January 20, 2010
090416

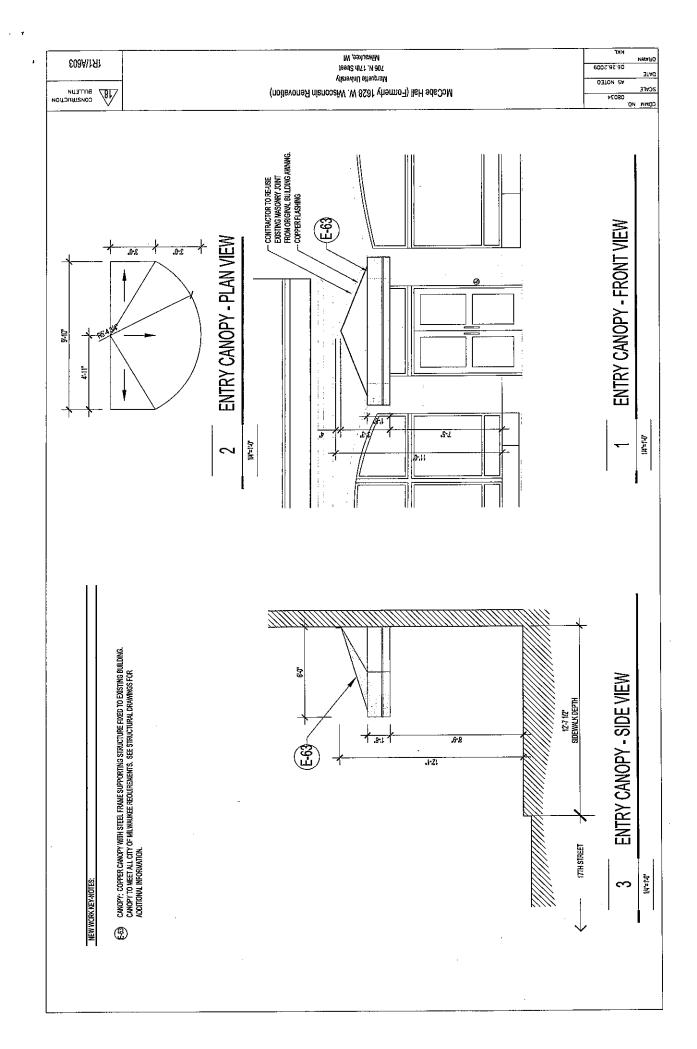
CITY OF MILWAUKEE FISCAL NOTE

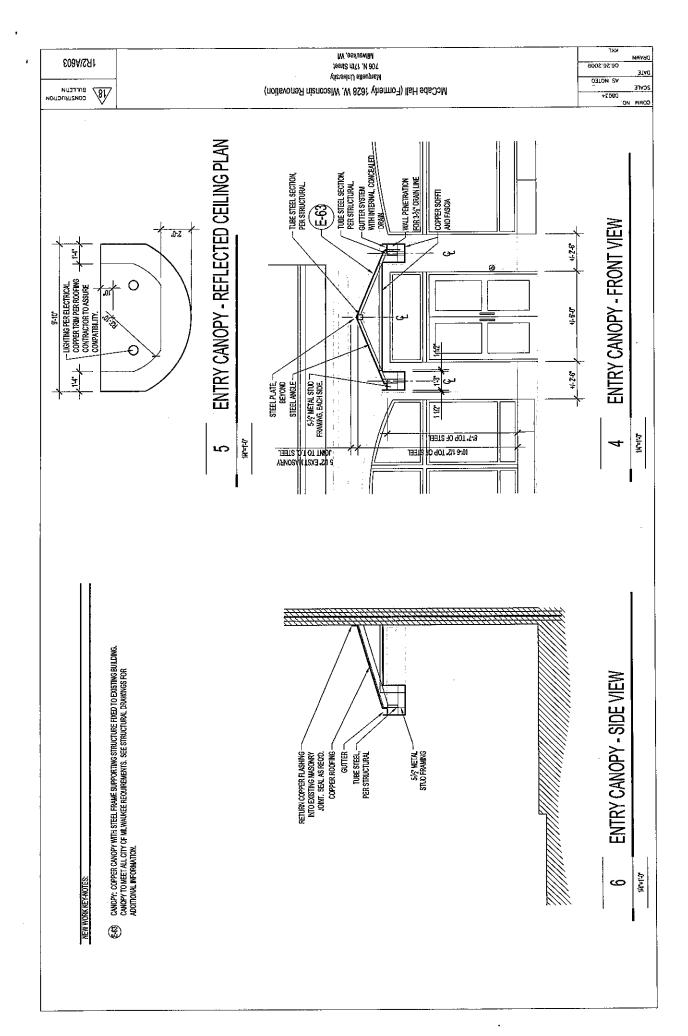
A)	DATE		January 20, 2010 F			FILE	NUMBER:	090416		
						Origii	nal Fiscal Note X	Substitute		
SUBJECT: Substitute resolution granting a special privilege to Marquette University to install and maintain a fixed										
	awning, two bollards and an ash can for the premises at 706 North 17 th Street									
В)	SUBMIT	TED BY (N	lame/title/de	t./ext.	.): JEFFREY S. POLENSKE	, P.E./CITY ENGINI	EER/INFRASTRUC	TURE SERVICES DIV	'ISION/2400	
C)	CHECK	ONE:	X ADOPT	ION O	F THIS FILE AUTHORIZES	EXPENDITURES				
					F THIS FILE DOES NOT AU ST ANTICIPATED COSTS IN			R COMMON COUNC	L ACTION	
		Γ			ABLE/NO FISCAL IMPACT.	I SECTION G BELC	JVV.			
				1 2107	IDEE/110 1 100/12 IIIII / 101.					
D)	D) CHARGE TO: X DEPARTMENT ACCOUNT(DA) CONTINGENT FUND (CF)									
CAPIT.			CAPITA	AL PROJECTS FUND (CPF)			SPECIAL PURPOSE ACCOUNTS (SPA)			
			PERM.	IMPRO	OVEMENT FUNDS (PIF)		GRANT & AID ACCC	OUNTS (G & AA)		
			OTHER	(SPE	CIFY)	<u> </u>	1	ı		
E)	PURPO		Annual h		HFY TYPE/USE g/initial Inspection	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SAL	ARIES/WA	IGES:	Ailliuai D.		g/Inicial Inspection		\$2.77/4.04			
SUP	PLIES:									
MATERIALS:										
WAI	LINIALO.									
NEW	EQUIPM	ENT:								
FOLI	IDMENT F	EDAID.								
EQU	IPMENT F	KEPAIK:								
отн	ER:						\$2.77/4.04	\$60.00		
TOTA	ALS							\$60.00		
F)	FOR EXP	ENDITURE	S AND REVI	NUES	S WHICH WILL OCCUR ON	AN ANNUAL BASI	S OVER SEVERAL	YEARS CHECK THE		
	APPROP	RIATE BOX	X BELOW AN	D THE	N LIST EACH ITEM AND DO	OLLAR AMOUNT S	EPARATELY.			
	1-3 \	/EARS			3-5 YEARS	Annual Fee (In	ncome) \$60.00			
1-3 YEARS				3-5 YEARS	Annual Cost Billing - \$2.77/4.04					
1-3 YEARS 3-5 YEARS										
G)	G) LIST ANY ANTICIPATED FUTURE COSTS THIS PROJECT WILL REQUIRE FOR COMPLETION:									
Annual billing/initial Inspection										
H) COMPUTATIONS USED IN ARRIVING AT FISCAL ESTIMATE:										
Spec	Special Privilege Committee Fee Schedule									
PLEASE LIST ANY COMMENTS ON REVERSE SIDE AND CHECK HERE										

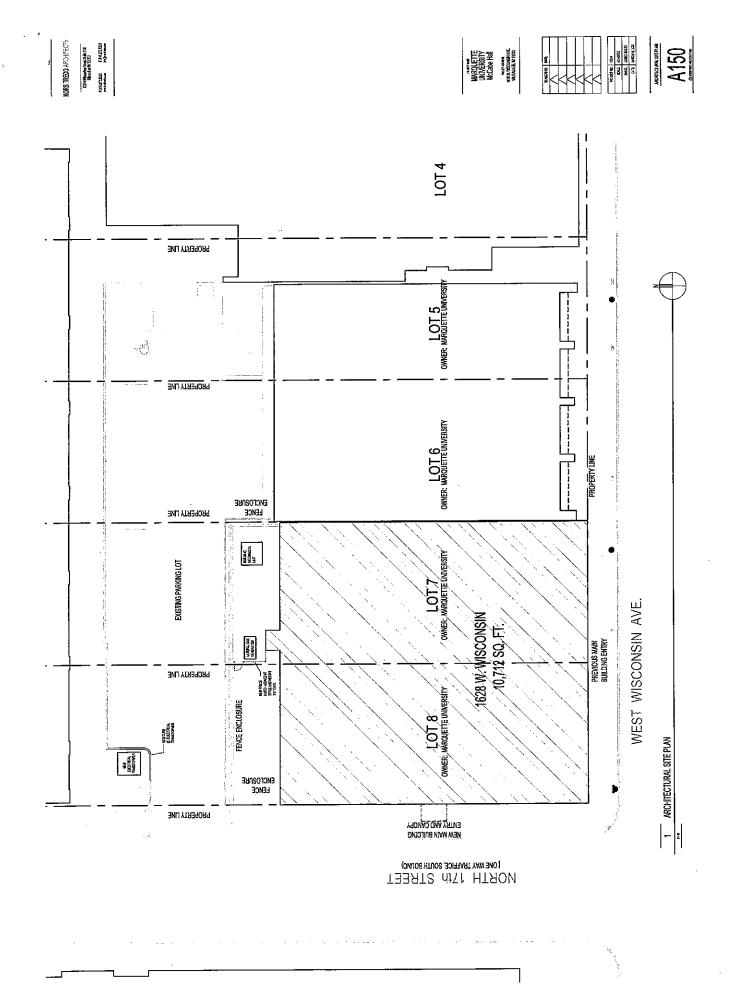
CCL-246 (Rev. 3/06)	PETITION FOR A SPECIAL PRIVILEGE SP 9473
\$250.00 Publicati Must Accompany SUBMIT PETITION	This Petition
To the Honorable, The	Common Council of the City of Milwaukee: ed MARQUETTE UNIVERSITY (Name of Individual, Partners, Corporation or LLC)
being the owners of the	following property known by street address as 700 N. 17th St 53201 (Street Address and Zip Code)
	Aldermanic District respectfully petition the Common Council of the City of Milwaukee according from 66.0425 of the Wisconsin Statutes, that the following privilege be granted:
A permanent the public wa	building canopy for the main entrance. It projects six feet over (Here describe the privilege) kway is nine feet - ten inches wide, and has eight feet - nine inche
between the ci	by sidewalk to the underside of the canopy as per the drawings provided.
Milwaukee, to abide by damages to person or p compensation as provide the existence of the private of the priva	In its nerewith submitted. Petitioner agrees to comply with all laws and all ordinances of the City of carry order or resolution of the Common Council affecting this privilege, to be primarily liable for operty by reason of the granting of such privilege, to furnish a bond and pay annual ed by law in the sum to be fixed by the proper city officers, and to file and keep current throughout lege, a certificate of insurance indicating applicant holds a public liability policy in at least the .000.00 bodily injury, and \$10,000.00 property damage, insuring the city against any liability that
Petitioner further resolution adopted by the	agrees to remove said privilege whenever public necessity so requires when so ordered upon e Common Council or other legislative body.
construction work execu Commissioner of Public disturbed by reason of the	ial privilege be discontinued for any reason whatsoever, petitioner agrees to remove all ed pursuant to this special privilege, to restore to its former condition and to the approval of the Works, any curb, pavement, or other public improvement which was removed, changed or e granting of this special privilege. Petitioner further agrees not to contest the validity of Section Statutes, or the legality of this special privilege in any way.
Name (Please Print):	TOM GANEY (Individual, Partner, or Agent if corporation or LLC)
Signature:	My
Corporation or LLC Nam	MARQUETTE UNIVERSITY (If applicable)
Mailing Address (If different	nt than above): 517 N. 14th St. Service Building 4th floor
City: Milwa	rkel state: WI zip: 53233
Telephone: (4H) 28	-7335 E-Mail: thomas agamen @ marquette. edu

2009 JUL 20 KH=49952

CITY OF MILMAUKEE







January 20, 2010

To the Public Works Committee

Subject: Common Council Resolution File Number 090416

Dear Honorable Members:

Returned herewith is the Common Council Resolution File Number 090416, granting a special privilege to Marquette University to install and maintain a fixed awning, two bollards and ash can for the premises at 706 North 17th Street.

Marquette University is seeking permission to install and maintain a fixed awning in the public right-of-way that does not meet the code for slope. It should be noted that the fixed awning has been installed and has been observed to adhere to all other requirements of the Milwaukee Code of Ordinances Section 245-7: Fixed Awnings.

A site visit revealed the presence of two bollards and a concrete ash can in the east, 12-foot wide sidewalk area of North 17th Street. The 6-inch diameter bollards are centered about a fire hose connection located at a point approximately 97 feet north of the northline of West Wisconsin Avenue. Both bollards are centered 1 foot west of the east line of North 17th Street. The square ash can is centered approximately 92 feet north of the northline of West Wisconsin Avenue and 1 foot west of the eastline of North 17th Street.

We are not aware that the presence of said items will have an adverse effect on the general use of the public right-of-way. We have, therefore, prepared the attached special privilege resolution, which, if adopted, will allow said items to occupy the public right-of-way.

Very truly yours,

Jeffrey S. Polenske, P.E. City Engineer

Jeffrey J. Mantes Commissioner of Public Works

Art Dahlberg, Commissioner Department of Neighborhood Services

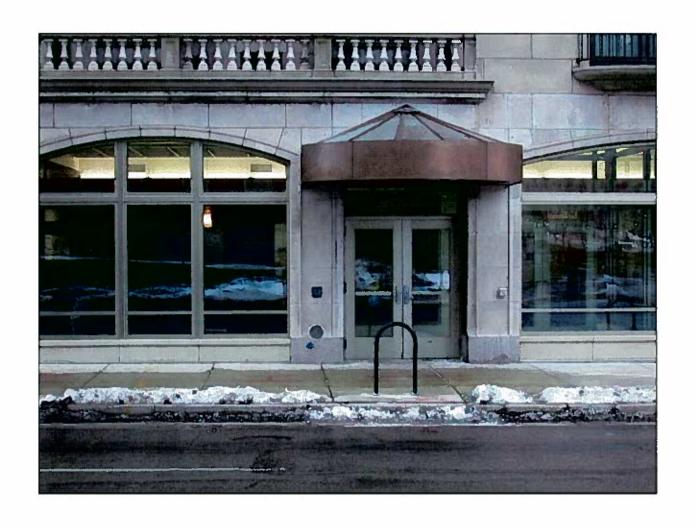
MDL: ns

Attachment

c: Alderman Robert Bauman



CCF 090416 706 N 17th St 1-15-2010 Looking south at bollards, ash can and awning in east sidewalk area of 17th.

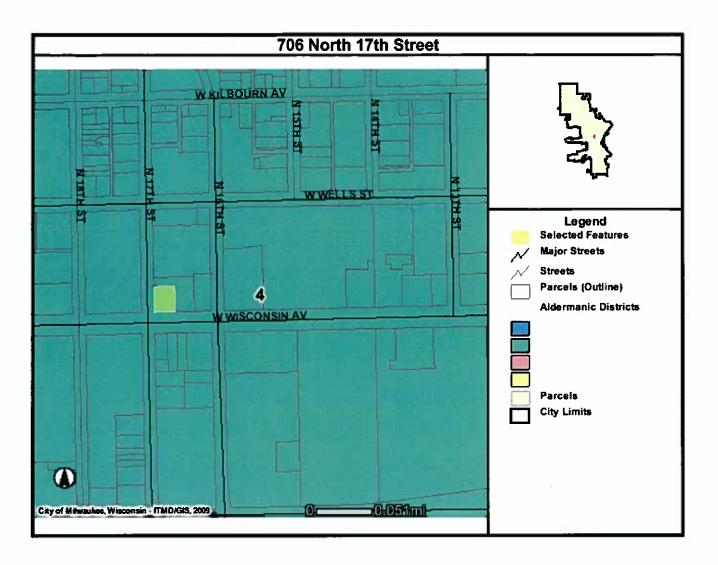


CCF 090416 706 N 17th St 1-15-2010 Looking east at fixed awning.



CCF 090416 706 N 17th St 1-15-2010 Closeup of bollards and ash can in east sidewalk area of N 17th St.

Map Output Page 1 of 1





City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091363 **Version:** 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution approving a License Agreement with the Lincoln Village Business Association, Inc. to

permit installation and maintenance of a sign at 2265 South Chase Avenue, in the 14th Aldermanic

District.

Sponsors: ALD. ZIELINSKI

Indexes: AGREEMENTS, CITY PROPERTY, SIGNS

Attachments: Fiscal Note.pdf, License Agreement.pdf

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091363 **Version:** 0

Number

091363

Version

ORIGINAL

Reference

Sponsor

ALD. ZIELINSKI

Title

Resolution approving a License Agreement with the Lincoln Village Business Association, Inc. to permit installation and maintenance of a sign at 2265 South Chase Avenue, in the 14th Aldermanic District.

Analysis

This resolution approves a License Agreement to permit installation and maintenance of a sign on City-owned property.

Body

Whereas, The Lincoln Village Business Association, Inc. ("LVBA") desires to install and maintain a sign on City-owned property; and

Whereas, The sign is intended to enhance identification of the Lincoln Village business district; and

Whereas, The City of Milwaukee has negotiated a License Agreement with LVBA, a copy of which is attached to this Common Council File; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the License Agreement with LVBA for a portion of the property located at 2265 South Chase Avenue is approved; and, be it

Further Resolved, That the Commissioner of the Department of City Development ("DCD"), or designee, is authorized to execute the License Agreement with LVBA and any other documents necessary upon final approval of the agreement by the Common Council; and, be it

Further Resolved, That the City Attorney's office, in cooperation with the Commissioner of DCD, is authorized to make such further minor modifications to said License Agreement that are consistent with the intent and purpose of this resolution and which are mutually acceptable to the City Attorney and the Commissioner of DCD.

Drafter

DCD/Real Estate YSL:ysl 02/09/10/A

CITY OF MILWAUKEE FISCAL NOTE

A) DAT	E	February 9, 2010		FILE	NUMBER:				
				Origi	nal Fiscal Note X	Substitute			
SUBJECT:	SUBJECT: Resolution approving a License Agreement with the Lincoln Village Business Association, Inc. to permit installation and maintenance of a sign at 2265 South Chase Avenue, in the 14th Aldermanic District.								
B) SUB	MITTED BY (N	lame/title/dept./ext.):	Rocky Marcoux, Co	ommissioner					
C) CHE	CK ONE:		HIS FILE AUTHORIZES		NITI IDEQ: EI IDTUEI		II ACTION		
	ADOPTION OF THIS FILE DOES NOT AUTHORIZE EXPENDITURES; FURTHER COMMON COUNCIL ACTION NEEDED. LIST ANTICIPATED COSTS IN SECTION G BELOW. NOT APPLICABLE/NO FISCAL IMPACT.								
D) CHA	RGE TO:	DEPARTMENT A	COUNT(DA)		CONTINGENT FUND) (CE)			
D) OHA		CAPITAL PROJEC				ACCOUNTS (SPA)			
		PERM. IMPROVE	MENT FUNDS (PIF)		GRANT & AID ACCC	UNTS (G & AA)			
		OTHER (SPECIF)	()						
,	POSE	SPECIFY	TYPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS		
SALARIES	/WAGES:								
SUPPLIES	:								
MATERIAL	S :								
NEW EQUI	PMENT:								
11211 2401									
EQUIPMEN	NT REPAIR:								
		1		2024 227222		# 4.00			
OTHER:		License Agreement		0001-987999		\$1.00			
TOTALS						\$1.00			
		ES AND REVENUES WI K BELOW AND THEN L				YEARS CHECK THE			
				T					
_=	-3 YEARS		5 YEARS						
	-3 YEARS -3 YEARS		5 YEARS 5 YEARS						
G) LIST	ANY ANTICIP	ATED FUTURE COSTS	THIS PROJECT WILL	REQUIRE FOR CO	MPLETION:				
H) COM	IPUTATIONS (JSED IN ARRIVING AT	FISCAL ESTIMATE:						
,									
PLEASE LI	IST ANY COM	MENTS ON REVERSE	SIDE AND CHECK HER	RE					

LICENSE AGREEMENT

This License Agreement ("Agreement"), is made as of this	day of _	, 2010 (the
"Effective Date"), and is by and between the CITY OF MILW	VAUKEE,	a Wisconsin municipal
corporation ("CITY"), as licensor, and the LINCOLN VILLA	GE BUSIN	NESS ASSOCIATION,
INC., a Wisconsin non-stock corporation ("LVBA"), as licensee.		

RECITALS

- A. CITY owns certain real estate and improvements located at 2265 South Chase Avenue (the "Property"), depicted and shown on **Exhibit A** attached hereto.
- B. LVBA wishes to obtain from CITY a personal license to install on that portion of the Property identified and depicted on **Exhibit A** attached hereto (the "Premises") a sign as depicted on **Exhibit B** attached hereto (the "Sign"), and CITY is willing to grant such license on the terms and conditions contained herein.
- C. CITY authorized CITY entry into this License by CITY Resolution File No. ______, passed _______, 2010.
- D. LVBA duly authorized execution of this Agreement by its authorized signatories hereto.

AGREEMENT

For good and valuable consideration, receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows.

- 1. **Recitals Incorporated.** The recitals above are hereby acknowledged and agreed to.
- 2. <u>Grant of License to LVBA.</u> CITY hereby grants to LVBA a personal and qualified license to enter onto the Property and to install and use the Sign on the Premises on the terms and conditions contained herein.
- 3. **No Real Property Interest.** This is a license and personal privilege. It is not a lease or other conveyance of any interest or estate in real property. LVBA is not a tenant. LVBA has no rights under Wis. Stat. Ch. 704. LVBA is not an easement holder.
- 4. <u>Term.</u> This License shall commence on the date noted above and shall continue in effect unless terminated as provided for herein.
- 5. **AS-IS, WHERE-IS.** CITY makes no warranty or representation whatsoever to LVBA, express or implied, regarding the Property or the Premises LVBA hereby acknowledging that the Premises are being licensed to LVBA on an AS-IS, WHERE-IS BASIS, with all faults known or unknown, and whether or not suitable for LVBA's intended use.

- 6. <u>License Fee.</u> One dollar and other good and valuable consideration, receipt of which is hereby acknowledged by Licensor.
- 7. <u>Use</u>. LVBA shall have the right to enter, use and occupy the Premises, as a licensee and as a personal privilege, solely for the installation, use, and maintenance of the Sign, and to carry out LVBA's duties hereunder. No other use is permitted.
- 8. <u>Compliance with Laws and Regulations</u>. LVBA shall, at its sole cost and expense, comply with, and cause anyone claiming by, through, or under LVBA to comply with, any and all laws, statutes, ordinances and regulations, federal, state, county, and municipal, now or hereafter applicable to its respective use, occupancy, and existence at the Premises and applicable to its installation, use, and maintenance of the Sign including, but not limited to, any applicable environmental law, rule or regulation of the State D.N.R. or the U.S. E.P.A.
- 9. <u>No Hazardous Substances or Contaminants.</u> LVBA shall not (and it shall prohibit anyone claiming by, through, or under LVBA to) store, use, discharge or dispose of any hazardous or toxic substances, pollutants or contaminants ("Contaminants") on the Property or the Premises.
- 10. Responsibility for Damage to Property. LVBA shall be responsible remediating any Contaminants or environmental pollution on the Property or the Premises traced to, caused by, or attributable, directly or indirectly, to LVBA or to any person or entity using, occupying, or existing at, the Property or Premises by, through, or under LVBA, and (ii) for repairing any damage (environmental, physical, structural, or otherwise) to the Property or Premises (and to any improvement at the Property) caused by, or attributable, directly or indirectly, to LVBA or to any person or entity claiming by, through, or under LVBA. LVBA shall promptly provide prior written notice to CITY (and to the rest of the signatories hereto) of any damage to the Property or Premises, and of any Contaminant or environmental pollution on the Property for which LVBA is responsible. LVBA shall also provide prior written notice of, and obtain CITY's prior written approval before conducting, any remediation or repair work it intends to conduct at the Premises or the Property. LVBA is not responsible for remediating environmental pollution or Contaminants, or for repairing any damage at the Property or the Premises that existed thereat prior to the commencement of the Term, or that was caused by persons other than LVBA (or those claiming by, through, or under LVBA). Upon the expiration or termination of this Agreement, LVBA shall restore the Premises to the same condition that existed at the commencement of the Term.
- 11. <u>Installation of Sign by LVBA; Plans and Specs</u>. LVBA shall, at its expense, in a professional manner, in accordance with all applicable laws, rules and regulations, and according to plans and specifications approved by CITY (the "Plans and Specs"), install the Sign at the location shown on <u>Exhibit A.</u> No change in the CITY-approved Plans

- and Specs may be made without the prior written consent of CITY. Prior to installation of the Sign, LVBA shall first obtain all required permits and approvals from CITY.
- 12. <u>Sign Maintenance.</u> LVBA is solely responsible for monitoring and maintaining the Sign in good repair and in accordance with all applicable laws and regulations at LVBA's sole cost and expense.
- 13. **Removal of Sign**. Upon termination of this Agreement, unless CITY agrees otherwise in writing, LVBA shall promptly remove the Sign and promptly restore and repair the Premises to its pre-existing condition. LVBA must repair any damage associated with the installation, use, maintenance or removal of the Sign.
- 14. No Liens Are Permitted. LVBA does not have any estate or interest in the Property or Premises, and it has no right to mortgage, pledge as collateral, or to hypothecate, any interest in the Property or Premises. LVBA shall not permit any lien, including, but not limited to, any lien under Wis. Stat. Ch. 779, Subch. I, any materialman, contractor, construction, or other lien to attach or to exist against the Property or the Premises as a result or consequence of LVBA action or inaction. If any such lien does attach, LVBA shall promptly provide all signatories hereto with notice of such, and LVBA shall promptly cause such lien to be removed from title at LVBA's sole expense.
- 15. <u>Lien Waivers</u>. Upon completion of any installation or repair work by LVBA, LVBA shall obtain, and, if CITY so requests, LVBA shall provide to CITY lien waivers from each contractor and subcontractor who performed work or labor, or who provided services, materials, or supplies with respect to the respective work.
- 16. <u>Utilities</u>. LVBA represents that the Sign shall not require any utility service at the Property or Premises.
- 17. <u>Insurance</u>. LVBA shall obtain and maintain in place during the entire Term, at its expense, insurance as described and in strict compliance with <u>Exhibit C</u> attached hereto. LVBA shall provide CITY with a certificate of insurance evidencing such coverage upon request.
- 18. <u>Indemnification</u>. To the fullest extent permitted by law, LVBA agrees to defend, indemnify, and hold harmless the City of Milwaukee, its officers, agents and employees from and against all claims, demands, damages, liability, suits, judgments and decrees, attorney's fees, losses, costs and expenses of any kind or nature whatsoever which may come against the City on account of injury or death of any person or persons or damage to any property occurring directly or indirectly from the performance or lack of performance or work hereunder, or negligence or carelessness, by contractor or its employees, agents or servants, including, without limitation, claims related to hazardous substances or environmental liability. The term "hazardous substance" shall include all substances identified as hazardous by Federal, State, County or Municipal Law, Statute,

Ordinance, Order or Regulation related to the protection of the environment (including, without limitation, any regulations promulgated by the Federal Environmental Protection Agency or the Wisconsin Department of Natural Resources). The indemnifications contained herein shall survive the Term of this License.

- 19. **Retained Rights**. CITY expressly retains its rights, title and interest in and to the Property (including the Premises) and nothing contained herein shall be deemed an amendment to any such rights, title or interest. CITY expressly retains all rights it has under Wis. Stat. §893.80.
- 20. <u>Defaults and Remedies</u>. CITY retains all rights at law and in equity in the event of a breach by LVBA hereunder, including, but not limited to, the right to seek specific performance, and the right to recover damages.
- 21. Condemnation of or Damage to Premises. If the Premises (or a part thereof), at any time during the Term, get condemned by any public authority with the power of eminent domain (or are voluntarily transferred in lieu of, or under threat of, condemnation), or if the Premises are damaged in whole or in part by fire or some other cause so as to render in CITY's reasonable opinion all or any significant portion of the Premises unfit for the continued use and purpose of LVBA, CITY may terminate this Agreement, and LVBA shall not be entitled to any part of the condemnation award or insurance proceeds (if any). Notwithstanding anything to the contrary contained herein, however, if the Premises or any part thereof are damaged by act, omission, default or negligence of LVBA, or anyone claiming by, through, or under LVBA, LVBA shall be responsible for repair or restoration at LVBA's cost and expense.
- 22. **No Right to Assign or Sub-License.** LVBA has no right to assign or transfer any interest whatsoever in and to this Agreement, or in and to the Property or Premises.
- 23. <u>Termination of Agreement</u>. Notwithstanding anything to the contrary contained herein, either the CITY or LVBA may (for any reason, including no reason) terminate this Agreement at any time upon 30 days prior advance written notice. Upon termination, LVBA shall peaceably and quietly deliver, yield up, and surrender the Premises and remove the Sign and repair and restore as called for herein. Any of LVBA's property not removed (including the Sign) shall, at CITY's option, either become the sole property of CITY or be stored on-site or off-site at LVBA's expense.
- 24. <u>Waiver</u>. No delay, waiver, omission or forbearance on the part of CITY to exercise any right hereunder shall be deemed a waiver of such right.
- 25. <u>Governing Law</u>. This Agreement shall be construed according to the laws of the State of Wisconsin.
- 26. <u>Notices</u>. All notices permitted or required hereunder shall be considered given (i) upon receipt if hand-delivered by commercial courier or otherwise personally delivered, (ii) if

sent by facsimile, then the notice must be sent during business hours (i.e. 8:30 A.M to 4:30 P.M., Monday through Friday) on days that Milwaukee's City Hall is open for business, and the notice shall be deemed given when sent as per the following and so long as the notice is successfully sent (i.e. the sender does not receive any error or "busy" or "inability to send" notification), and (iii) within two business days of depositing same in the U.S. mail, postage-paid, addressed by name and address to the party intended as follows:

A. **If to CITY**:

City of Milwaukee c/o City Real Estate 809 North Broadway Milwaukee, WI 53202

Fax: 414-286-0395 Phone: 414-286-5820

With a copy to:

Danielle M. Bergner City Attorney's Office 800 City Hall 200 East Wells Street Milwaukee, WI 53202 Phone: (414) 286-2620

Fax: (414) 286-8550

B. **If to LVBA**:

Lincoln Village Business Association, Inc. c/o Dan Nowakowski 1133 W. Lincoln Ave. Milwaukee, WI 53215

The parties hereto may, from time to time, as needed, change the recipient and address information above by providing notice of new/replacement information by notice as required hereunder.

- 27. <u>Director</u>. All submissions to CITY, and all approvals or consents required to be obtained from CITY, hereunder, shall be submitted to, or obtained from the Commissioner of the Department of City Development, or his designee.
- 28. <u>Severability of Provisions</u>. If any of the terms or provisions contained herein shall be declared to be invalid or unenforceable by a court of competent jurisdiction, the remaining provisions and conditions of this Agreement, or the application of such to persons or circumstances other than those to which it is declared invalid or unenforceable, shall not be affected thereby, and shall remain in full force and effect and shall be valid and enforceable to the fullest extent permitted by law.

- 29. <u>Captions</u>. The captions in this Agreement are for convenience and reference, and in no way define or limit the scope or intent of the various provisions, terms, or conditions hereof.
- 30. **Entire Agreement**. This writing constitutes the entire agreement between the parties hereto and may not be amended or altered in any manner except in writing signed by the parties hereto.
- 31. <u>Counterparts; Facsimiles; No Recording.</u> This Agreement may be executed in one or more counterparts, which, when taken together, shall constitute one and the same document. Facsimile signatures shall be accepted as originals. This Agreement, being a personal license, shall not be recorded in the Register of Deeds Office.
- 32. Open Records. This Agreement and certain documents relating thereto are, or may be, subject to Wisconsin's Open Records Law (see Wis. Stat. Ch. 19, Subch. II, and, esp. Wis. Stat. §19.36(3) which includes records produced or collected under this Agreement). Subject to exercising its legal rights under law, LVBA agrees to cooperate with CITY in the event CITY receives a request under Wisconsin's Open Records Law for this Agreement or for any record relating to, or produced or collected under, this Agreement, that failure to do so will be a material breach, and that LVBA will defend and hold CITY harmless with respect to liability concerning any such breach. Except as otherwise authorized under Wisconsin's Open Records Law, LVBA records regarding this Agreement, the Property, the Premises and the Sign shall be retained for 7 years.
- 33. **<u>Drafter Doctrine.</u>** The doctrine of construing contracts against the drafter shall not apply to this Agreement, as the parties hereto had the opportunity to review and negotiate this Agreement prior to entry.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

TITV OF MII WALIKEE

CITY:

CIII	OF MILWACKEE
By:	
<i>J</i> .	Elaine Miller
	Special Deputy Commissioner
	Department of City Development

LVB.	A: COLN VILLAGE BUSINESS ASSOCIATION, INC.
By:	
	Name Printed:

EXHIBIT A: DEPICTION OF THE PROPERTY AND PREMISES

EXHIBIT B: DEPICTION OF PROPOSED SIGN EXHIBIT C: INSURANCE REQUIREMENTS

1050-2009-3349:153855



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091373 **Version:** 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution relative to sub-account funding for various portions of the 2010 Capital Improvements

Program.

Sponsors: THE CHAIR

Indexes: COMMUNICATIONS SYSTEMS, STREET IMPROVEMENTS

Attachments: Fiscal Note

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091373 **Version:** 0

Number 091373

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution relative to sub-account funding for various portions of the 2010 Capital Improvements Program.

Analysis

This resolution provides for labor, materials and services for the Public Safety Communications Program sub-accounts.

Body

Whereas, A program for the expansion and improvement of Public Safety Communications facilities during 2010 was prepared by the Technical Support Services Section of the Administrative Services Division of the Department of Public Works, within budget and management guidelines; and

Whereas, The funds required for this program were appropriated in the 2010 Capital Improvements Budget of the Department of Public Works, Administrative Services Division; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the Commissioner of Public Works is authorized and directed to undertake the following capital improvement projects; and, be it

Further Resolved, That the Comptroller's Office is authorized and directed to transfer the following amounts to the following purpose accounts, with said amounts equaling the total funds authorized for the program indicated:

- 1. City-wide Paving Projects, including temporary facilities and/or permanent expansion and improvements of underground and aerial Public Safety Communications facilities associated with paving projects: \$50,000.
- Account number ST270100200.
- 2. General Engineering, including planning, design, estimates, and reports related to the program: \$50,000. Account number ST270100300.
- 3. Transmission Plant Expansion, with fiber optic and/or copper cables to city facilities: \$350,000. Account number ST270100700.
- 4. Telephone System Expansion and Improvements: \$50,000. Account number ST270100800.

Total for all accounts \$500,000

; and; be it

File #: 091373 **Version:** 0

Further Resolved, That the City Comptroller is authorized and directed to transfer additional funds, as required, without further Common Council authorization, the total amount of such additional funds transfer(s) not to exceed the amount authorized in the 2009 Capital Improvement Budget for the Department of Public Works, Administrative Services Division Public Safety Communications program.

Requestor DPW Administrative Services Drafter PJH 2/3/10

CITY OF MILWAUKEE FISCAL NOTE

A)	DATE		February 3,	2010		FILE	NUMBER:			
,						Origi	inal Fiscal Note X	Substitute		
SUB.	JECT: Re	esolution re	elative to sub-	account	funding for the 2010 Ca	oital Improvement F	Program – Public Safe	ety Communications		
000	<u> </u>	0001411011110	Jan Volto Gab	account	rananig for the 2010 Ca	phar improvement i	rogram r abno care	ory communications		
B)	B) SUBMITTED BY (Name/title/dept./ext.): Patrick J. Hartmann, Business Operations Manager, DPW-Administration/Ext. 2329									
C)	CHECK OF	NE: X	ADOPTIC	N OF TH	HIS FILE AUTHORIZES	EXPENDITURES				
					HIS FILE DOES NOT AL			R COMMON COUNC	IL ACTION	
			NEEDED.	LIST A	NTICIPATED COSTS II	N SECTION G BELO	OW.			
			NOT APP	LICABLE	E/NO FISCAL IMPACT.					
D)	CHARGE 1	ro		JENIT A	CCOUNT(DA)		CONTINGENT FUND	(CE)		
, D,	CHARGE				CTS FUND (CPF)		SPECIAL PURPOSE			
			_							
		<u> </u>			MENT FUNDS (PIF)		GRANT & AID ACCO	UNIS (G & AA)		
			OTHER (SPECIFY	()					
E)	PURPOSE		S	PECIFY	TYPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
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SUP	PLIES:									
MAT	ERIALS:									
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NFW	EQUIPMEN	JT-								
	24011 11121	•••								
EQU	IPMENT RE	PAIR:								
отн	ER:		Pub. Safety C	om. City	-wide Paving Projects	ST270100200	\$50,000			
			Pub. Safety C	om. Ger	n. Engineering	ST270100300	\$50,000			
			Pub. Safety C	om. Trai	nsmiss. Plant Expand	ST270100700	\$350,000			
			Pub. Safety C	om. Tele	ephone Syst. Expand	ST270100800	\$50,000			
TOT	ALS						\$500,000			
F)	FOR EXPEN	NDITURES	AND REVEN	IUES WI	HICH WILL OCCUR ON	AN ANNUAL BASI	S OVER SEVERAL	YEARS CHECK THE		
	APPROPRIA	ATE BOX E	BELOW AND	THEN LI	IST EACH ITEM AND D	OLLAR AMOUNT S	SEPARATELY.			
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G)	LIST ANY	ANTICIPA ^T	TED FUTURE	COSTS	THIS PROJECT WILL	REQUIRE FOR CO	MPLETION:			
H)	COMPUTA	ATIONS US	ED IN ARRIV	ING AT	FISCAL ESTIMATE:					
PLE/	ASE LIST AN	NY COMME	ENTS ON RE	VERSE S	SIDE AND CHECK HER	RE				



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091374 **Version:** 0

Type: Resolution Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Resolution relative to allocating funds for the 2010 Recreation Facilities Construction Program in

various Aldermanic Districts.

Sponsors: THE CHAIR

Indexes: BUDGET, PLAYGROUNDS, RECREATION

Attachments: Cover Letter, Fiscal Note

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091374 **Version**: 0

Number

091374

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

Resolution relative to allocating funds for the 2010 Recreation Facilities Construction Program in various Aldermanic Districts.

Analysis

This resolution would allocate funds for the 2010 Recreation Facilities Construction Program for Buildings and Fleet Services.

Body

Whereas, An appropriation of \$388,240 for neighborhood recreation facilities is included in the 2010 Permanent Improvement Budget of the City of Milwaukee, based on a detailed recommendation of the Recreational Facilities Unit of Buildings and Fleet Services; and

Whereas, This recommended report was prepared with the cooperation and advice of the Department of Schools and Community Services of the Board of School Directors; and

Whereas, It is in the best interests of the City to prepare the plans, purchase materials, and do other work necessary for the improvement of these recreation facilities as quickly as possible to ensure early construction during 2010; now, therefore, be it

Resolved, By the Common Council of the City of Milwaukee, that the Commissioner of Public Works be and hereby is authorized and directed to proceed with the construction of the recreation facilities under the 2010 Capital Improvements Program, using City forces wherever the best interests of the City will be served, or letting contracts for the work if in the best interests of the City, with the cost of such work to be charged to the respective recreation facility fund provided for that purpose; and, be it

Further Resolved, That the City Comptroller be and hereby is authorized and directed to make allocations from Account PR111000000 - Playground Construction 2010, to the recreation facility accounts of the Capitol Improvements Fund in the amounts as hereinafter stated:

2010 Recreational Facilities Capital Improvement Budget

<u>Fund</u>	Description	Estimated Cost
PR11110101	General Engineering Engineering costs for miscellaneous studies, projects, and reports	\$ 52,500
PR11110102	Various Recreation Facility Improvements Minor but necessary improvements to non-programmed recreation facilities	\$ 25,000
PR11110200	DPW Play Area Reconstruction, (ADA) South 4 th and West Mineral Street Play Area, 937 South 4 th Street South 13 th and West Lapham Boulevard Play Area, 1300 West Lapham Boulevard	\$110,740
	North 31st and West Lloyd Street Play Area, (design only 3100 West Lloyd Street Allis Street Play Area, (design only)	()

File #:	091374	Version: 0	
	2156 So	uth Allis Street	
PR11110300	North 66	and Reconstruction th and West Port Avenue Play Lot est Port Avenue	\$117,500
PR11110400	Alcott Pla	Court Reconstruction ay Field uth 97 th Street	\$ 82,500

TOTAL \$388,240

Drafter

Bldgs & Fleet MHS/amp 01/29/10



Department of Public WorksInfrastructure Services Division

Jeffrey Mantes Commissioner of Public Works

Preston D. Cole
Director of Operations

Jeffrey S. PolenskeCity Engineer

January 29, 2010

To the Honorable Common Council City of Milwaukee

Dear Council Members:

Attached is a resolution relative to allocating the funds previously set up by the Common Council in the 2010 budget for recreation facility development.

This project list was prepared in cooperation with other agencies.

This resolution is being submitted for the allocation of funds for the various projects, and we respectfully request its adoption.

Sincerely,

VENU J. GUPTA, Superintendent Buildings and Fleet Services

JEFFREY S. POLENSKE, P.E., City Engineer Infrastructure Services Division

Attachments

MHS/amp

CITY OF MILWAUKEE FISCAL NOTE

A) DATE	January 29, 2010		FILE	NUMBER:					
			Orig	inal Fiscal Note X	Substitute				
SUBJECT: Resolution	n relative to allocating fund	s for the 2010 Recreat	ional Facilities Con	struction Program in v	various Aldermanic D	Districts			
B) SUBMITTED BY (I	B) SUBMITTED BY (Name/title/dept./ext.): Venu J. Gupta/Buildings and Fleet Services/3401								
C) CHECK ONE:	X ADOPTION OF THI	S FILE AUTHORIZES	EXPENDITURES						
	ADOPTION OF THI	S FILE DOES NOT AU	JTHORIZE EXPEN	DITURES; FURTHER	COMMON COUNC	IL ACTION			
	NEEDED. LIST AN	TICIPATED COSTS IN	SECTION G BEL	OW.					
	NOT APPLICABLE/	NO FISCAL IMPACT.							
D) CHARGE TO:	DEPARTMENT ACC	COUNT(DA)		CONTINGENT FUND	(CF)				
	X CAPITAL PROJECT	TS FUND (CPF)		SPECIAL PURPOSE	ACCOUNTS (SPA)				
	PERM. IMPROVEM			GRANT & AID ACCO	UNTS (G & AA)				
	OTHER (SPECIFY)								
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E) PURPOSE	SPECIFY T	YPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS			
SALARIES/WAGES:									
SUPPLIES:									
MATERIALS:									
NEW EQUIPMENT:									
EQUIPMENT REPAIR:									
OTHER:	From Capitol Improvem	ents Fund to various	PR111000000	388,240					
OTTIER.	accounts	cito i una to various	11(11100000	000,240					
TOTALS				388,240					
, -	ES AND REVENUES WHI				EARS CHECK THE				
APPROPRIATE BO	X BELOW AND THEN LIS	T EACH ITEM AND D	JLLAR AMOUNT	SEPARATELT.					
1-3 YEARS	3-5	YEARS							
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G) LIST ANY ANTICI	PATED FUTURE COSTS	THIS PROJECT WILL	REQUIRE FOR CO	OMPLETION:					
H) COMPUTATIONS	USED IN ARRIVING AT F	ISCAL ESTIMATE:							
,									
DI EASE LIST ANY COM	IMENTS ON DEVERSE OF	IDE AND CHECK HES	_						
PLEASE LIST ANY COM	IMENTS ON REVERSE SI	IDE AND CHECK HER	E						



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 091362 **Version**: 0

Type: Ordinance Status: In Committee

File created: 2/9/2010 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: An ordinance relating to depositing construction waste at city area sanitation yards and the size of

trailers used to transport such waste.

Sponsors: THE CHAIR

Indexes: RECYCLING, SOLID WASTE DISPOSAL

Attachments:

Date	Ver.	Action By	Action	Result	Tally
2/9/2010	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 091362 **Version:** 0

Number

091362

Version

ORIGINAL

Reference

Sponsor

THE CHAIR

Title

An ordinance relating to depositing construction waste at city area sanitation yards and the size of trailers used to transport such waste.

Sections

79-1-12-c rc

79-14.5 rc

81-35.9-3 am

81-35.9-4 am

Analysis

Beginning in April 2010, the department of public works intends to charge for depositing construction waste at city area sanitation yards. This ordinance clarifies the definition of construction waste. The ordinance also limits the bed size of trailers transporting construction waste to no more than 4 feet by 8 feet, rather than a single-axle trailer specified in the current code provisions, and also limits the amount of construction waste being transported in a trailer to no more than 4 feet in height.

Body

The Mayor and Common Council of the City of Milwaukee do ordain as follows:

Part 1. Section 79-1-12-c of the code is repealed and recreated to read:

79-1. Definitions. 12. SOLID WASTE consists of the following categories:

c. Construction waste is waste resulting from construction or demolition, alteration or repair, including excavated material. This includes, but is not limited to, roofing material, brick, stones, concrete, lumber, drywall, paneling and other construction material and is exclusive of any waste resulting from a fire, any painted bricks, blocks or concrete, any asphalt, or any concrete containing iron rods.

Part 2. Section 79-14.5 of the code is repealed and recreated to read:

79-14.5 Depositing of Construction Waste in Area Sanitation Yards. Any person that deposits or causes to be deposited, dropped, dumped, discharged or left any construction waste, as defined in s. 79-1-12-c, in or about the area sanitation yards of the city shall be assessed a construction debris charge as provided in s. 81-35.9.

Part 3. Section 81-35.9-3 and 4 of the code is amended to read:

81-35.9. Construction Debris Charges.

- 3. \$15 for a passenger car or sport utility vehicle with a [[single-axle]] trailer >> not exceeding 4 feet by 8 feet in bed size, with debris not exceeding 4 feet in height<<.
- 4. \$20 for a pickup truck or van (3/4 ton capacity or less) with a [[single-axle]] trailer >> not exceeding 4 feet by 8 feet in bed size, with debris not exceeding 4 feet in height<<.

Version: 0 File #: 091362

LRB:

APPROVED AS TO FORM

Legislative Reference Bureau

Date:

ATTORNEY

IT IS OUR OPINION THAT THE ORDINANCE IS LEGAL AND ENFORCEABLE

Office of the City Attorney

Date: _

Department Requestor DPW-Operations Division **Drafter** LRB10054-2 **JWC** 2/3/10

CITY OF MILWAUKEE FISCAL NOTE

A)	DATE	02/12/20	10			NUMBER: nal Fiscal Note X	091362 Substitute		
SUB	JECT: An ordi waste.	nance relating to	depositin	g construction waste a		<u> </u>	<u> </u>	transport such	
В)	SUBMITTED BY	(Name/title/dept	./ext.):	Wanda Booker, Sar	nitation Services Ma	nager, DPW Operation	ons, X2332		
C)	C) CHECK ONE: ADOPTION OF THIS FILE AUTHORIZES EXPENDITURES ADOPTION OF THIS FILE DOES NOT AUTHORIZE EXPENDITURES; FURTHER COMMON COUNCIL ACTION NEEDED. LIST ANTICIPATED COSTS IN SECTION G BELOW. X NOT APPLICABLE/NO FISCAL IMPACT.								
D)	D) CHARGE TO: DEPARTMENT ACCOUNT(DA) CONTINGENT FUND (CF) CAPITAL PROJECTS FUND (CPF) SPECIAL PURPOSE ACCOUNTS (SPA) PERM. IMPROVEMENT FUNDS (PIF) GRANT & AID ACCOUNTS (G & AA) OTHER (SPECIFY)								
E)	PURPOSE	5	PECIFY 1	YPE/USE	ACCOUNT	EXPENDITURE	REVENUE	SAVINGS	
SAL	ARIES/WAGES:								
SUP	PLIES:								
MAT	ERIALS:								
NEW	EQUIPMENT:								
EQU	IPMENT REPAIR:								
ОТН	ER:								
TOT	ALS								
F)				ICH WILL OCCUR ON T EACH ITEM AND DO			EARS CHECK THE		
	1-3 YEARS			YEARS					
	1-3 YEARS 1-3 YEARS		=	YEARS YEARS					
G)	LIST ANY ANTIO		E COSTS	THIS PROJECT WILL	REQUIRE FOR CO	MPLETION:			
H)	COMPUTATION	S USED IN ARRI	/ING AT F	ISCAL ESTIMATE:					

PLEASE LIST ANY COMMENTS ON REVERSE SIDE AND CHECK HERE



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Legislation Details (With Text)

File #: 090072 **Version**: 0

Type: Communication Status: In Committee

File created: 5/5/2009 In control: PUBLIC WORKS COMMITTEE

On agenda: Final action:

Effective date:

Title: Communication relating to the report and recommendations of the Recycling Task Force.

Sponsors: THE CHAIR

Indexes: COMMITTEES, RECYCLING, REPORTS AND STUDIES

Attachments: Final Report and Recommendations, Digital recording of the April 6 2009 meeting, April 6 2009

meeting minutes, Digital recording of the April 27 2009 meeting, April 27 2009 meeting minutes and exhibits, Letter to City Attorney requesting legal opinion, City Attorney's opinion, Digital recording of the May 18, 2009 meeting, May 18 2009 meeting minutes and exhibit, Digital recording of the June 8 2009 meeting, June 8 2009 meeting minutes and exhibit, 6-8-09 email re letter from Mr. Lindquist Waukesha, June 29 2009 Notice of Recycling facility tours, 7-21-09 email and attachment from Lisa Schaal regarding article Tracking trash from MIT News Office, Digital recording of the July 27, 2009 meeting, July 27 2009 meeting minutes and exhibits, 8-6-09 Email and attachment from Mike Daun regarding MRF of the Month article, 8-13-09 email and attachment from Lisa Schaal regarding Solar Powered Waste Compactors, Digital recording of the September 14 2009 meeting, September 14 2009 meeting minutes and exhibit, Digital recording of the October 26, 2009 meeting, October 26 2009 meeting minutes and exhibit, Digital recording of the December 16 2009 meeting, December 16

2009 meeting minutes and exhibits, Letter from FCR Recycling to Mr Cole

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Date	Ver.	Action By	Action	Result	Tally
5/5/2009	0	COMMON COUNCIL	ASSIGNED TO		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		
2/12/2010	0	PUBLIC WORKS COMMITTEE	HEARING NOTICES SENT		

File #: 090072 Version: 0

Number

090072

Version

ORIGINAL

Reference

Sponsor THE CHAIR Title

Communication relating to the report and recommendations of the Recycling Task Force.

Requestor

Drafter

СС tjm 5/4/09

City of Milwaukee

Recycling Task Force

Final Report and Recommendations to the

Common Council

January 2010



INTRODUCTION

The City of Milwaukee Common Council established the Recycling Task Force (RTF) on January 16, 2009, with the adoption of Common Council File # 081212 and amended it with Common Council File 090233.

MISSION STATEMENT

This Task Force was charged with conducting a comprehensive study of the fiscal and operational impacts of a conversion to single-stream recycling in the City of Milwaukee. The task force was directed to submit those findings and recommendations to the Common Council by January 11, 2010.

MEMBERSHIP

The Recycling Task Force members consisted of five members:

Preston Cole, appointed by the Commissioner of Public Works as his designee and appointed as chair by the Common Council President

Ald. Joe Dudzik, appointed by the Common Council President

Lisa Schaal, citizen member appointed by the Common Council President with experience and knowledge of municipal public works operations

Michael Daun, appointed by the Milwaukee Comptroller as his designee

Erick Shambarger, appointed by the Budget and Management Director as his designee

MEETING DATES

The Task Force held the following public meetings in 2009:

April 6, 2009

April 27, 2009

May 18, 2009

June 8, 2009

June 29, 2009

July 27, 2009

September 14, 2009

October 26, 2009

December 16, 2009

SUMMARY

During the regular meetings of the task force, members discussed a series of issues, questions and recommendations by task force members, the Consultant Earth Tech/AECOM and others relating to:

- Recycling citation process;
- Single stream recycling;
- Recycling programs of other cities;
- The current recycling contract;
- The type of equipment required for the recycling program and its cost;
- The "Pay As You Throw" program;
- The cost of converting to a single-stream collection process;
- Feasibility and cost/benefit of depositing collected recyclables at the existing Germantown facility compared to the City upgrading and using its own facility;
- Continuation of contracting out recycling collection; and
- Impact of the weather on impact the recycling collection and processing.

The following individuals appeared at one or more of the task force meetings to answer questions, offer suggestions and to provide legal advice:

- Mr. Rick Meyers, Department of Public Works, Sanitation Division
- Ms. Wanda Booker, Department of Public Works, Sanitation Division
- Mr. Donald Stone with Department of Public Works, Sanitation Division
- Ald. Nik Kovac
- James Carroll, Legislative Reference Bureau
- Jim Michalski, Comptroller's Auditing Division
- Deputy City Attorney Linda Burke
- Assistant City Attorney Jay Unora with the ordinance Enforcement Division
- Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM Consultant Firm
- Mr. Perry Lindquist, Land Resources Manager with Waukesha County

During the task force meetings the following presentations were made:

Mr. Rick Meyers, City of Milwaukee, Environmental Recycling Specialist, gave a PowerPoint presentation on the City of Milwaukee Department of Public Works' current recycling program (APPENDIX A).

Member Erick Shambarger gave a brief summary of the La Follette School of Public Affairs (Madison, WI) policy study on the Pay-As-You-Throw program, which was done at the request of the City of Milwaukee's Department of Administration, Budget & Management Division. The report is titled "Impacts of Pay-As-You-Throw Municipal Solid Waste Collection" and is attached to this report (**APPENDIX B**). A copy of the report can also be found at: http://www.lafollette.wisc.edu/publications/workshops/2009/waste.pdf

Mr. Perry Lindquist, Land Resources Manager with Waukesha County, gave a PowerPoint presentation on the Waukesha County Recycling System Study (APPENDIX C).

Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM, gave a series of PowerPoint presentations relating to a "Recycling Facility Alternatives Study." The "Recycling Facility Alternatives Study" is attached to this report (APPENDIX D).

The Recycling Task Force also attended tours of the City of Milwaukee Materials Recovery Facility (1313 W. Mount Vernon Ave) and the Waste Management Materials Recovery Facility (W132 N10487 Grant Dr., Germantown, WI) on June 29, 2009.

The minutes of all meetings of the Task Force are accessible on the Internet at http://milwaukee.legistar.com/calendar.aspx and in Common Council File #090072.

Given the breadth of recycling topics and areas of examination, the task force chose to focus its efforts on evaluating costs and benefits associated with single stream recycling and continuation/renegotiation of the existing recycling contract. The results of this focus are the four recommendations stated below and the material contained in the four appendixes, which support these recommendations.

RECOMMENDATIONS

The recommendations may require further refinement and review and may require ordinance amendments or contract negotiation to be implemented. Time has not allowed for a complete review of their legality and enforceability.

We, the members of the City of Milwaukee Recycling Task Force hereby recommend the following:

1. Implement single stream recycling within the next 1-4 years as the recycling collection and processing system to serve the City of Milwaukee.

According to the Recycling Facility Alternatives Study, prepared by AECOM (APPENDIX D, Page ES-2):

"A Single stream processing means all the recyclables are collected in a single undivided cart and then sorted at the Material Recycling Facility (MRF). This approach is more user friendly and collection friendly resulting in more recyclables being placed at the curb by the public and more efficient collection by the recycling truck operation. Single stream collection is more user friendly because the public can simply consolidate all recyclables in the home and place them all in one cart without further sorting. The recycling industry is moving toward single stream recycling nationwide. Single stream can accommodate fully automated collection, which improves efficiency by allowing carts to be serviced without the driver exiting the vehicle."

- 2. Include internal and external stakeholders in a detailed investigation of the Recycling Facility Study's top two options:
 - i. Alternative D One Transfer Station at Existing City Facility
 - ii. Alternative F Regional Single Stream MRF at Existing City Facility

According to the Recycling Facility Alternatives Study, prepared by AECOM (APPENDIX D, pages ES-2 and ES-3):

"Alternative D would consist of converting the existing City MRF into a recycling transfer station. A compactor and related improvements would be added to the MRF. The transfer station would be operated by a third party, which would transport the recyclables by semi truck to a processing facility. Transfer station capital equipment could be provided directly by the third party firm and are estimated for this study. For this evaluation, the Waste Management Recycle America (WMRA) MRF in Germantown was used for the cost evaluation."

"Alternative F considers Waukesha County, City of Wauwatosa, and City of Milwaukee developing a MRF at the City's existing MRF on Mount Vernon. The City's current dual stream processing would be replaced with single stream processing equipment. The existing equipment would be replaced entirely due to its age, size, and condition. The structural aspects of the facility would remain basically the same. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is expected to increase from the current level based on additional recycling tonnage and is estimated based on the Waukesha County Report. The processing would be performed by a private firm as currently done."

3. Immediately implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection and require the cart to be located at the curb or alley line to improve collection efficiency. End summer walk-up driveway service except for hardships.

According to the Recycling Facility Alternatives Study, prepared by AECOM (APPENDIX D, Page ES-4):

"The most cost-effective method was to collect the recyclables on a three-week frequency with placement of the cart at the curb by the resident. Three week frequency is estimated to increase recyclables volume by ten percent."

4. Implement Pay-As-You-Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.

According to the Recycling Facility Alternatives Study, prepared by AECOM (APPENDIX D, Page ES-4):

"There is increasing interest in managing municipal solid waste through "Pay-As-You-Throw" (PAYT) programs. The most common approach is for the user to pay for a certain size garbage container(s) and the recycling cart is free. The PAYT program results in a decrease in the trash tonnage and increase in recycling tonnage. A 16 to 17 percent diversion from residential trash is the average, which is generally divided equally among recycling, yard waste and source reduction."

APPENDIX A

PowerPoint presentation on the City of Milwaukee Department of Public Works' current recycling program

Recycling Task Force Meeting April 27, 2009

Agenda Item 4:

Presentation by DPW Sanitation staff on the City's recycling program

Presented by Rick Meyers, Recycling Specialist

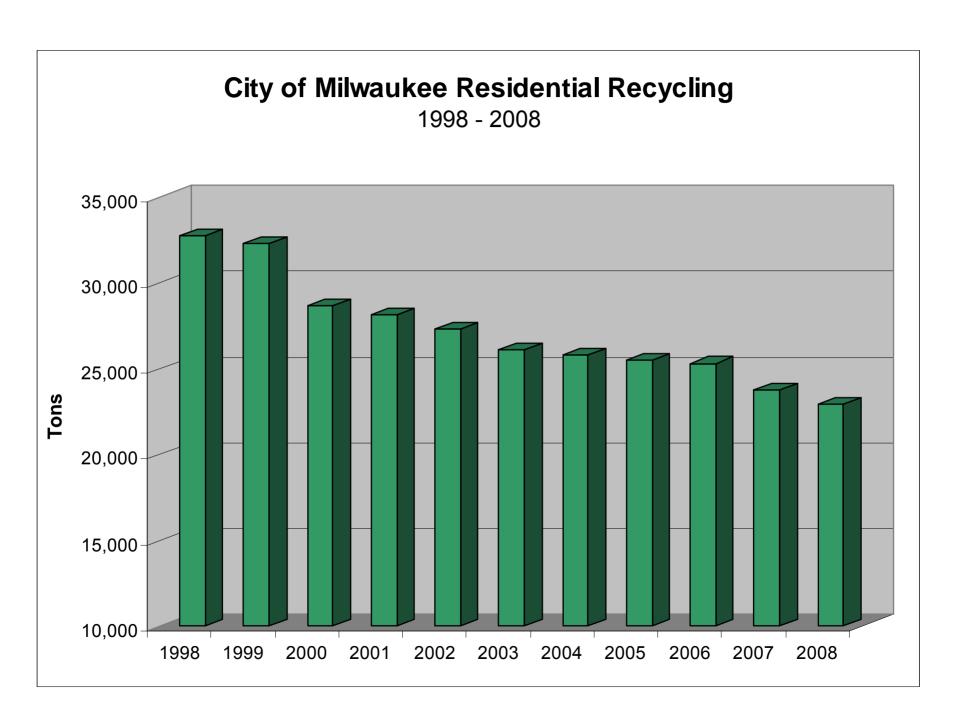




City of Milwaukee Residential Recycling

Program History:

- 1971: drop-off sites established for glass, tin-cans, and newspaper
- 1977: experiment with refuse-derived fuel plant
- 1989: curbside pilot program initiated
- 1995: city wide curbside program implemented



City of Milwaukee Residential Recycling <u>Program Overview:</u>

- 190,000 single family through 4-unit properties
- 34 recycling routes in winter, 31 in summer
- 85% of HH's serviced with 95-gallon carts picked up monthly (2 summer routes 2X/month)
- 15% of HH's serviced with 18-gallon bins picked up

weekly



Recycling Collection Details

- Dual stream program, municipal collection
- Split carts and split recycling packers
- Semi-automated, single cart system
- Single person collection crew
- High material quality with dual stream collection



Recyclables Processing & Marketing

- City owns its Materials Recovery Facility (MRF)
- Contracts out its operation & marketing of recyclables
 - July 1, 2009 entering first of up to 5 optional extension years
 - Could continue contract through June 30, 2014
 - Contract basics:
 - Per ton processing fee, annually adjusted (CPI)
 - 50% revenue share from sale of processed recyclables

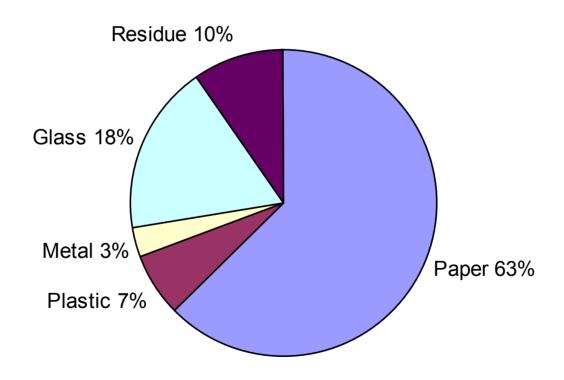
Milwaukee's Materials Recovery Facility

- Dual stream processing
 - Paper fibers
 - Commingled containers

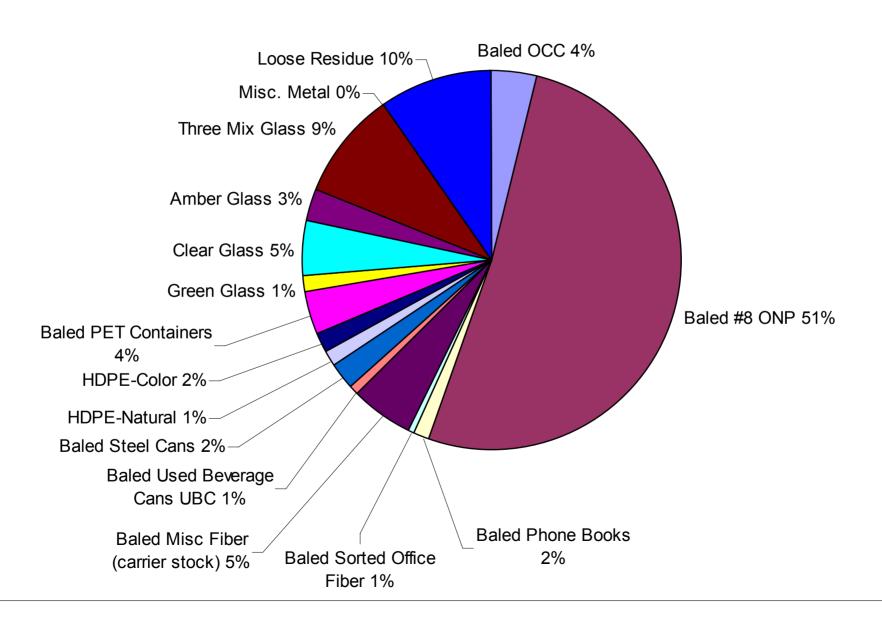




City of Milwaukee MRF Materials Processed by Weight 2007



City of Milwaukee MRF Materials Processed by Weight (2007)



Financial Data

Revenue to City: \$7.4 mil. to General Fund (2004-2008)

2008:

Net Revenue: \$376,395 (\$15.16/T)

Avoided disposal costs: \$725,896 (\$29.24/T)

Total net benefit: \$1,102,291 (\$44.40/T)

Education and Outreach

- UW Grant outreach
- EPA RCC Recycling With a Personal Touch
- Recycling DVD, 3 segments/age groups
- Recycle For Good
 - New advertisements
 - Website
 - Neighborhood campaigns
- Recycle More Wisconsin
- MRF tours & educational programs (Keep Greater Milwaukee Beautiful)

New promotional campaign launched Sept 30, 2008



LET'S MAKE MILWAUKEE CLEAN & GREEN.



Looking forward

- Guaranteed schedule, biweekly
- Potential changeover of some bins to carts
- Single or dual stream collection?
- Public vs. private MRF?

Required components of an effective recycling program (NR 544.04)

- Public information and education program
- Ordinance reflecting State law
- •System for collecting recyclables from single family and 2 to 4 unit residences
- Equipment and staff to implement the recycling program
- •Require owners of multiple family dwellings and non-residential facilities and properties to provide recycling at their facilities and properties
- •A means of adequately enforcing the requirements of the effective recycling program
- A compliance assurance plan
- Submittal of an annual program report

Compliance Assurance Plan

- City of Milwaukee's CAP Created in July of 2006
- •The CAP, at a minimum, shall contain the procedure to follow when addressing at least one specific compliance issue

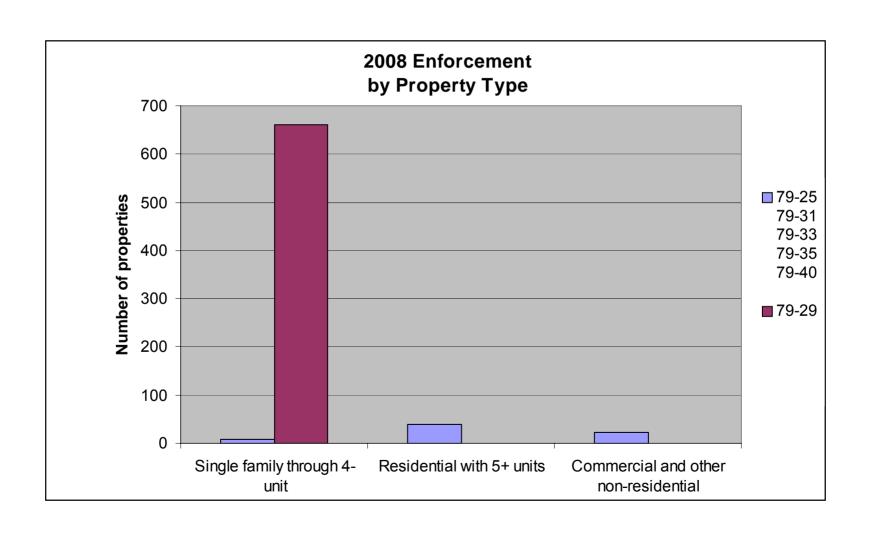
Ours: 3 scenarios

- -Violations by Businesses / >4-Unit Multifamily Dwellings / Institutions
- -Violations by Residents—Example of contamination of recycling cart
- –Violations by Residents, Single Family through 4-plex Example of Non-Participation

Recycling Violations and Penalties

Code	Violation	Violation Frequency (within 12 months)	Penalty
79-29	Improper Sorting and Storage of Recyclable Materials	1st	Written Notice
		2nd	\$20
		3rd or more	\$40
79-33, 79-35	Failure to provide containers for collection and provide removal of	1st & 2nd	\$50 - \$200
	recyclable materials by Multi- Family Dwellings and Non- Residential Properties	3rd or more	\$100 - \$500
79-40	Removal of Recyclables or Recycling Containers	1st or more	\$25 - \$500
79-25	Non-compliance with separation of recycling materials	1st	\$10
		2nd or more	\$25

Properties Enforced in 2008



Enforcement

- Recycling assistance integrated into enforcement process
- Compliance Summary through 2008
 - 161 properties enforced (145 attained compliant status)
 - 30 special charges issued totaling \$3,850.64
- Compliance Summary 2008 alone
 - 65 properties enforced (50 attained compliant status)
 - 23 special charges issued totaling \$3,047.38
- Cart contamination
 - 2006: 315 notices issued resulting in 141 special charges totaling \$2,775
 - 2007: 667 notices issued resulting in 379 special charges totaling \$11,215
 - 2008: 661 notices issued resulting in 353 special charges totaling \$9,915

Recycling Tons, Wisconsin RUs

Top RUs by Population	Total Household Recyclables per Capita (lbs.)	Rank (out of 25 largest RUs)
Milwaukee	86.4	24
Waukesha, County	157.6	7
Madison	137.7	11
Outagamie, County	187	1
Green Bay	146.5	10
Eau Claire, County	123.3	17
Kenosha	123.8	16
Racine	107.3	20

Data taken from Appendix 3 "Recycling Tons in Wisconsin 25 Largest Responsible Units", of the Audit of the City of Milwaukee Recycling Program, June 2008

Residential Recycling in the U.S.

City	Residential Recycling Rate	Frequency	How collected	
Columbus	12%	Weekly	Commingled	
Austin	28%	Weekly	Source-Separated	
Memphis	27%	Weekly	Commingled	
Baltimore	27%	Weekly	Source-Separated	
MILWAUKEE	25%	Monthly	Source-Separated	
Fort Worth	20.6%	Weekly	Commingled	
Charlotte	11.5%	Weekly	Commingled	
El Paso	2%	NA	NA	
Boston	23%	Weekly	Source-Separated	

Data taken from Appendix 5 "Municipal Recycling in the U.S.- 30 largest cities by population", of the Audit of the City of Milwaukee Recycling Program, June 2008

Possible Incentive Programs

- PAYT
- Recycle Bank
 - Need at least 10,000 households on a set schedule to start a pilot program
 - Some communities that utilize Recycle Bank also have a PAYT system

APPENDIX B

Impacts of Pay-As-You-Throw Municipal Solid Waste Collection Study

City of Milwaukee:

Impacts of Pay-As-You-Throw Municipal Solid Waste Collection

Prepared by Catherine Hall Gail Krumenauer Kevin Luecke Seth Nowak

For the
City of Milwaukee, Department of Administration,
Budget and Management Division

Workshop in Public Affairs, Domestic Issues Public Affairs 869 Spring 2009



Robert M. La Follette School of Public Affairs University of Wisconsin-Madison

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Foreword

Students in the master of public affairs program in the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison produced this report for the City of Milwaukee's Department of Administration's Budget and Management Division. The opinions and judgments presented in the report do not represent the views, official or unofficial, of the La Follette School or of the clients for whom the students prepared the report.

The authors are enrolled in the Public Affairs Workshop, Domestic Issues, the capstone course in their graduate program. The La Follette School offers a two-year graduate program leading to a master of public affairs or a master of international public affairs degree. The workshop provides practical experience applying the tools of analysis acquired during three semesters of coursework to actual issues clients face in the public, non-governmental, and private sectors. Students work in teams to produce carefully crafted policy reports that meet high professional standards within the timeframe of a single academic semester. The reports are research-based, analytical, and when appropriate, evaluative.

This report would not have been possible without the encouragement and leadership of the City of Milwaukee's dedicated employees. A University of Wisconsin –Madison Engage grant for collaborative work from the Division of Information Technology supported additional costs of this report, including travel costs of meeting with clients. The report also benefited greatly from the support of the staff of the La Follette School. Outreach Director Terry Shelton, along with Kari Reynolds, Mary Mead, and Gregory Lynch, contributed logistical and practical support. Karen Faster, La Follette Publications Director, edited the report and shouldered the task of producing the final bound document.

This report was generated primarily for the educational benefit of its student authors. The purpose of the project was to improve their analytical skills by applying them to an issue with a substantial policy or management component. This culminating experience is the ideal equivalent of the thesis for the La Follette School degrees in public affairs.

Dr. Susan Webb Yackee Assistant Professor of Public Affairs and Political Science May 2009

Acknowledgments

We thank the following people for their guidance and assistance in preparing this report: Mark Nicolini, City of Milwaukee Budget Director, for commissioning the project; Erick Shambarger, City of Milwaukee Economist, for his feedback; Rick Meyers, City of Milwaukee Recycling Specialist, for his assistance; the various municipal employees who took the time to respond to our comparative cities survey; the vendors and manufacturers who provided pricing and equipment details; Karen Faster for her editing and comments; Professor Jack Huddleston for statistical guidance; and Professor Susan Yackee for her mentoring and guidance.

Executive Summary

This report analyzes the possible implementation of a pay-as-you-throw (PAYT) user fee system for municipal solid waste (MSW) collection in the City of Milwaukee. PAYT collection systems serve more than 25 percent of the U.S. population and more than half of Wisconsin communities. These programs replace flat fees with charges based on the quantity of MSW generated per household. PAYT systems may cause residents to recognize the cost of their individual disposal habits and reduce their waste. Pay-As-You-Throw can also promote behavioral change in the form of greater recycling. Municipalities and residents find these systems to be equitable, since those who generate more waste pay more for collection services. PAYT revenue may also provide financial benefits to the city by fully compensating program costs.

Milwaukee charges each household \$150 per year for MSW and recycling services. This flat rate creates insufficient revenue for complete program cost recovery. Milwaukee wishes to pursue a PAYT user fee system that fully pays for the MSW and recycling programs, particularly as landfill rates charged for waste disposal continue to rise.

Our analysis draws upon research from the U.S. Environmental Protection Agency (EPA), academic studies, City of Milwaukee MSW and recycling data, contacts with MSW equipment suppliers, and a survey of 10 comparable U.S. cities using PAYT systems. We assess three program options for Milwaukee: the status quo, a multiple cart system with pricing based on household waste cart size, and a weight-based program that charges per pound of refuse collected. We examine each alternative based on metrics of efficiency, effectiveness, equity, and ease of implementation to determine which MSW system best suits Milwaukee.

We recommend a weight-based PAYT system for Milwaukee. The weight-based model offers the greatest efficiency and creates the greatest incentive to reduce waste. This alternative also scores highest in equity measures. In contrast, the current system and multiple carts allow greater disparities between the price per unit paid by households with low levels of MSW disposal and the prices paid by those with high levels. The weight-based system also requires less capital investment than a multiple cart system.

We also recommend a series of implementation measures to ease the transition to a PAYT system. Recycling rates rise an average of 16–17 percent in PAYT communities. Increasing the frequency of recycling collection (as recommended in the 2008 Audit of the City of Milwaukee Recycling Program) before PAYT is instituted would prepare residents and city staff before the anticipated increase in recycling. In addition, Milwaukee should conduct a pilot program to review equipment performance, implement new billing software, and gauge program acceptance. Steps to enhance responsiveness to the PAYT program include education and outreach, billing comparisons to show customer savings for MSW reductions, and collection of program feedback from pilot households.

Introduction

This report examines the City of Milwaukee's solid waste and recycling collection structure and fees. Milwaukee charges each household an annual \$150 flat fee for municipal solid waste (MSW) and recycling collection. This fee does not fully cover Milwaukee's cost for providing the services and charges each household the same rate, regardless of the amount of solid waste it generates.

More than 7,000 U.S. communities operate pay-as-you-throw (PAYT) municipal solid waste collection systems as an alternative to traditional flat rates. This report includes a comparative analysis of PAYT implementation and impacts in U.S. cities similar to Milwaukee. The analysis also examines potential impacts of reduced solid waste generation should Milwaukee implement a variable price structure. To evaluate the policy alternatives, the report considers the efficiency, effectiveness, equity, and ease of implementation in the current program, a multiple cart PAYT alternative, and a weight-based PAYT alternative.

Research Question

Which PAYT garbage collection system, that can be practically implemented, most effectively covers Milwaukee's solid waste and recycling costs while equitably charging residents for their solid waste output?

Definitions

The following definitions are used in this report:

- **Bin**: A small container used for recycling collection, typically less than 20 gallons in size.
- Cart: A wheeled receptacle used for municipal solid waste, recycling, or yard waste collection. Typical cart sizes range from 30 to 128 gallons.
- Municipal solid waste (MSW): Household garbage that is taken to a landfill or incinerator.
- Pay-as-you-throw (PAYT): Any MSW collection system that charges users a variable price based on the amount of waste they dispose of. PAYT systems are typically volume-based, but some are weight-based.
- **Recycling:** Any goods accepted by the municipal recycling program. It is illegal to dispose of recyclables in a landfill, although this is rarely enforced (Prohibitions on Land Disposal and Incineration 2008).
- **Tipping fee:** The charge, typically in dollars per ton, for unloading solid waste at a landfill.

Background

Traditional municipal solid waste programs charge households a flat fee for MSW collection and/or include garbage collection fees as part of the property tax levy. The rate per household applies uniformly regardless of the amount of waste generated. PAYT solid waste programs utilize variable rates that charge households for collection based on the amount of MSW they generate. PAYT systems fall into volume-based and weight-based categories, described in the following section (U.S. EPA 2008b).

Volume-Based PAYT Systems

These systems charge variable rates based on the volume of municipal solid waste a household generates. Volume-based PAYT systems commonly take three implementation forms:

1. **Prepaid bags:** This system uses uniquely colored or marked trash bags for solid waste collection. Residents purchase the bags from the municipality or local retail outlets, and they must place all garbage in these bags. The cost per bag is set to cover all or part of the solid waste collection service plus a small fee for retail outlets distributing the bags.

Advantages: Prepaid bag systems are relatively easy to administer, simple for customers to understand, and provide a strong incentive for customers to reduce their MSW. Prepaid bag systems are compatible with existing billing systems and may allow for the elimination of billing for MSW collection all together.

Disadvantages: Prepaid bag systems are incompatible with the automated and semi-automated MSW collection trucks used by most mid-sized and large municipalities as they require collectors to manually check the bags and load them into the truck. Prepaid bag systems also result in unsteady revenue streams for the municipality since customers may purchase large numbers of bags at one time and then none for a number of months. Noncompliant bags are generally not collected, which can lead to solid waste accumulation for households.

2. **Prepaid tags:** This system functions similarly to prepaid bag systems, except residents purchase tags or stickers to attach to their own trash bags. **Advantages:** Prepaid tag systems have the same advantages as prepaid bag systems with the additional advantage that tags are smaller than bags and easier for retailers to handle.

Disadvantages: Prepaid tags have the same disadvantages as prepaid bags.

3. **Multiple cart sizes:** This system uses different sized MSW carts and charges residents based on the size of their cart. Most municipalities using this system offer two or three cart sizes, although some offer as many as six. Many communities using multiple carts also utilize a prepaid bag or tag system for MSW items exceeding the cart size.

Advantages: Multiple cart programs are compatible with automated and semi-automated MSW collection vehicles used in many municipalities. In municipalities moving from a single cart program to a multiple cart program, customers are already familiar with how the cart and collection system works. Multiple cart programs are relatively easy to administer once the billing system is established.

Disadvantages: Multiple cart systems provide no economic incentive to customers to reduce their waste unless they can reduce it enough to move to a smaller cart size; this can be partially overcome by offering a large number of cart sizes. The purchase of a large number of carts to implement the program and billing administration can be costly for municipalities.

Weight-Based PAYT Systems

These systems weigh MSW during collection and bill residents per pound of MSW they generate.

Truck-mounted scales: Most weight-based systems utilize carts and a scale on the collection vehicle. The collection vehicle scans a bar code or radio frequency tag on the cart, weighs the cart as it is emptied, and records the cart number and weight in an on-board computer. This information is then uploaded into the billing system.
 Advantages: Weight-based systems provide the greatest incentive for residents to reduce waste, as they can see a clear cost reduction with even small reductions in waste. Weight-based systems are compatible with automated and semi-automated collection vehicles when outfitted with the

appropriate equipment. The systems are simple to understand and generally perceived as the most equitable form of PAYT (Skumatz 1995). **Disadvantages:** The equipment needed to accurately weigh MSW and bill residents may be complicated and more expensive than other options (U.S. EPA 1994). Additionally, billing administration can be more complex. To date, weight-based PAYT programs in the United States have been limited to a number of pilot programs and a handful of municipalities.

Despite disadvantages in all PAYT systems, numerous communities nationwide have found it beneficial to adopt various forms of these systems to reduce solid waste output, promote greater equity, and increase recycling by residents (Miranda and Aldy 1996; Skumatz and Freeman 2006).

PAYT Links to Recycling

Successful PAYT programs operate in conjunction with comprehensive recycling programs. This allows residents to reduce much of their waste, and therefore their MSW bill, by increasing their recycling rates. The municipality benefits to the extent that recycling lowers landfill tipping fees and potentially increases revenue from the resale of recyclables.

Milwaukee operates a residential recycling program that collects recyclables monthly from the majority of households using 95-gallon carts, although a portion of the city uses 18-gallon bins and receives weekly collection. In 2008, the Milwaukee Comptroller conducted an audit of the city's recycling program at the request of the Common Council. The audit highlighted anecdotal evidence that many households completely fill their recycling carts in less than one month (Morics 2008). This implies that residents have little opportunity to increase their recycling rates under the monthly collection schedule and, as a result, residents may encounter difficulty reducing their MSW output. The audit recommended that Milwaukee conduct feasibility studies of moving to biweekly recycling collection throughout the city (Morics 2008). Biweekly collection allows households that fill their recycling carts before collection to increase their recycling rates. Increased residential recycling presumably results in less solid waste, which in turn results in smaller MSW bills for households under a PAYT program and lower tipping fees for the city.

To implement a successful PAYT program, the city must ensure that residents are able to recycle as much of their waste as possible. Monthly recycling collection provides inadequate opportunity for residents to increase recycling rates. Implementation of a PAYT system should be accompanied with an increase in residential recycling capacity, accomplished through increased collection frequency.

Rationale for PAYT

More than 7,000 American communities operate PAYT systems, covering 25 percent of the population and 30 percent of the nation's largest cities. This has led to the diversion of 6.5 million tons of MSW per year from landfills. Wisconsin ranks among the states with the most communities using PAYT systems, with more than 500 programs (Skumatz and Freeman 2006).

PAYT offers a market-based solution that encourages behavioral changes that serve the public welfare (Folz and Giles 2002). Economists often advocate unit-pricing approaches like PAYT because of their efficiency (Van Houtven and Morris 1999). Residents frequently overuse solid waste services in a flat fee system because local tax levies or flat fees for solid waste collection remain largely invisible to consumers (Van Houtven and Morris 1999). Essentially, flat fees and property-tax-based MSW systems break the link between the act of discarding waste and the payment for collection services. Households face the same cost regardless of how much MSW they generate, with little or no incentive to produce less waste. This can lead people to generate more MSW than they would if charged a variable rate.

In contrast, PAYT systems support efficiency and effectiveness goals by assigning proportional charges to various levels of service. A properly designed unit pricing system charges households based on the amount of waste management services they use (Van Houtven and Morris 1999). Many PAYT systems reduce overall MSW, allowing cities to extend collection routes, reduce the size and increase the automation of truck fleets, and reduce the number of collection crews or crew sizes. Less MSW may also reduce landfill tipping fees and the city's transportation costs and extend landfill life (Folz and Giles 2002). Additionally, PAYT systems promote equity because they reflect individual MSW service usage and enable residents to exercise some control over their solid waste collection costs (Skumatz and Freeman 2006; Folz and Giles 2002).

PAYT systems encourage recycling and composting. According to a Duke University study, communities experience a 20–35 percent increase in the weight of materials going through their recycling and composting programs after implementing PAYT (Miranda and Aldy 1996). Milwaukee's main recycling facility operates at only half capacity, ready to process additional recycling expected under a PAYT system (R. Meyers, personal communication February 26, 2009).

Overall, PAYT provides a link between behavior and bills. Research shows that the average tonnage of waste disposed is 16–17 percent less in PAYT communities than comparable non-PAYT communities, with approximately one-third of this reduction attributable to source reduction, one-third to increased recycling, and one-third to composting. PAYT proves to be one of the most cost-effective methods to promote waste reduction (Harrison 2000).

Methodology

This section describes the methods of our investigation of PAYT programs employed in United States cities comparable to Milwaukee. This section also describes the methods, data, assumptions, and limitations in developing our quantitative analysis of the policy alternatives.

Comparable City Selection

We investigated PAYT programs in American cities that are comparable to Milwaukee to better understand the potential costs, benefits, and other impacts of implementing PAYT in Milwaukee. Identification of eligible cities began with the U.S. Environmental Protection Agency's website, which provides extensive resources on PAYT communities and programs (U.S. EPA 2008a). Initial criteria for comparable cities included populations between approximately 250,000 and 750,000, although a few cities beyond this range were included to broaden the selection, including Eau Claire, the largest municipality in Wisconsin using PAYT.

We also considered racial and ethnic composition, income and poverty data, and the ratio of owner- versus renter-occupied housing when selecting the most comparable cities. Finally, we included climate, particularly annual snowfall, because municipal snow removal equipment and labor needs overlap with that of MSW collection in Milwaukee. The additional data came from the U.S. Census Bureau's American FactFinder webpage (http://factfinder.census.gov) and the National Oceanic and Atmospheric Administration Satellite and Information Service webpage (http://cdo.ncdc.noaa.gov). From this research, we established an initial sample of 14 comparative cities.

Comparable Cities Data Collection

We collected PAYT program information specific to each city in the sample from each city's official website. We eliminated Eau Claire from the comparison because the city uses a system of multiple private haulers, each offering slight variations of PAYT that would have little in common with a Milwaukee program.

Next, in March 2009, we telephoned individuals working for each of the remaining 13 municipalities. Initial contact targets included directors of public works or solid waste or recycling management departments. If our first contacts were unable to provide specific information regarding PAYT, we asked them to direct us to a source better able to do so. Upon reaching the appropriate contact, we confirmed the details of the city's PAYT program. At this point, we eliminated Albuquerque, New Mexico, because the city's program details did not represent full PAYT implementation, and Oakland, California, due to an inability to access data from the city's private contractor. San Francisco, California, gave no response after repeated contact attempts, resulting in a final pool of 10 comparative cities. Similarities to Milwaukee among the final sample of comparable cities are depicted in Table 1. Appendix A describes the criteria used to determine each city's comparability to Milwaukee in given categories.

Table 1: Responding City Comparison

City	Population	Racial Composition	Median Household Income	Families Below Poverty Level	Owner- Occupied Housing	Climate
		45% white/ 55% non-			3	
Milwaukaa Mil	602 702	white or	¢25 222	210/	400/	seasonal
Milwaukee, WI	602,782	mixed race	\$35,233	21%	49%	snow
	IVIC	ost Comparable	e to iviliwauk	ee	T	
Fort Worth, TX	Yes	No	Yes	Yes	Yes	No
Lansing, MI	No	No	Yes	Yes	Yes	Yes
Minneapolis, MN	No	No	Yes	Yes	Yes	Yes
Sacramento, CA	Yes	Yes	No	Yes	Yes	No
Moderately Comparable to Milwaukee						
Austin, TX	Yes	No	No	Yes	Yes	No
Grand Rapids, MI	No	No	Yes	Yes	No	Yes
Portland, OR	Yes	No	No	Yes	Yes	No
Least Comparable to Milwaukee						
Plano, TX	No	No	No	No	No	No
San Jose, CA	No	Yes	No	No	No	No
Seattle, WA	Yes	No	No	No	Yes	No

Sources: Barrett (2007), National Oceanic and Atmospheric Administration Satellite and Information Service (2009), U.S. Census Bureau (2005-2007)

We asked our final contact within each city to complete a survey administered electronically using SurveyMonkey (http://www.surveymonkey.com). The survey questions were designed to obtain a more detailed understanding of PAYT implementation, effectiveness, and other issues specific to each city. When possible, we created multiple choice questions based on our research of typical PAYT programs in order to make the survey more user-friendly. We also provided opportunities for the respondent to expand on answers in narrative form. Seven contacts responded immediately. The remaining three cities were resent the survey after seven to 10 days passed without response and each city subsequently responded. In total, we received 100 percent survey response from our 10 comparative city sample. See Appendix B for the complete survey and responses.

Milwaukee MSW Generation Distribution

The City of Milwaukee does not collect household level data regarding the amount of MSW residents generate. The finest level of data available for this analysis lists the average weight of solid waste collected per route during an eight-month period in 2007 (City of Milwaukee 2007). These data allow for analysis of routes and provide an overall average MSW weight per household. However, without more specific data, the distribution of average MSW weight per household remains unknown. In other words, we cannot know exact amounts of solid waste each household generates.

The lack of household-level MSW data presents particular problems with regard to the multiple cart PAYT program alternative. Knowing household MSW output allows us to estimate the number of households that will choose each cart size and appropriately set pricing for the different sizes. The lack of data also creates problems in determining an equity index for this project. The equity index serves as a measure of price paid per unit of MSW by households. To overcome these data limitations we made certain assumptions and produced multiple scenarios about the distribution of MSW in Milwaukee (see Appendix C for full details).

Setting Prices for Each Alternative

A program's full cost recovery depends on accurate establishment of prices for MSW collection. Prices represent the total amount of money paid for collection services, whether as a flat fee, volumetric charge, bag or tag price, or a combination of these charges. Costs that need to be recovered include personnel expenses, administrative costs, capital costs, collection expenses, and tipping fees.

Of these expenses, only the tipping fee varies significantly with the amount of MSW collected. To illustrate this, consider two households. One household disposes of 1 pound of waste per week, while the other disposes of 100 pounds each week. Milwaukee's collection costs for both households are the same, but disposing of the waste from the one pound household costs much less than from the 100 pound household. However, Milwaukee's tipping fee constitutes only a fraction of the overall cost of the program.

Given this, we determined that the PAYT alternatives should have a flat base fee with a variable fee added to it. The base prices described in this section partially cover the fixed collection costs to Milwaukee, while the variable fee reflects the amount of MSW disposed as well as some of the fixed costs.

Pricing for the Status Quo was left at the 2009 rate of \$150 per year.

Pricing for Alternative I, Multiple Cart Sizes, was complex. For this alternative, we devised scenarios using the standard deviations described in Appendix C to find the maximum number of households that might change from their current 95-gallon cart to a 32- or 64-gallon cart. We set annual cart prices at \$48 for a 32-gallon cart, \$96 for a 64-gallon cart, and \$144 for a 95-gallon cart; this represents a \$4 difference per month between each cart size. The pricing differential of \$4 per month is low relative to comparative cities but large enough to remain visible on residents' bills. We placed these annual cart prices into a formula established to set the base price assuming full cost recovery. The base price plus the cart price equals the total cost for MSW collection per household.

Establishing pricing for Alternative II, the Weight-Based Program, was relatively straightforward: We placed the base price of \$50 per year into a formula specifying both full cost recovery for the program and the amount of MSW generated each year. The formula produced the price per ton of MSW that the City would charge to customers based on those factors. This price could then be converted into a price per pound that customers understand is more easily.

Sample budget and pricing tables for the status quo and each alternative are presented in Appendix D.

Comparative Cities Analysis

Our survey results from comparable cities show that Milwaukee would be a relative pioneer in choosing to implement PAYT. Few similarly sized American cities with PAYT programs exist. Moreover, we find no PAYT systems in Midwest cities with population, climate, and demographics similar to Milwaukee. Given this, we identified cities using PAYT programs with roughly the same profile as Milwaukee. Although Milwaukee remains distinct within the profile of PAYT communities, experiences with the impacts of other PAYT systems nationwide provide valuable information, as many cities resemble Milwaukee in one or more of the comparable criteria categories (see Table 1 and Appendix A).

Survey Responses

The complete survey and survey responses are provided in Appendix B.

Program Descriptions

The PAYT systems surveyed function under varying conditions. All comparable programs service residential homes. In addition, 90 percent of these municipalities collect MSW from two- to four-unit multifamily residences; 30 percent include PAYT in multifamily homes beyond five units. Approximately 44 percent of the cities have unionized municipal employees. Another 22 percent employ non-unionized municipal collectors, and one-third utilize contract labor.

Eight of the 10 survey cities operate with multiple cart systems. The remaining two cities use bag and tag systems only. Of the eight multiple cart communities, three cities use a three-cart system. Two additional cities began with three-cart systems, then later added 10–20 gallon "micro-can" sizes. Cities most comparable to Milwaukee, where at least four of the six criteria match "yes" in Table 1, include Fort Worth, Sacramento, and Minneapolis. Each uses multiple cart systems.

Many cities using multiple cart systems identified customer choice and a variety of household family sizes as reasons for their cart size offerings. Eighty percent of responding communities identified increasing recycling as a goal tied to their programs. Seventy percent also wanted to increase their municipality's diversion rates, decrease trash output, and promote equity by charging unit rates with variable pricing systems.

Most comparable cities allow MSW in excess of the cart limit for an additional fee. Three cities require prepaid bags or tags for additional waste. These items are available for purchase at grocery stores or retail outlets. Three other cities collect MSW beyond the cart limit and bill the household for additional service. One city allows bulky waste set outs beyond the cart limit one time per month.

Program Implementations

Two-thirds of the PAYT communities surveyed conducted pilot programs in their implementation process. Examples include a one-year pilot of 3,000 households in Austin and pilots with 17 neighborhoods in San Jose. Full-scale implementation varied by municipality. While Austin used a three year phase-in process for PAYT, five other communities moved directly from pilot programs to full implementation, and three cities moved directly from flat rate systems to full implementation without a phase-in period.

Almost 90 percent of the comparable cities promoted their PAYT programs to residents through education and outreach efforts. Cities used a broad range of techniques, from information included with the utility bill to public service announcements on radio and television, press releases, advertising, and news articles.

Seven cities identified a need for program change in conjunction with or subsequent to implementation. These include the introduction of smaller can sizes and changes such as switching recycling to carts from bins that are unrelated to the institution of PAYT. Six cities required administrative or billing changes for their MSW program. Necessary investments included software purchases; system adjustments for each new can size; expanded customer data, including tracking carts by serial number; and, in some cases, entire billing system overhauls. Specific cost estimates for enacting such changes were not specified by survey respondents and follow-up calls to comparable cities yielded no specific investment amounts.

Program Results

Seven of the 10 cities surveyed report decreases in MSW tonnage under their PAYT systems. Reductions varied in terms of landfilled tonnage and actual MSW collected. For example, Fort Worth reports a 12.5 percent tonnage decline and 25 percent less in MSW collections. San Jose reports average weekly household MSW rates at approximately 96 gallons prior to PAYT and averages near 32 gallons per household after program implementation. Austin reports an initial decrease in tonnage that leveled off in subsequent years. Three respondent cities indicate tonnage rates similar or higher under a PAYT system to that under flat rates. Respondents report total landfill diversion rates from 22 percent in Fort Worth to 52 percent in Sacramento and 60 percent in San Jose.

These findings reinforce research that shows households alter disposal behaviors, purchasing habits, and recycling rates to reduce output with a PAYT system (Skumatz and Freeman 2006). The research and our comparable cities survey show no noticeable illegal dumping or additional littering as a method for residents to reduce the MSW in their carts (Van Houtven and Morris 1999; Skumatz 2008). Instead, the survey shows 80 percent of cities report recycling increases that complement MSW reduction. Fort Worth indicates an average weekly household increase in recycling from 3.92 pounds in 2002 before PAYT,

to 11.59 pounds the year after PAYT implementation, and 13.54 pounds in 2008. Other cities reflect similar results, with recycling tonnage rising from 12,000 tons per year to 40,000 tons per year in Sacramento and a 23 percent increase in Portland. The two municipalities without increases have recycling rates similar to those seen before PAYT.

Some limitations of PAYT systems are apparent in the survey results. Only two-thirds of responding municipalities achieve full cost recovery under their programs. Another 11 percent report higher revenues under PAYT, but fall short of cost recovery, and two cities, or 22 percent, indicate the same revenues now as they experienced prior to PAYT. However, these shortfalls represent a program design limitation and are not PAYT specific. Fort Worth initially experienced some difficulty with full implementation due to the large number of households served. Portland also notes the revenue difficulty for municipalities due to low recycling resale rates in current recessionary economic conditions. Austin finds inefficiency with the additional prepaid bags outside carts, due to incompatibility with a semi-automated collection system. Despite pricing structures to encourage the use of a larger bin size as opposed to extra bags, some residents continue to use additional bags.

Comparative Cities Summary

Overall, the majority of comparable cities with PAYT programs use multiple cart systems. These programs work with union and non-union labor hired by the municipality or a contractor. Sixty percent of municipalities reported a need to retrain collection employees on the new system, which generally included minor actions, not significant investments. Nearly all survey cities took steps to prepare, such as resident education efforts, pilot programs, or both, before introducing PAYT to their communities. Many cities also adjusted their billing systems to accommodate variable pricing, but respondents did not specify adjustments or associated costs.

Once implemented, the comparable cities generally experienced MSW tonnage declines paired with recycling increases. Two multiple cart cities added more cart sizes in later years in the form of 10-20 gallon "micro-cans" in response to MSW reduction trends. Other cities reported only modest gains in terms of revenue and MSW reductions under PAYT, and a few results could be considered neutral. Other limitations under PAYT include insufficient pricing gaps to create incentive for cart size changes and inconveniences from manual pickup of additional bags or tagged items.

Policy Options and Analysis

This section describes the three policy alternatives evaluated in this report: the status quo solid waste collection program, PAYT using multiple solid waste cart sizes, and PAYT using weight-based solid waste collection. The alternatives are analyzed in the context of the evaluative criteria of efficiency, effectiveness, equity, and ease of administration.

Selecting Viable Alternatives

The administrative and equipment capabilities of Milwaukee and information gathered from comparable cities narrow the list of appropriate PAYT policies for analysis. Among specific PAYT options, both weight-based and volume-based systems serve as feasible options.

Within volume-based options, bag and tag PAYT programs are widespread throughout Wisconsin and the United States (U.S. EPA 1999a). These programs offer relatively simple administration and eliminate the need for a billing system (Folz and Giles 2002). However, bag and tag programs require manual collection of MSW to ensure residents' proper use, along with a distribution system through local retailers or the municipality for selling the appropriate supplies. Manual collection aligns best with smaller communities. The largest bag or tag system in Wisconsin operates in Manitowoc, with a population of approximately 34,000; Milwaukee is approximately 18 times larger in population and faces significantly different logistical challenges relative to small communities (U.S. EPA 1999b). Many communities including Milwaukee have moved to automated or semiautomated collection systems to speed MSW collection and reduce potential workers' compensation claims stemming from lifting and moving trash bags into trucks. Bag and tag systems lack compatibility with automated or semi-automated collection vehicles, like those used in Milwaukee. Milwaukee's size and semiautomated collection system eliminate bag and tag programs from further consideration in our analysis.

The remainder of this section compares the City of Milwaukee's current MSW and recycling collection program with two alternatives: a weight-based program and a multiple cart system.

Policy Criteria for Evaluation

The following policy goals guide our evaluation of the alternatives. Appendix E provides a detailed description of the development of the criteria.

■ Efficiency: An efficient PAYT system diverts the greatest amount of MSW, while charging the lowest possible fee for customers and using the fewest taxpayer dollars in the long run. To evaluate this, we consider capital investments relative to potential savings and new benefits of the PAYT alternatives. Full program cost recovery also serves as an efficiency metric for Milwaukee. We define cost recovery as the percentage of

program expenses paid by program income.

- Effectiveness: Guidelines for effectiveness include resident compliance with the collection program. Physical impacts, such as changes in MSW diversion and recycling rates, also measure effectiveness. A more effective program creates higher MSW diversion and recycling rates.
- Equity: Equity measures the ability of a program to charge residents based on the amount of service they consume, or, in other words, the amount of solid waste they generate. We defined an equity index to consistently measure the relative fairness of each policy alternative. This index shows the ratio of the prices paid between those that generate the most MSW and those that generate the least. An index of 1.0 indicates the most equitable system possible, where all residents pay the same price for each unit of MSW they generate. By comparison, an index of 2.0 indicates that households generating the least MSW pay twice as much per unit of MSW as those generating the most waste.
- **Ease of implementation:** This criterion examines the administrative requirements of the status quo and alternatives to compare the structural changes and information dissemination necessary for implementation.

We also consider political feasibility in our analysis. Because the City of Milwaukee has expressed interest in a PAYT program, we believe a full analysis of benefits and limitations under various alternatives will yield an acceptable result for the client. Therefore, feasibility discussion within each alternative occurs within the cost and administrative aspects listed in our policy goals, rather than as a stand-alone criterion for evaluation.

Status Quo: Current Milwaukee MSW and Recycling Collection Program Milwaukee's solid waste program provides weekly collection of refuse from all single-family and multi-family homes with up to four units, totaling approximately 190,000 households. Recycling collection using 95-gallon carts occurs approximately once per month for most households, although 15 percent of households have weekly recycling collection using 18-gallon bins. Households pay a \$150 annual flat fee for MSW and recycling collection, which covers approximately 91 percent of the \$35.7 million combined program budgets for 2009. Milwaukee covers remaining costs through revenue from the resale of recyclables, state recycling grants, and the local property tax levy.

Households place their solid waste in 95-gallon carts, which two-person crews empty weekly using semi-automated collection trucks. The semi-automated system requires operators to connect the cart to the truck, which then automatically empties the cart. Households may request a second cart at no additional charge if they consistently produce more than 95 gallons of MSW per week. Residents may also place up to 4 cubic yards of additional solid waste out

with the cart for collection at no charge. More than 4 cubic yards of waste or large items require special pickup at a \$50 fee. Table 2 depicts the various services and charges under the status quo.

Table 2: Description of Status Quo: Current Milwaukee MSW Collection System

Type of System	Single cart size		
Size of MSW Carts	95-gallons		
Charge for Single-Cart Service	\$150/year (\$12.50/month)		
Charge for Additional Carts	\$0		
Charge for Additional MSW (Not in Cart)	t) \$0 (up to 4 cubic yards/week)		
Charge for Special Pickup (Large Items)	\$50/pickup		
Charge for Recycling Collection	\$0 (included in MSW collection fees)		

Source: R. Meyers, personal communication January 30, 2009

Most Milwaukee households also use 95-gallon carts for recycling collection. These carts have a divided interior for separation of paper recyclables from glass, metal, and plastic recyclables. No set schedule exists, but Milwaukee collects recycling approximately once per month. Approximately 28,000 households use 18-gallon bins for their recycling collection. Bin use occurs in central city areas that have a majority of rental properties and alley pick-up service rather than curbside collection. Milwaukee collects bin recyclables weekly on set days.

Recycling markets continue to experience sharp variability with the recent economic downturn. Milwaukee contracts with Waste Management Recycle America to process and market recyclables at an annually adjusted fee of more than \$40 per ton. The proceeds from the resale of recyclables are split evenly between the city and Waste Management Recycle America. In 2008, the City received resale revenue of \$58 per ton, resulting in a net income of \$18 per ton after paying the processing fee. The 2009 budget figures in Table 3 rely on projected recycling resale revenues of \$40 per ton. Due to recycling resale declines, the City expects zero net revenue after paying for processing. Should recycling resale values drop below \$40 per ton, the total cost and cost per household figures may rise for collection services. However, overall cost savings can still be achieved relative to landfilling as the landfill tipping fee is avoided.

Table 3: Status Quo: Ongoing Income, Costs, and Cost Recovery

Total Income/Revenue	+\$33,165,000
Total Expenses/Costs	-\$36,325,385
Net Income/Loss	-\$3,160,385
Percentage Cost Recovery	91.30%

Source: E. Shambarger, personal communication February 16, 2009; authors' calculations Note: Assumes standard deviation of 12.00 pounds, municipal tipping fee of \$30/ton, and 0% MSW reduction; see Appendix C for more details

Efficiency: Milwaukee's current system presents several opportunities to improve efficiency. The status quo provides little incentive, beyond offering recycling services without additional charge, for residents to divert more MSW. Households

pay the same flat rate regardless of their waste output. As Table 3 shows, the status quo does not achieve full cost recovery. In 2009, Milwaukee expects \$28.6 million in revenue from MSW user and special collection fees. State recycling grants and the resale of recyclables will generate an additional \$4.5 million. These revenue streams cover approximately 91 percent of the total cost for the MSW and recycling programs, leaving a \$3.1 million shortfall that must be covered by the local property tax levy.

The status quo provides efficiency benefits with respect to financial feasibility. The current MSW and recycling system requires little capital investment, limited to regular annual maintenance and adjustments for existing budgetary considerations.

The loss of value for recyclables due to economic recession and rising landfill fees are unfavorable economic trends that will make full cost recovery less attainable without increases in the flat fee. Continuing the current system rather than adopting PAYT maintains Milwaukee's reliance on property taxes to balance the MSW budget. Without change, the combination of these two trends may increase pressure on the budget.

Effectiveness: The status quo results in effective resident compliance. Milwaukee experiences no noticeable issues arising from illegal dumping (R. Meyers, personal communication February 26, 2009). However, this alternative shows less effectiveness due to a lack of incentive for households to divert MSW.

Equity: Flat fee MSW systems lack equity. Under the status quo, all Milwaukee households pay the same rate despite the amount of waste. As a result, residents who create little waste pay a higher rate per pound than residents who generate significantly more solid waste. Using the equity index described in Appendix E, City of Milwaukee households with the lowest disposal rates pay a range of 1.5 to 5.3 times as much per pound as households disposing the highest levels of MSW under the status quo. Appendix D provides detailed equity index calculations under different scenarios in the status quo.

Ease of implementation: Milwaukee's current system requires no implementation changes. Table 4 reflects the potential costs to implementing a different MSW program, but because the status quo is already in operation, there are no upfront costs to this program.

Table 4: Status Quo: Program Startup Costs

New Cart Purchases	\$0
Updated Billing System	\$0
Truck Modification	\$0
Education/Outreach	\$0
Total Startup Costs	\$0

Source: Authors' calculations

Alternative I: Multiple Cart Sizes

Introduction of additional cart sizes for MSW, with higher prices for larger carts, shifts toward a full cost recovery PAYT system by aligning user fees with the amount of MSW collected. Many possible permutations of numbers of carts, gallon capacity combinations, and fee differentials exist when designing an optimal multiple cart PAYT system. Our peer cities survey shows that eight of our 10 responding cities use a multiple cart PAYT system. Of these, three operate a three-cart model, including Fort Worth and Sacramento, two of the most comparable cities to Milwaukee demographically (See Table 1 and Appendix A). In a three-cart model, Milwaukee would maintain the current 95-gallon carts as the largest MSW size option and as the standard size for recycling at all non-bin residences. Two new cart options include 32- and 64-gallon sizes.

By analyzing average tonnage rates for 2007 summer routes, we estimate a range of multiple cart pricing options. To achieve full cost recovery, we consider several scenarios to reflect data variance and two landfill fee scenarios for Milwaukee. Depending on the variables used, each household choosing a 32-gallon cart pays in the range of \$116 to \$136 annually under the multiple cart system. A household with a 64-gallon cart pays \$164 to \$184 per year. A household with a 95-gallon cart pays \$212 to \$232. These rates consist of a base rate plus a variable rate dependent upon the cart size each household chooses (see Setting Prices on page 9 for base rate details and Appendix C for additional details). These charges are shown in Table 5.

Table 5: Description of Alternative I: Multiple Cart Size MSW Collection

Type of System	Multiple Cart			
Size of MSW carts	32, 64, and 95-gallons			
Base charge	\$68–\$88/year			
	32-gallon: \$48/year			
	64-gallon: \$96/year			
Cart charge	95-gallon: \$144/year			
Charge for additional carts	Same as cart charge for first cart			
Charge for additional MSW (not in cart)	t) \$3/30-gallon bag			
Charge for special pickup (large items)	\$50/pickup			
Charge for recycling collection	\$0 (included in MSW collection fees)			

Source: Authors' calculations

Beyond the regular cart fees, a multiple cart system commonly involves extra charges for excess waste beyond the cart size. Based on peer city responses and research, we find pricing for additional bags of MSW and special pickups to be critical. Per bag and special pickup pricing may influence the cart size a household selects, and reinforce diversion and recycling MSW behaviors. In this multiple cart model, residents pay a \$3 charge for each 30-gallon garbage bag left outside the cart. Only distinct bags, sold through local retailers, will be collected. We assume that \$1 of each bag's cost will be used to cover administrative costs as well as reimburse retailers for distributing the bags. In addition, excess waste outside the cart, up to 4 cubic yards, costs \$50 per pickup, the same as a special

pick-up request. A second cart costs each household the same amount (base fee not included) as the first cart of the same volume. As an example, a second 64-gallon cart costs \$96 per year in addition to the \$166–\$186 per year for the first 64-gallon cart. Table 6 outlines these charges.

Table 6: Alternative I: Ongoing Income, Costs, and Cost Recovery Projections

Total Income/Revenue	+\$36,386,737
Total Expenses/Costs	-\$36,386,737
Net Income/Loss	\$0
Percentage Cost Recovery	100.00%

Source: Authors' calculations

Note: Assumes standard deviation of 12.00 gallons, municipal landfill/tipping fee of \$30/ton, and 0% MSW reduction; see Appendix C for more details

Efficiency: The multiple carts alternative allows Milwaukee to introduce pricing incentives that influence household disposal behaviors. Using three set monthly rates achieves greater efficiency than the status quo. This alternative requires significant investment in new carts, however, which detracts from efficiency. Current average household MSW rates indicate that instituting a multiple cart system would result in the vast majority of households switching to 32-gallon or 64-gallon carts. This reduces efficiency of the multiple cart system, because significant cart investments will be necessary to meet actual household disposal rates. Most households generate far less than 95 gallons of MSW on a weekly basis (authors' calculations, see Appendix D).

Non-binding price estimates from cart manufacturers Schaefer Systems and Rehrig Pacific Company create the basis for cart investment estimates. Schaefer Systems provides the lower price estimate at \$35 per 32-gallon cart and \$45 per 64-gallon cart. Based on the assumption that households would select the least expensive cart option to meet their MSW needs, we estimate a need to purchase 24,759 to 67,228 of the 32-gallon carts and 107,507 to 165,239 of the 64-gallon carts (see Appendix C). Zero to 15,265 households would keep the current 95-gallon bin. This totals an estimated \$5.7 million to \$9.8 million in capital investment costs for carts alone, using the lowest estimated rates for carts. These costs are reflected in Table 7.

Table 7: Alternative I: Program Startup Costs

New Cart Purchases	\$5,700,000-\$9,800,000			
Updated Billing System	\$0			
Truck Modification	\$0			
Education/Outreach	\$200,000			
Total Startup Costs	~\$5,900,000–\$10,000,000			

Source: Authors' calculations

Potential exists for modest cost recovery on carts. Milwaukee can eliminate recycling bin costs for several years by reserving the unused 95-gallon carts for this purpose. Milwaukee may also possibly sell any excess cart overstock

back to the product distributor for \$15–\$20 each (Schaefer Systems, personal communication April 3, 2009). Milwaukee could also consider a phase-in period to reduce the financial impact of cart investments in any single budget cycle or consider requiring residents to purchase smaller carts with the recognition that households would recover the cost during the first year of the program.

Effectiveness: A multiple cart system influences household disposal and MSW diversion rates more than the status quo. Multiple carts should garner effectiveness in terms of residential compliance and acceptance because the cart rate remains consistent from one collection period to the next.

Pricing drives diversion rates in this system. Austin uses a \$5 per month gap between cart sizes, which is too small to motivate residents to switch to smaller carts (see Appendix B). Pricing carts and additional MSW services requires balance between incentives and revenues to find the threshold in each community for cart rates.

Equity: Multiple cart options enhance the equity of MSW services. Variable pricing based on household waste output reflects Milwaukee's goal of equitably establishing an MSW user fee system to a greater degree than the status quo, using common guidelines found in other U.S. cities. This alternative enhances both the process and perception of equity in municipalities. The equity index for multiple carts ranges from 1.22 to 4.40. This ranks more equitably than the status quo under all household disposal scenarios.

Ease of implementation: Switching to a multiple cart system would require few changes in the physical collection process of MSW. This system would require notable changes elsewhere, however. For the multiple cart system to work effectively, Milwaukee would need to implement a bag or tag system for excess waste. This includes establishing a network of local grocers and retailers to sell the bags or tags. Billing administration requires investment for modifications as well, although changes would be minor and would primarily require data input time as opposed to actual software changes (E. Shambarger, personal communication April 13, 2009; D. Rasmussen, personal communication April 24, 2009). Billing needs to reflect extra cart charges and collection fees for up to 4 cubic yards of MSW. We anticipate a need for Milwaukee to hire one additional employee or to train a current employee to manage multiple cart billing. This cost is included in all budget scenarios depicted in Appendix D.

Alternative II: Weight-Based Program

Weight-based programs use technology to measure weekly household MSW disposal. Under this alternative, Milwaukee would contract with a company to install weight measuring scales in the lift mechanism of the current semi-automated MSW and recycling collection fleet. During collection, the truck calculates the MSW cart weight through the load cells outfitted in the lifting mechanism. Radio frequency identification transponder chips or bar code tags are attached to each customer's cart. As the lifting mechanism empties the cart, a receiver detects the cart's identification code and sends the registered weight information wirelessly to a computer in the truck. The computer decodes the identification number into a street address and records the average weight of several readings taken during the collection process (McLellan 1994). The data would be transmitted to Milwaukee's MSW billing system. Overall, this process adds less than 10 seconds to the collection (Luken and Smith 1994).

Unlike the multiple cart system, few examples of weight-based PAYT systems exist. In place of comparable cities data, we rely primarily on research and discussions with equipment vendors to evaluate this alternative. We find that Seattle and Minneapolis are among the most comparable communities with published results of weight-based pilot projects.

Seattle conducted the first weight-based pilot program in two phases during 1989 and 1990, with financing from a U.S. Environmental Protection Agency grant. The second phase of Seattle's pilot used semi-automated trucks, like those found in Milwaukee, and electronic identification tags comparable to technology available today. Weights recorded during collection were included in mock billing given to residents as a supplement to their regular, non-pilot MSW fees. Post-project analysis suggests that households accepted the system change and reduced their MSW rates by an average of 15 percent. This is significant because Seattle already operated under an established multiple cart PAYT system. The published case study identifies weight-based PAYT in Seattle's long-term MSW plans. However, more than a decade later, Seattle still uses multiple carts (Skumatz 1995; L. Skumatz, personal communication April 13, 2009).

Minneapolis conducted a pilot test for weight-based systems in the spring and summer of 1993. They installed weight-reading load cells in the lift mechanisms of their semi-automatic MSW collection trucks and recorded household information with electronic identification software. Minneapolis reported good accuracy and scale reliability in a post-pilot report, but ultimately decided against weight-based PAYT due to the short-term nature of their pilot and concerns about an unfamiliar system creating dissatisfaction for customers (Skumatz 1995).

Loadman On-Board Scales, a company based in Texas, specializes in weight-based equipment for MSW collection and recycling trucks. Their representatives contributed cost and accuracy information used in our considerations. Although the technology continues to develop, details for the weight-based alternative

require some speculation beyond our research and interviews. The basic features of the weight-based PAYT alternative are described in Table 8.

Table 8: Description of Alternative II: Weight-Based MSW Collection

Type of System	Weight-based		
Size of MSW Carts	95 gallons		
Base Charge	\$50/year		
Charge per Pound of MSW	7.7–11.1 cents		
Charge for Additional Carts	Charged at same rate per pound		
Charge for Additional MSW (Not in Cart)	Charged at same rate per pound		
Charge for Special Pickup (Large Items)	\$50/pickup		
Charge for Recycling Collection	\$0 (included in MSW collection fees)		

Source: Authors' calculations

In contrast with the current flat fee system, this alternative would include full cost recovery as a requirement when MSW collection charges are established. This results in income and revenue exactly equaling expenses and costs as shown in Table 9.

Table 9: Alternative II: Ongoing Income, Costs, and Cost Recovery

Total Income/Revenue	+\$36,448,089
Total Expenses/Costs	-\$36,448,089
Net Income/Loss	\$0
Percentage Cost Recovery	100.00%

Source: Authors' calculations

Note: Assumes standard deviation of 12.00 pounds, municipal tipping fee of \$30/ton, and 0% MSW reduction; see Appendix C for more details

Efficiency: Weight-based PAYT offers the highest incentive for efficiency by tying charges to the amount of household MSW. Charging by the pound provides clear incentives for residents to divert the greatest amount of MSW. We project full cost recovery as a result (see Table 9). Moreover, Milwaukee pays fees to the landfill by the ton. A weight-based system creates consistency between the unit of measure the City charges to residents and pays to the landfill.

Converting to a weight-based program would require capital investments in the loading equipment and software. This would include \$14,500 to retrofit each of Milwaukee's 173 rear-loading MSW and recycling fleet. An additional \$570,000–\$950,000 investment would cover electronic tag installation on Milwaukee's carts (D. Hoven, personal communication April 23, 2009). This totals \$3 million to \$3.5 million for fleet retrofitting, cart tags, and software investments. If Milwaukee refrained from retrofitting its 49 recycling trucks, capital investments would drop to \$2.2 million to \$2.6 million. However, retrofitting the recycling trucks might prove beneficial in the event that Milwaukee needed to deploy MSW trucks for other purposes.

This truck system also requires approximately \$36,000 in expenditures to make Milwaukee's billing system compatible with the weight-based equipment (D. Hoven, personal communication April 23, 2009; K. Klawitter, personal communication, April 24, 2009). In addition, two additional municipal staff positions may be required. These include one billing administrator for the weight-based system and a municipal technician for equipment service and maintenance. The price scenarios in Appendix C include two new employees, paid \$40,000 each annually and the associated fringe costs. Alternatively, Milwaukee may invest in training current employees to manage these functions. For the weight-based system, capital and additional staff investments total significantly less than the multiple cart alternative, although future maintenance costs remain unclear.

Effectiveness: Weight-based systems create little visible change in the physical process of collection services from residents' perspective. The primary concern arises in the need for Milwaukee to explain cost changes, the purpose behind them, and the new billing method to which residents must adapt. Otherwise, problems may surface with resident compliance. Residents may find a different monthly MSW bill unacceptable, compared to a consistent rate under the status quo or multiple cart system. With the proper outreach and education, opportunities under weight-based systems are extensive for diversion and recycling behavioral change. Milwaukee can charge a set rate per pound to achieve greater program cost recovery than under the status quo.

One concern with this alternative is that residents may subvert the weight system by, for example, disposing of MSW in a neighbor's cart. Research frequently examines this concern and consistently finds no evidence of this occurring (Folz and Giles 2002; Morris and Van Houtven 1999; Harrison 2000). Other concerns include "migrating" carts that do not remain with their assigned households. This may be best solved by stenciling the assigned address on each cart, although this complicates reuse of carts at other addresses. Electronic tagging can also tie each cart to a specific household, allowing Milwaukee to pinpoint carts that have been separated from their households. While using electronic tags without stenciling does not allow residents to know if they have their own carts, residents could label their own carts at their own expense.

Equity: In terms of paying for service use, weight-based PAYT programs promote the greatest equity of any alternative, outscoring the status quo and multiple cart system in all but one scenario. The equity index for Milwaukee in the weight-based model ranges from 1.09 to 1.80. In theory, weight-based systems could achieve an ideal 1.0 equity rating, where all households pay the same rate per pound of MSW. However, our pricing operates with a \$50 annual base fee, which makes a 1.0 equity rating unattainable.

Ease of implementation: A weight-based MSW collection system would function nearly identically to the current system in use in Milwaukee. In fact, residents would likely only notice changes in their bills. Under this alternative,

semi-automated trucks would collect MSW from 95-gallon carts. Loadman On-Board Scales sends technicians to install the weighing equipment between the city MSW truck bodies and the lifting mechanism. The trucks weigh the waste as it is emptied into the truck, and the weight is logged in the billing system. Because all MSW can be weighed, no additional fee would be charged for extra carts or for additional MSW outside the cart. Extra MSW would be placed into the household cart, weighed during a second emptying cycle, and included in the total weight billed for that week. Households that regularly generate excess MSW beyond 95-gallons would receive another RFID-tagged cart to save the manual labor of loading extra bags for a second weigh cycle. Single, odd-shaped items that do not fit in the cart, but are not considered laborious special pick-up items, may be collected free of charge once per month. These items constitute only a negligible percentage of MSW collection. Table 8 depicts the various services and charges under the weight-based alternative.

Equipment effectiveness relative to performance certification requirements is a concern with weight-based PAYT. A suburban Minnesota pilot encountered difficulties meeting state-mandated weight accuracy standards with its truck scales. When charging residents per pound of refuse, the scale needs to reflect the same accuracy as the fee structure. Streets on hills or sharply crowned roads may compromise some scale types when tilting more than 3 degrees (Luken and Smith 1994). Loadman On-Board Scales guarantees scale accuracy within a 1.5 percent margin of error. For a home disposing of 30 pounds of MSW per week, this means the scales and recording equipment will register a weight between 29.55 pounds and 30.45 pounds (K. Klawitter, personal communication April 3, 2009). The manufacturer claims that the scales maintain accuracy on uneven surfaces and guarantees the return of equipment failing to meet performance standards (K. Klawitter, personal communication April 3, 2009).

Loadman runs full testing with Bayne MSW collection vehicles, including the TaskMaster and TaskMaster Hi-Lift models used in Milwaukee. With this partnership and equipment familiarity, Milwaukee may avoid some of the implementation challenges other pilot programs faced in the 1990s. Currently, the equipment meets Wisconsin Department of Agriculture, Trade, and Consumer Protection guidelines for commercial maintenance accuracy. The agency's initial equipment test uses more restrictive weight tolerances though, which may require the passage of legislation to allow the equipment's use in Milwaukee. Overriding the initial tolerance does not detract from the regular truck scale performance requirements. The legislative action does, however, create an additional political acceptability consideration for the weight-based alternative.

Weight-based systems also involve greater administrative complexity than the status quo or multiple carts. Weekly variability in billing rates per household requires more attention than a flat rate or established cart rate during the three-month billing accrual period. Milwaukee may choose to adapt the current billing system, similar to the way water meter reading occurs, to accommodate weight-

based billing (D. Rasmussen, personal communication April 24, 2009). This can be accomplished through the Loadman company's software writing capabilities for a onetime fee (K. Klawitter, personal communication April 24, 2009). Rehrig Pacific Company could also replace the current billing software with a web-based system for a \$36,000 annual fee (D. Hoven, personal communication April 23, 2009). Table 10 reflects this and other costs for the weight-based alternative.

Due to the relatively unprecedented use of weight-based PAYT systems, education and outreach efforts to explain the purpose and goals of this system could make implementation easier and enhance the program's effectiveness. Adoption of a weight-based system also would require corresponding changes to Milwaukee's recycling systems, such as increased collection frequency or larger bins, to handle expected increases in recycling volume (Skumatz and Freeman 2006).

Initial startup expenses are lower for this alternative than for the multiple cart alternative. An estimate of program startup costs is provided in Table 10.

Table 10: Alternative II: Program Startup Costs

New Cart Purchases	\$0
RFID Tags for Existing Carts	~\$570,000 - \$950,000
Updated Billing System	~\$36,000
Truck Modification	~\$2,500,000
Education/Outreach	\$200,000
Total Startup Costs	~\$3,306,000 - \$3,686,000

Source: Authors' calculations

Recommendation and Conclusion

Based on analysis of research, comparable cities, City of Milwaukee data, and various alternatives, we recommend the weight-based PAYT system. The weight-based system creates the greatest efficiency and effectiveness with the least equity disparity among our alternatives. While less empirical information exists about the use of weight-based systems relative to other PAYT programs, Milwaukee benefits financially from substantially lower capital investment in weight-based equipment. The weight-based system presents implementation concerns to the extent that it requires more investment in maintenance, in the form of a municipal employee and potential equipment repairs. However, our calculations project that intermittent maintenance, staffing, and billing under a weight-based system require substantially less investment, even over a 10-year time horizon, than the additional millions of dollars in upfront costs necessary to implement a multiple cart system.

To ease the implementation process, we recommend that Milwaukee conduct a one-year pilot program that encompasses approximately 10 percent of the city's collection routes. Pilot programs for various aspects of MSW collection have been used in Milwaukee in the past (R. Meyers, personal communication February 26, 2009). A comprehensive pilot program could verify efficiency and effectiveness of the equipment and billing systems prior to full-scale implementation. Additionally, a one-year pilot would ensure that the equipment functions properly under all weather conditions. The lack of weight-based models and historical PAYT funding opportunities through the U.S. EPA may create possibilities for federal funding to support such a program (See Appendix B, Question 11). In addition, scale manufacturers have an economic incentive to provide equipment on favorable terms or at reduced prices to the extent that successful demonstration may open up new markets for them. Throughout the pilot process, detailed data tracking for waste collected per household will help to inform effectiveness of weight-based PAYT and contribute to Milwaukee's knowledge of MSW and recycling trends in the current flat rate system.

The new and generally unfamiliar weight-based program requires extensive education and outreach to residents to explain the transition to PAYT. These efforts could include information dissemination through billing statements, media outlets, advertisements on buses, and online resources. During the pilot period, Milwaukee might wish to institute a "dual billing" system to show residents their current flat fee monthly rates in comparison to the rates they would pay under a weight-based system. Milwaukee might consider sharing data with residents to show how their amount of garbage compares with other households on their route. Evidence from utility companies shows that social factors, such as neighbor comparisons, can add effectiveness to rolling out new programs. Some systems use graphics included with municipal service bills to demonstrate collection rates compared to the average and to those who throw away the lowest weight of solid waste (Ceniceros 2008; Kaufman 2009).

In conjunction with broad and effective communication enhancing political support for PAYT, some administrative changes can boost public acceptance. Communities attribute actions such as visibly removing the trash fee from the tax levy before imposing PAYT as being key to their success. Other communities attribute their success to receiving input from haulers when designing the PAYT program or using a pilot program or a phase-in approach for the PAYT program (Skumatz 2008).

Implementation of a weight-based Pay-as-You-Throw system will allow Milwaukee to enhance the efficiency and cost effectiveness of its municipal solid waste collection. While the lack of a weight-based operation in the United States creates some concerns, this alternative promotes the greatest equity and requires the least upfront capital investment of the PAYT alternatives. This alternative also meets Milwaukee's needs while making the greatest use of existing equipment and carts. Experts identify weight-based PAYT as the ideal system to reduce MSW generation, increase recycling, and create a sense of personal responsibility for households with respect to their waste. Implementing weight-based PAYT provides a genuine opportunity for Milwaukee to lead comparable cities and the rest of the United States in municipal solid waste service design and delivery.

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Appendix A: Comparative City Selection Criteria

We administered a survey to a sample of 10 U.S. cities with PAYT programs. Within the final sample of responding cities, we denoted in Table 1 whether these cities were sufficiently comparable to Milwaukee based on specific criteria, including population, racial composition, median household income, families below poverty level, type of housing occupancy, and climate. Table 11 depicts the data on which we based our comparisons.

Table 11: Comparative Cities Data

City	Population	Racial Composition	Median Household Income	Families Below Poverty Level	Owner- Occupied Housing	Climate
Milwaukee, WI	602,782	45% white/ 55% non- white or mixed race	\$35,233	21%	49%	Seasonal snowfall
Austin, TX	725,306	64/36	\$48,227	13%	47%	No
Fort Worth, TX	635,612	62/38	\$44,804	14%	59%	No
Grand Rapids, MI	193,671	67/33	\$38,792	17%	62%	Yes
Lansing, MI	115,366	67/33	\$35,990	20%	59%	Yes
Minneapolis, MN	362,513	68/32	\$44,478	16%	54%	Yes
Plano, TX	255,591	76/24	\$79,687	4%	67%	No
Portland, OR	541,550	79/21	\$45,512	11%	57%	No
Sacramento, CA	446,721	50/50	\$48,584	12%	52%	No
San Jose, CA	898,901	49/51	\$76,354	7%	62%	No
Seattle, WA	565,809	71/30	\$56,319	7%	51%	No

Sources: Barrett (2007), National Oceanic and Atmospheric Administration Satellite and Information Service (2009), U.S. Census Bureau (2005-2007)

Cities in Table 1 received a ranking of "Yes" in each respective category if the following standards were met relative to Milwaukee:

- Population: Within 200,000 residents
- Racial Composition: Within 10 percent of white and 10 percent of nonwhite or mixed race residents
- Median Household Income: Within \$10,000 per household
- Families Below Poverty Level: Within 10 percent of families
- Owner-Occupied Housing: Within 10 percent of owner-occupied housing units
- Climate: Experiences regular seasonal snowfall

Cities that did not match the preceding standard received a "No" in the corresponding category.

Appendix B: Comparative City PAYT Survey Results

To better understand the potential costs, benefits, and impacts of pay-as-you-throw programs, we surveyed 10 U.S. cities that use them: Austin, TX; Fort Worth, TX; Grand Rapids, MI; Lansing, MI; Minneapolis, MN; Plano, TX; Portland, OR; Sacramento, CA; San Jose, CA; and Seattle, WA. They are comparable to Milwaukee in size, population, demographics, and climate. We asked a contact within each city's government to complete a survey using SurveyMonkey (http://www.surveymonkey.com). We designed the questions to obtain more detailed understanding of PAYT implementation, effectiveness, and other issues specific to each city. When possible, we created multiple choice questions based on our research of typical PAYT programs. We also provided opportunities for respondents to expand on some answers in narrative form. This appendix provides the full comparative survey and results.

Each respondent answered every question. The results below indicate the frequency that respondents chose an answer as well as the actual number of times the answer was chosen. The results also include verbatim text that were typed by respondents into "Other" or "Comments" text boxes as well as answers to open-ended questions.

Question 1: What type of Pay-As-You-Throw system is being utilized by your municipality?

Answer Options	Frequency	Count
Prepaid bags	0.0%	0
Prepaid tags	0.0%	0
Multiple cart sizes	80.0%	8
Other (please specify)	20.0%	2

Other:

- Prepaid bags and multiple cart sizes
- All above options are being used.

Question 2: What cart sizes are used in your system? Check all that apply.

Answer Options	Frequency	Count
10 gallon	12.5%	1
15 gallon	12.5%	1
30/32/35 gallon	87.5%	7
45 gallon	0.0%	0
60/65 gallon	87.5%	7
90/95 gallon	100.0%	8
Other (please specify):	37.5%	3

Other:

- 32, 64 & 96 gallon carts
- 20 gallon
- 20 gallon mini-cans. This size is not supplied by franchised haulers and must be purchased by the residential customer

Question 3: Why were these particular cart sizes chosen?

Answer Options	Count
Open ended question	7

Answers:

- Pilot study indicated need for 95 gallon for once/week collection. 60-68 gallon chosen as incentive for reducing waste. 32 gallons tested but we had problems with collection arm in servicing this size.
- 32 gal was std industry garbage can size. We pretty much worked off of multiples or fractions of that, although the Mini-can that was available is 20 gallon and the micro-can size available is 10 gallon
- Standard 32 gallon increments, Manufacturer Availability
- Based on historical volumes.
- Standard sizes used by cities in Bay Area (CA); also sufficient movement between sizes including the "mini" size of 22 gallons - also all still can receive automated collection
- To provide standardized choice along with two frequencies of service (monthly and weekly) to meet a variety of residential needs. Roll carts supplied by the hauler result in a slightly higher cost than containers supplied by the customer.
- It was a good range of sizes to accommodate all sizes of families.

Question 4: Why was the specific number of cart offerings chosen (two cart sizes vs. three sizes...)?

Answer Options	Count
Open ended question	7

- Started with 32 gal, 64, 96 for customer choice. Then added mini (20 gal) and micro (10 gal) as folks recycled more
- 32 gallon carts for single person households 64 gallon carts for small families and 96 gallon carts for large families
- To offer a wider range of savings to fit the customers' needs.
- Because we have found that there is a variety of needs throughout the community due to different family & household sizes, cultural practices, frequency of service, and other factors; and we wish to avoid the practice of extra set-outs when possible. Please note that recycling & yard debris containers are standardized to ONE size (65 gallon roll carts) and all are provided by the hauler.
- We have a variety of family sizes in Austin.

Question 5: Are residents allowed to place out solid waste that does not fit in their cart?

Answer Options	Frequency	Count
Yes, and there is no additional charge	12.5%	1
Yes, but waste must be in prepaid bags or have a prepaid tag on it	25.0%	2
Yes, and residents are billed separately for additional waste	37.5%	3
No, residents must take additional waste to the dump or hold it for later pickup	0.0%	0
No, residents must call for special pickup	0.0%	0
Other (please describe)	25.0%	2

Other:

- No. Residents have the option of placing items that cannot fit into the cart for once monthly bulky waste collection or taking the items to the transfer stations (limited to 2x per month). We do collect items outside of cart the week after holidays.
- Additional solid waste bags can be placed outside of the cart but each bag must have a \$4.00 sticker which can be purchased at area grocery stores.
 There is an \$8.00 per bag charge for each unstickered bag

Question 6: Why was this specific type of program selected over other Pay As You Throw programs or alternative options? Check all that apply.

Answer Options	Frequency	Count
Compatibility with existing collection equipment	60.0%	6
Ease of implementation	50.0%	5
Accurately charges users for their solid waste output	80.0%	8
Politically feasible	60.0%	6
Other (please specify)	30.0%	3

Other:

- We originally used prepaid stickers for "extra garbage" beyond the cart, but that proved to be a huge hassle.
- Encourage recycling/diversion
- Garbage collection & recycling service is not required for SFR homes unless they are a rental property (all rental property owners & managers are required to provide garbage & recycling to tenants).

Question 7: What were the goals of the municipality in changing to a Pay As You Throw program? Check all that apply.

Answer Options	Frequency	Count
Recovering a higher cost ratio for services provided	20.0%	2
Increasing the solid waste diversion rate	70.0%	7
Decreasing trash output	70.0%	7
Promoting equity for residents by charging per unit rather than a flat fee	70.0%	7
Increasing recycling rates	80.0%	8
Other (please specify)	0.0%	0

Question 8: Approximately how many households are served by the program?

Answer Options	Count
Open ended question	10

Answers:

14,750; 55,000; 68,000; 105,000; 130,000; 150,000; 150,000; 175,000; 195,000; 202,000

Question 9: What types of homes are served by the program? Check all that apply.

Answer Options	Frequency	Count
Single family homes	100.0%	10
Multifamily homes, 2-4 units	90.0%	9
Multifamily homes, 5+ units	30.0%	3
Other (please specify)	20.0%	2

Other:

- Multifamily complexes (regardless of the number of units) currently have an option to choose individual carts or common bins.
- Multi-family includes moorages, group homes, trailer parks, congregate care & retirement facilities, etc.

Question 10: What year was the Pay As You Throw program implemented in?

Answer Options	Count
Open ended question	10

Answers:

■ 1968; 1973; 1989; 1993; 1995; 1996; 1997; 1998; 2000; 2003

Question 11: Were pilot programs conducted before full implementation of the program?

Answer Options	Frequency	Count
No	33.3%	3
Yes (describe the size and scope of the pilot program)	66.7%	6

- 8,000 homes with 32 and 68 gallon containers
- Several thousand homes
- There was a pilot cart program but it was not PAYT. Areas were selected based on varying demographics but all waste was collected with no additional cost.
- From July 1991 thru July 1992 the Solid Waste Department conducted a one year PAYT pilot with 3000 households which tested all elements of the new approach, including different cart sizes and variable rates.

 The program began as part of a federal study to determine the feasibility of cost-per-unit collection systems as opposed to flat rate unlimited services in regard to their potential for limiting trash generation.

Question 12: Was the program rolled out to all participants at one time, or was it phased in?

Answer Options	Frequency	Count
All participants at one time	88.9%	8
Phased in (please describe)	11.1%	1

Answers:

- City Council approved a three year, phased in conversion, of the entire city to begin in 1993. Service implementation began with Phase I in Aug 1993, Phase II in June 1994, Phase III-A in Nov 1995, and Phase III-B in June 1996.
- City Council adopted variable rates in July 1997, and all customers citywide were converted to PAYT in 1997.

Question 13: Was there an education or outreach program targeted at citizens alerting them to the changes in solid waste collection and costs?

Answer Options	Frequency	Count
No	11.1%	1
Yes (describe education/outreach programs)	88.9%	8

- Articles in citywide newsletter, press release, website
- Direct mail, print and electronic media advertising
- News articles, water bill inserts, mass mailing
- Bill stuffers and mailers.
- A comprehensive public outreach campaign aimed at single-family households explained the new variable rates being introduced, the new categories of recyclables being added to the services provided, and the benefits of participating. All materials were produced in three languages (English, Spanish, and Vietnamese). The campaign was guided by the information received during a series of focus groups in the three languages, baseline and follow-up telephone surveys, and shopping mall intercept surveys. More than 250 community meetings were held in 1993, and a block leader program and school education program were organized. See EPA case study at
 - http://www.epa.gov/epawaste/conserve/tools/payt/tools/ssanjose.htm
- At the time of implementation, we were bringing several complementary programs on-line. We were adding materials to our curbside recycling program, and expanding our yard trimmings program. Educating the public about PAYT was a comprehensive, multi-media approach to information which included paid advertisement and inserts about program guidelines in the Austin American Statesman, 14 billboards around town

with program guidelines, utility bill inserts about the new extra garbage stickers, radio advertisements and press releases about the message "Recycle or PAYT, it's your choice", direct communication with neighborhoods and new neighborhoods as they were added to the program, door hangers with program guidelines, and bi-monthly newsletters to neighborhood associations, and presentations at neighborhood meetings. To keep awareness of the new program high, messages using the tagline "Recycling Right" and "Take the bin to the curb" were also run during the early stages of the implementation.

- Mailings and school students and advertisements.
- Media releases and mailings

Question 14: Have there been any significant changes to the program since its original implementation?

Answer Options	Frequency	Count
No	30.0%	3
Yes (please describe)	70.0%	7

- Introduced mini can and micro can after initial rollout
- Changed from bi-weekly to weekly.
- No longer offer 128 gallon cart, now offer 22 gallon cart
- Residential solid waste collection has been a franchised service historically in Portland. With the mandate that recycling be available to all residents, there have been multiple changes to the Portland Recycles! program with pilot programs and ongoing training & educational outreach to residents and businesses.
- Garbage collection rates and extra garbage fees have gone up over the years, but recycling is still included in the base rate at no extra charge. Garbage collection is now fully automated. We have just over the last several months switched from the bin system for recycling to a 90 gallon cart based single stream recycling program. We accept more materials in the recycling program and materials can all be co-mingled in the recycling cart
- The addition of various sized carts was implemented in 1997. 21/32/65/95 gallon carts.
- Added the refuse cart program (various sizes). Added appliance stickers and bulk sticker items.

Question 15: Were major changes to the solid waste billing or administration program required with implementation of the PAYT program?

Answer Options	Frequency	Count
No	40.0%	4
Yes (please describe)	60.0%	6

Answers:

- Each time we added a size of can, we needed to modify the billing system
- Varying pay rates had to be set up, cart tracking by serial number, new customer service tracking program implemented. The PAYT started at the same time the City of Fort Worth took control of customer service for solid waste collections; this was previously a function of the collections contractor.
- Setup billing system and expand data on customer base.
- Software required to bill residents appropriately
- Our rates are adjusted annually through review by independent economists, and the most recent (2008) change to the recycling program (mandating hauler-provided roll carts for recycling & yard debris collection) resulted in a significant increase in residential rates and tipping fees (commercial rates are determined by the hauler & business customer in a non-franchised system).
- Prior to implementing variable billing rates, the City of Austin had to update its entire billing system.

Question 16: Did implementation of the PAYT program require retraining of solid waste collectors?

Answer Options	Frequency	Count
Yes	60.0%	6
No	40.0%	4

Comments:

- A little bit when we introduced semi-automated carts
- All services are contracted
- City collects single family residential and some commercial customers.
- Likely to some degree but still mainly just emptying carts regardless of what's in them.

Question 17: Which statement best describes the status of solid waste collectors in your municipality?

Answer Options	Frequency	Count
Unionized municipal employees	44.4%	4
Non-unionized municipal employees	22.2%	2
Unionized contract employees	22.2%	2
Non-unionized contract employees	11.1%	1

Comments:

- Private franchised haulers
- They have the option to join the Municipal Employees Union which offers membership to all municipal, federal, state and county employees.
 Membership dues are deducted from employee paychecks.
- Private haulers are permitted to acquire as many customers as they would like, no franchise agreements and these are almost all non-union employees that the municipality competes against. There are also no requirements on the days that areas are served. As a result there are many trucks in many areas on different days. We are working toward improving that as we write.

Question 18: Per capita solid waste (garbage) tonnage collected has...

Answer Options	Frequency	Count
Increased	10.0%	1
stayed the same	20.0%	2
Decreased	70.0%	7

Please describe magnitude of change:

- Have relatively few residents that have elected to participate with smaller container and lower fee. 68 GAL CARTS - 3,612; 95 GAL CARTS -65,349
- Overall recycling rate across all waste streams has gone from 24% to 48.4%. Increase is even greater for single family sector - now reaching near 60% recycling. This is due to introduction of curbside yard waste and curbside recycling collection as well as PAYT
- Based on the information available the total tonnage was reduced by about 12.5% & garbage collected was reduced by about 25%
- disposal has deceased with recycling increasing significantly, from 12,000 tons per year to over 40,000 tpy
- Prior to PAYT and the cart-based recycling program, residents set out an average of three 32-gallon garbage carts per week. Now approx. 80% have one, 32-gallon garbage carts.
- Unclear at this time not enough data. Overall our recycling rates have increased from mid 40 percentile in mid-90s to 63% in 2007.
- Solid Waste Services tracks performance measures by residential customer account, or household, not per capita. Our per household garbage tonnage

- decreased since the beginning of the program, and then has leveled off and stayed consistent since.
- For the city crews, we are not aware of the private sector experience. They own the landfill, we pay to tip there.

Question 19: Per capita recycling tonnage collected has...

Answer Options	Frequency	Count
Increased	80.0%	8
Stayed the same	20.0%	2
Decreased	0.0%	0

Please describe magnitude of change:

- .0194% increase
- City -wide all waste streams we are at 48+% recycling as of 2007
- 02-03 3.92 pounds per household per week 03-04 11.59 pounds per household per week Last year 13.54 pounds per household per week
- Increased from 12,000 tpy in 2000 to 36,000 tpy in 2004 to a little over 40,000 tpy in 2008.
- The volume of recyclables and yard trimmings being collected more than doubled the levels recorded prior to the cart-based recycling program and PAYT.
- Solid Waste Services tracks performance measures by residential customer account, or household, not per capita. Before PAYT implementation, tonnage was low but increasing. Since implementation, levels have been static

Question 20: Solid waste (garbage) diversion rates have...

Answer Options	Frequency	Count
Increased	77.8%	7
Stayed the same	22.2%	2
Decreased	0.0%	0

Please describe the magnitude of change:

- Residential diversion increased from 39.8% to 41.1%. This number includes yard trimmings composting, HHW recycling and reuse, electronic recycling and appliance recycling.
- up to 48+%
- 02-03 diversion rate was 5.48% 03-04 diversion rate was 19.3% The last couple of years we are running between 22 & 23%
- Currently at approximately 52%
- Diverted 60% in 2006 and 44% in 1995 according to the CIWMB (http://www.ciwmb.ca.gov/LGTools/mars/JurDrSta.asp?VW=In)
- Solid Waste Services defines diversion rate as the amount of yard trimmings and recyclables diverted as a percentage of the total amount of garbage, recyclables, and yard trimmings generated and collected through weekly curbside pickups. Through the PAYT program and enhancements

to the curbside recycling program, the diversion rate went up and has, with minor fluctuations, remained constant over the last twelve years or so.

Question 21: Has there been any noticeable increase in littering or illegal dumping since implementing the PAYT program?

Answer Options	Frequency	Count
Yes	0.0%	0
No	100.0%	10

Comments:

- Littering/illegal dumping is a chronic low-level problem, but has not gone up w/ PAYT
- We opened citizen drop off stations along with the start of the PAYT program and have actually had a decrease in illegal dumping.
- In the beginning we did have instances where extra bags came from neighbors, but that leveled off.

Question 22: How has PAYT impacted solid waste revenues? Check all that apply.

Answer Options	Frequency	Count	
The program is at full cost recovery	66.7%	6	
The program is at less than full cost recovery and revenues are higher under PAYT than previously	11.1%	1	
The program is at less than full cost recovery and revenues are the same under PAYT as previously			
The program is at less than full cost recovery and revenues are lower under PAYT than previously	0.0%	0	

Comments:

- We have a profit sharing contract for our recycle processing and the revenue generated depends on the market. The last two quarters have seen drastic drops in commodity prices and our share of the revenue.
- Recycling is subsidized by payment per ton by the processer.
- Check back later
- We are an enterprise fund and through the rates that we charge our customers, we generate excess money that goes to the general fund. Also, with PAYT we realize more money through charging for larger carts, extra carts and collection of extra garbage.
- Just barely coming out even.
- The refuse program is supplemented by a refuse millage

Question 23: Please describe any unanticipated problems or difficulties with the Pay As You Throw program.

Answer Options	Count
Open ended question	9

Answers:

- None (x4)
- Contamination in recycling is high. Full implementation at one time was difficult due to the number of households.
- The cost savings are not difficult for the customer to see.
- Sustained economic downturn has affected recycling markets recycling subsidizes residential garbage rates in Portland, and this loss of income has negatively impacted haulers. Given that the changes to our recycling program were implemented less than a year ago, it's hard to quantify how the changes have impacted our recovery rates, etc simply not enough data AND too many variables.
- Manual collection of extra garbage bags creates inefficiencies with a system designed to tip garbage carts with automated trucks. Also, there are households that regularly generate larger volumes of extra garbage, and its more desirable to all parties concerned, if they properly size their garbage carts, ie, go to a larger sized garbage cart. Although it goes against the philosophy of PAYT, its cheaper for these customers to upgrade to a larger sized cart, and more efficient for our collection. There are also administrative costs to tracking and billing for extra garbage.
- We have to drive every street looking for the bags, there is no subscription requirement!! More fuel, more time, more cost!

Question 24: Please describe any other major issues, benefits, or relevant points associated with the program.

Answer Options	Count
Open ended question	7

- The citizens get it. It is logical and is perceived as equitable. We are applying PAYT to our curbside yard waste/food waste composting collection with 13 gal, 32 gal and 96 gal options.
- Increased diversion has resulted in decreased disposal, and therefore stabilized disposal rates.
- There is some concern (and some anecdotal evidence) that, in order to save money, people will choose a smaller sized garbage bin and put their garbage into the larger recyclables cart. Some people do seem to do this but it's not the majority of people and tagging carts for contamination rather than just picking them up.
- The City of Portland currently provides commercial food generators with food composting we hope to site a local composting facility to offer this service to residents in the next 18 months to 2 years.

- We found that if you allow for extra garbage, you must have a large enough rate gap between garbage cart sizes to incentivize recycling.
- We hope with the upcoming conversion to single stream recycling, from sort separated at curb, that we begin to see volume of trash being landfilled decline.
- None

Appendix C: Constructing a Distribution of MSW Production

Milwaukee does not collect data on the amount of municipal solid waste each household in the city produces. The best data available show the average amount of MSW per collection route during an eight-month period in 2007 (City of Milwaukee 2007). This data can provide route-level information, but specific household data cannot be derived from it because the standard deviation of the data is unknown. The standard deviation describes how tightly all of the observations in a data set cluster around the mean (average) of the data. For example, if the mean of a data set is 40.00 and the standard deviation is 2, the majority of the data points fall between 38.00 and 42.00.

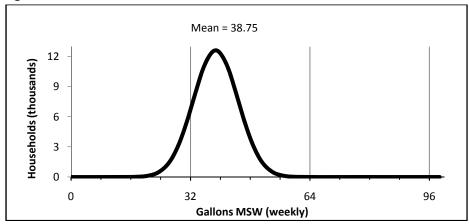
If the standard deviation and mean of a data set are known, the distribution of data points can be known. In this case, the mean of the MSW is known, but the standard deviation for Milwaukee's data is unknown. Therefore, the distribution of MSW generation by household cannot be generated from empirical records. The only relevant information that can be drawn from the available data is that the average household disposed of 43.16 pounds of MSW per week during this period. We converted this figure to an average weekly volume of 38.75 gallons using a standard conversion of 225 pounds per cubic yard of MSW.

The distribution of household MSW determines the pricing structure for a multiple cart PAYT system by determining the number of households that may subscribe to each cart size. To develop reasonable estimates of the unknown distribution of households, standard deviations from 1.00 to 38.00 (just less than the mean of 38.75 gallons per household) were considered. This range produced wide variation in the number of households potentially using each cart size. Using a more plausible range of standard deviations from 6.00 to 18.00 also produced widely varying estimates of the number of households using each cart size.

However, when these estimates were placed into the pricing formula, the range of prices for each cart size was fairly narrow and stable. In fact, the range of prices varied by only a few dollars for each cart size, even when the distribution of carts changed considerably. Given this, we examined the status quo and each alternative using theoretical distributions with standard deviations of 6.00, 12.00, and 18.00. The standard deviations were measured in either pounds or gallons depending on what was relevant for each alternative.

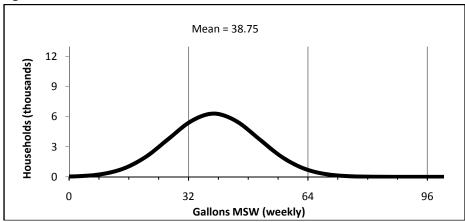
Figures 1, 2, and 3 graphically depict these standard deviations.

Figure 1: Normal MSW Distribution with Standard Deviation of 6.00



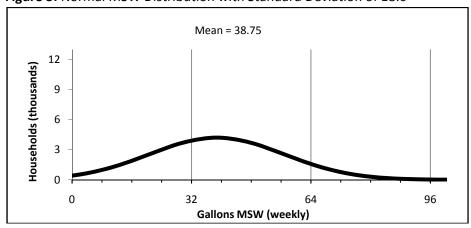
Source: Authors' calculations

Figure 2: Normal MSW Distribution with Standard Deviation of 12.0



Source: Authors' calculations

Figure 3: Normal MSW Distribution with Standard Deviation of 18.0



Source: Authors' calculations

Appendix D: Alternative Budget and Pricing Development

This section describes the method used to establish budgets and an equity index for the status quo and both alternatives. Because we did not know the standard deviation for household MSW distribution, we outlined scenarios using hypothetical standard deviations of 6.00, 12.00, and 18.00. We also hypothesized scenarios using a tipping fee of \$30 per ton, the approximate rate Milwaukee pays in 2009 to unload waste at the dump, and \$35 per ton, which the client asked us to include. Finally, we projected scenarios using current levels of MSW generated by the city, a 10 percent reduction in total waste, and a 20 percent reduction in total waste. These waste reduction figures fall within the reasonable range of waste reduction reported by the comparative cities we surveyed and literature on cities moving to PAYT systems from flat-rate MSW collection.

These considerations resulted in six status quo scenarios, where no waste reduction was analyzed; 18 Alternative I scenarios; and 18 Alternative II scenarios. For each alternative, only one budget scenario is presented in this appendix, demonstrating a standard deviation of 6.00, a tipping fee of \$30, and zero reduction in MSW.

We started with a budget for the status quo which was based on the 2009 Milwaukee Solid Waste Budget (City of Milwaukee). This base budget was used for all of the pricing and equity index scenarios, with changes that are described below for each alternative.

Tables 12, 14, and 16 show the prices and the equity index for each scenario of each alternative. These tables show the standard deviation, the tipping fee, the waste collection charge, the equity index, and the cost recovery percentage for each scenario. The tables also present the total annual price that would be paid by the median Milwaukee household under each scenario.

Status Quo Summary: Current MSW and Recycling Program

Six scenarios were constructed for the status quo. These used standard deviations of 6.00, 12.00, and 18.00, each with a landfill tipping fee of \$30 or \$35 per ton. Because no municipal solid waste reduction is assumed under the status quo, the scenarios do not reflect any reduction in MSW.

Under the status quo, the median household (in fact all households) pays \$150 per year for its MSW and recycling collection. This results in a program cost recovery of 88 to 91 percent depending on the tipping fee that is used. Table 12 displays these summary results as well as the equity index for each scenario.

Table 12: Status Quo Scenarios

			0% MSW	
	Std.	Tipping	Reduction	% Cost
Scenario	Dev.	Fee	Median Charge	Recovery
SQ1	6.00	\$30	\$150	91.3%
			Equity Index: 1.23	
SQ2	6.00	\$35	\$150	88.7%
			Equity Index: 1.23	
SQ3	12.00	\$30	\$150	91.3%
			Equity Index: 2.11	
SQ4	12.00	\$35	\$150	88.7%
			Equity Index: 2.11	
SQ5	18.00	\$30	\$150	91.3%
			Equity Index: 3.30	
SQ6	18.00	\$35	\$150	88.7%
			Equity Index: 3.30	

Source: Authors' calculations

A sample status quo budget scenario is presented in Table 13. A number of assumptions are contained in this budget:

- It is assumed that the long-run resale value of recyclables is \$80 per ton (R. Meyers, personal communication, March 24, 2009). Of this amount, Milwaukee receives \$40 in gross revenue. This amount is used in all budget scenarios.
- The state recycling grant is assumed to be the same as the FY2008 grant.
- "Overhead" excludes fringe benefits and depreciation expenses.
- Standard deviations of 6.00, 12.00, and 18.00 were used in calculating the equity index. The standard deviations were not relevant for price determination in the status quo.
- The tipping fee was set at \$30 and \$35 per ton as the client requested.

Table 13: Status Quo Sample Budget Scenario

		filwaukee System Estimat	_	
Scenario 1::	Standard D	eviation = 6, MSW Tipping	g Fee = \$30	
INCOME/REVENUES				
MSW Program				
Number of Households	190,000	x Base Price	\$150	\$28,500,000
Extra Collection	· · · · · · · · · · · · · · · · · · ·		•	· · · · · ·
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,000
Total MSW Income/Revenue				\$28,625,000
Recycling Collection				
Tons Collected	26,000	x Resale value per ton	\$40	\$1,040,000
Recycling state grants	· · · · · · · · · · · · · · · · · · ·	·	•	\$3,500,000
Total Recycling Income/Revenue	2			\$4,540,000
Total Incomo / Povonuo				\$22.16E.000
Total Income/Revenue				\$33,165,000
EXPENSES/COSTS				
MSW Program				
Labor				\$11,334,141
ODWs Salaries (77 routes)			\$9,507,027	
OT (driver only)			\$327,019	
Field Clerks/Cart Techs			\$208,934	
San Workers			\$493,630	
Supervisors			\$797,532	
Fringe Benefit				\$4,646,998
Trucks				\$3,779,577
Maint/Repair/Fuel			\$1,902,096	
Depreciation			\$1,877,481	
Tonnage	190,000	x Tipping fee per ton	\$30	\$5,700,000
Other operating expenses	,	·· - ·	-	\$475,000
Containers				\$645,000
Overhead (13.38%)				\$2,683,525
MSW Total				\$29,264,241
11.517 10.01				723,207,24.

Continued on following page

EXPENSES/COSTS continued			
Recycling Program			
Labor			\$2,306,512
ODWs Salaries (34 routes)		\$2,098,954	
ОТ		\$144,398	
Supervisors		\$265,884	
Recycling Manager		\$63,160	
Fringe Benefit			\$945,670
Trucks			\$1,471,882
Maint/Repair/Fuel		\$839,664	
Depreciation		\$632,218	
Tonnage	26,000 x Processing fee per ton	\$40	\$1,040,000
Other operating expenses			\$250,000
Containers			\$400,000
Overhead (13.38%)			\$647,080
Recycling Total			\$7,061,144
Total Expenses/Costs			\$36,325,385
COST RECOVERY			
Total Income/Revenue			\$33,165,000
Total Expenses/Costs			\$36,325,385
Net Income/Loss			-\$3,160,385
Percentage Cost Recovery			91.3%

EQUITY MEASURE				
Resident	Charge			Price/pound
10th Percentile Household	\$150	÷ Annual MSW Pounds	1,735	\$0.086
Median Household	\$150	÷ Annual MSW Pounds	2,158	\$0.070
90th Percentile Household	\$150	÷ Annual MSW Pounds	2,543	\$0.059
Equity Index	1.47	Ratio of low-volume price to	high-volume	price

Alternative I Summary: Multiple Cart Sizes

Alternative I required the construction of 18 scenarios. As in the status quo, the standard deviation was 6.00, 12.00, and 18.00, each with a landfill tipping fee of \$30 and \$35. We assumed that some level of MSW reduction will occur when customers are charged based on their MSW output. We constructed scenarios to reflect 10 percent or 20 percent total reductions in MSW in addition to the other variables.

Under Alternative I, the median household produces 38.75 gallons of MSW per week with no MSW reduction, 34.84 gallons with a 10 percent reduction, and 31 gallons with a 20 percent reduction. We assume that under all of these scenarios the median household will use a 64-gallon cart. In this case, the median household will pay between \$164 and \$184 per year for MSW and recycling collection depending on the variables. Table 14 displays these summary results as well as the equity index for each scenario.

Table 14: Alternative I: Multiple Carts Scenarios

Scenario	Std. Dev.	Tipping Fee	0% MSW Reduction Median Charge	10% MSW Reduction Median Charge	20% MSW Reduction Median Charge
MC1	6.00	\$30	\$171	\$168	\$164
			Equity Index: 1.08	Equity Index: 1.07	Equity Index: 1.06
MC2	6.00	\$35	\$177	\$173	\$169
			Equity Index: 1.09	Equity Index: 1.08	Equity Index: 1.07
MC3	12.00	\$30	\$178	\$174	\$171
			Equity Index: 1.69	Equity Index: 1.68	Equity Index: 1.67
MC4	12.00	\$35	\$184	\$180	\$176
			Equity Index: 1.71	Equity Index: 1.70	Equity Index: 1.68
MC5	18.00	\$30	\$178	\$175	\$171
			Equity Index: 2.88	Equity Index: 2.86	Equity Index: 2.84
MC6	18.00	\$35	\$184	\$180	\$176
			Equity Index: 2.91	Equity Index: 2.89	Equity Index: 2.87

Source: Authors' calculations

A sample multiple cart budget scenario is presented in Table 15. A number of assumptions are contained in this budget:

- This alternative will require one new employee for billing, technical support and maintenance of the weighing system. This employee is budgeted at \$40,000 annually, plus the associated fringe costs.
- Full price recovery was specified for the alternative.
- Cart charges were set at \$48 per year for a 32-gallon cart, \$96 per year for a 64-gallon cart, and \$144 per year for a 95-gallon cart. Once these prices were established, a base charge could be set.

 Table 15: Alternative I Sample Budget Scenario

Alternative I: Multiple Cart System Estimated Budget

Scenario 1: Standard Deviation = 6, MSW Tipping Fee = \$30, MSW Reduction = 0%

INCOME/REVENUES				
MSW Program				
Number of Households	190,000	x Base Price	\$75	\$14,290,07
Cart Charge	•		•	
Number 32g Households	24,759	x Annual Charge	\$48	\$1,188,43
Number 64g Households		x Annual Charge	\$96	\$15,862,94
Number 95g Households	2	x Annual Charge	\$144	\$28
Number additional carts	0	x Annual Charge	\$0	\$
Extra Collection				
Additional 30g Bags	190,000	x Charge per bag	\$2	\$380,00
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,00
Total MSW Income/Revenue				\$31,846,73
De soullie e Celle allen				
Recycling Collection Tons Collected	26,000	y Posalo valuo nor ton	\$40	¢1 040 00
	20,000	x Resale value per ton	Ş40	\$1,040,00
Recycling state grants				\$3,500,00
Total Recycling Income/Revenue	2			\$4,540,00
Total Income/Revenue				\$36,386,737
Total Income/Revenue				\$36,386,73
Total Income/Revenue EXPENSES/COSTS				\$36,386,73
EXPENSES/COSTS				\$36,386,73
EXPENSES/COSTS MSW Program				
EXPENSES/COSTS MSW Program Labor			\$9.507.027	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes)			\$9,507,027	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only)			\$327,019	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs			\$327,019 \$208,934	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers			\$327,019 \$208,934 \$493,630	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors			\$327,019 \$208,934	\$11,374,14
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit			\$327,019 \$208,934 \$493,630	\$11,374,14
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks			\$327,019 \$208,934 \$493,630 \$837,532	\$11,374,14
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel			\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096	\$11,374,14
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation	190.000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,14 \$4,662,99 \$3,779,57
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096	\$11,374,14 \$4,662,99 \$3,779,57 \$5,700,00
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage Other operating expenses	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,14 \$4,662,99 \$3,779,57 \$5,700,00 \$475,00
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage Other operating expenses Containers	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,14 \$4,662,99 \$3,779,57 \$5,700,00 \$475,00 \$645,00
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage Other operating expenses	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,14 \$4,662,99 \$3,779,57 \$5,700,00 \$475,00

EXPENSES/COSTS continued		
Recycling Program		
Labor		\$2,306,512
ODWs Salaries (34 routes)	\$2,098,954	
ОТ	\$144,398	
Supervisors	\$265,884	
Recycling Manager	\$63,160	
Fringe Benefit		\$945,670
Trucks		\$1,471,882
Maint/Repair/Fuel	\$839,664	
Depreciation	\$632,218	
Tonnage 26,000 x Processing fee per ton	\$40	\$1,040,000
Other operating expenses		\$250,000
Containers		\$400,000
Overhead (13.38%)		\$647,080
Recycling Total		\$7,061,144
Total Expenses/Costs		\$36,386,737
COST RECOVERY		
Total Income/Revenue		\$36,386,737
Total Expenses/Costs		\$36,386,737
Net Income/Loss		\$0
Percentage Cost Recovery		100.0%

EQUITY MEASURE				
Resident	Charge			Price/gallon
10th Percentile Household	\$123	÷ Annual MSW Gallons	1,553	\$0.079
Median Household	\$171	÷ Annual MSW Gallons	1,937	\$0.088
90th Percentile Household	\$171	÷ Annual MSW Gallons	2,322	\$0.074
Equity Index	1.08	Ratio of low-volume price to	high-volume	price

Alternative II Summary: Weight-Based Program

Alternative II included the same 18 scenarios used in Alternative I.

Under Alternative II, the median household produces 43.16 pounds of MSW per week with no MSW reduction, 39.29 pounds with a 10 percent reduction, and 35.41 pounds with a 20 percent reduction. Given this, the median household will pay between \$169 and \$182 per year for MSW and recycling collection depending on the variables chosen. It is notable that this range is nearly identical to the range paid by the median household under Alternative I. Table 16 displays these summary results as well as the equity index for each scenario.

Table 16: Alternative II: Weight-Based Scenarios

			0% MSW	10% MSW	20% MSW
	Std.	Tipping	Reduction	Reduction	Reduction
Scenario	Dev.	Fee	Median Charge	Median Charge	Median Charge
W1	6.00	\$30	\$176	\$172	\$169
			Equity Index: 1.11	Equity Index: 1.10	Equity Index: 1.10
W2	6.00	\$35	\$182	\$178	\$174
			Equity Index: 1.11	Equity Index: 1.10	Equity Index: 1.09
W3	12.00	\$30	\$177	\$172	\$169
			Equity Index: 1.25	Equity Index: 1.24	Equity Index: 1.22
W4	12.00	\$35	\$182	\$178	\$174
			Equity Index: 1.24	Equity Index: 1.23	Equity Index: 1.21
W5	18.00	\$30	\$177	\$172	\$169
			Equity Index: 1.47	Equity Index: 1.44	Equity Index: 1.41
W6	18.00	\$35	\$182	\$178	\$174
			Equity Index: 1.45	Equity Index: 1.43	Equity Index: 1.40

Source: Authors' calculations

A sample weight-based budget scenario is presented in Table 17. A number of assumptions are contained in this budget:

- This alternative will require two new employees for billing and technical support and maintenance of the weighing system. These employees are budgeted at \$40,000 each annually, plus the associated fringe costs.
- Full price recovery was specified for the alternative.
- All customers pay a base fee of \$50 per year, regardless of their actual MSW output. The base fee covers fixed costs borne by Milwaukee regardless of the amount of MSW generated by households for collection. Based on this base charge, the total amount of MSW generated and the expenses that had to be recovered, a charge per pound of MSW was established.

Table 17: Alternative II Sample Budget Scenario

Alternative II: Weight-Based System Estimated Budget

Scenario 1: Standard Deviation = 6, MSW Tipping Fee = \$30, MSW Reduction = 0%

INCORAT /DEVENUES				
INCOME/REVENUES				
MSW Program				
Collection Charge	190,000	x Base Price	\$50	\$9,500,000
Weight Charge	190,000	x Charge per ton	\$117	\$22,283,089
Extra Collection	,			
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,000
Total MSW Income/Revenue				\$31,908,089
Recycling Collection				
Tons Collected	26,000	x Resale value per ton	\$40	\$1,040,000
Recycling state grants				\$3,500,000
Total Recycling Income/Revenue				\$4,540,000
Total Income/Revenue				\$36,448,089
EXPENSES/COSTS				
MSW Program				
Labor			40 -0- 00-	\$11,414,141
ODWs Salaries (77 routes)			\$9,507,027	
OT (driver only)			\$327,019	
Field Clerks/Cart Techs			\$208,934	
San Workers			\$493,630	
Supervisors			\$877,532	4.0=0.000
Fringe Benefit				\$4,678,998
Trucks				\$3,779,577
Maint/Popair/Fuol			¢1 002 00 <i>c</i>	
Maint/Repair/Fuel			\$1,902,096	
Depreciation			\$1,877,481	
	190,000	x Tipping fee per ton		
Depreciation	190,000	x Tipping fee per ton	\$1,877,481	\$5,700,000 \$475,000
Depreciation Tonnage	190,000	x Tipping fee per ton	\$1,877,481	
Depreciation Tonnage Other operating expenses	190,000	x Tipping fee per ton	\$1,877,481	\$475,000

Continued on following page

EXPENSES/COSTS continued			
Recycling Program			
Labor			\$2,306,512
ODWs Salaries (34 routes)		\$2,098,954	
ОТ		\$144,398	
Supervisors		\$265,884	
Recycling Manager		\$63,160	
Fringe Benefit			\$945,670
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Tonnage	26,000 x Processing fee per ton	\$40	\$1,040,000
Other operating expenses			\$250,000
Containers			\$400,000
Overhead (13.38%)			\$647,080
Recycling Total			\$7,061,144
Total Expenses/Costs			\$36,448,089
COST RECOVERY			
Total Income/Revenue			\$36,448,089
Total Expenses/Costs			\$36,448,089
Net Income/Loss			\$0
Percentage Cost Recovery			100.0%
EQUITY MEASURE			
Resident	Charge		Price/pound

EQUITY MEASURE				
Resident	Charge			Price/pound
10th Percentile Household	\$154	÷ Annual MSW Pounds	1,773	\$0.087
Median Household	\$177	÷ Annual MSW Pounds	2,158	\$0.082
90th Percentile Household	\$199	÷ Annual MSW Pounds	2,543	\$0.078
Equity Index	1.11	Ratio of low-volume price to	high-volume	price

Appendix E: Development of Policy Analysis Criteria

We evaluated each policy option according to four criteria: efficiency, effectiveness, equity, and ease of implementation. These are summarized in the "Policy Criteria" section of this report. Our measurement and data collection methods for each are described here.

Efficiency

We measure efficiency through the percentage program cost recovery under each alternative. We calculate program using the following formula:

% Cost Recovery = Program Income and Revenue / Program Expenses and Costs

We used the spreadsheet template to total the income and expenses under a range of assumptions for six scenarios for each policy option. Additionally, each alternative scenario was run with 0 percent, 10 percent, and 20 percent MSW reductions, creating up to 18 scenarios for each alternative. Assumptions included the possibility of no reduction in the number of tons of MSW and, therefore, no expense reduction due to reduced tipping fees. To calculate the pricing structure needed for each scenario, we first determined the income needed to obtain full cost recovery. For PAYT options, this was weighted by the distribution of MSW per household given the base fees in each case.

In addition, we evaluate efficiency by the additional budget expenses each alternative requires. We calculated costs of new PAYT system inputs, public outreach and education expenses, and additional staffing expenses from the alternatives. We conducted telephone interviews with vendors and potential contractors, reviewed our comparable cities survey results and telephone contacts, and relied on estimates given by City of Milwaukee staff. Due to lack of detailed response, we must estimate some budget items such as education and outreach for the multiple cart and weight-based alternatives.

Effectiveness

Effectiveness is quantifiable by MSW tonnage reduction resulting from residents' disposal behavior under each alternative. Data in this category come from research studies and our comparable city survey responses. We also make relative comparisons of effectiveness regarding household acceptance of and compliance with the programs.

The spreadsheet calculations were based on the approach and assumptions about pricing and distributions of waste per household described in the methodology section (see page 7 and Appendix C).

We based these estimated tonnage inputs on three sources. First, the ranges of variation in tonnage found over time in Milwaukee prior to consideration of PAYT provided a magnitude of changes due to all non-PAYT factors.

Varying percentage reductions in solid waste from comparably sized PAYT municipalities act as a second benchmark. We also took into account averages from government and industry sources showing diversion rates and other impacts during the years following the introduction of PAYT. As most reductions in MSW following the introduction of PAYT came in the first year or two and then leveled off, our quantitative evaluations covered an entire single year and should be considered the long-run average.

City of Milwaukee staff provided recycling revenues and landfill fees per ton for the current budget cycle. These are not modified to account for long-term forecasts of variations in recycling prices in our analysis.

Equity

We defined an equity index to consistently measure the relative fairness of each policy alternative. The index shows the ratio of the prices paid between those that generate the most MSW and those that generate the least. Specifically, the index compares the price paid per pound or gallon of MSW by the individual household 10 percent from the bottom and 10 percent from the top of the MSW distribution range. This approach provides a single number to compare the equity of different systems and different scenarios. A score of 2.0 on the index indicates those generating the least MSW pay twice as much as those generating the most. An index of 1.0 indicates residents pay the same amount for MSW collection per unit, which we consider to be the most equitable system possible. In our calculations, we found 1.08 as the most equitable score in our alternatives, occurring under the weight-based system. The status quo scores the highest equity disparity at 4.8. This means that under one possible status quo scenario, households with the lowest amount of MSW pay nearly five times the rate per pound of households generating the most waste.

Ease of Implementation

Assessment of ease of implementation was a relative comparison between alternatives and considered issues such as education and billing changes. We also considered availability of new equipment and maintenance services, and whether the alternative requires substantial re-training of collection workers. We obtained this information from interviews with City of Milwaukee employees, our comparable cities survey results, and telephone contacts with vendors. We also used research on published PAYT information.

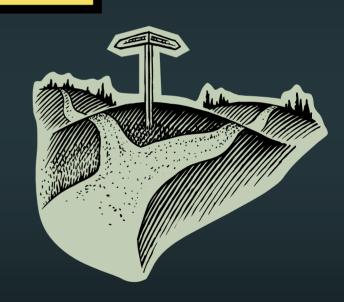
APPENDIX C

PowerPoint presentation on the Waukesha County Recycling System Study

Waukesha County Recycling

Looking Ahead

Perry Lindquist, Land Resources Manager
Waukesha County Dept. of Parks & Land Use



July 27, 2009 Milwaukee Recycling Task Force

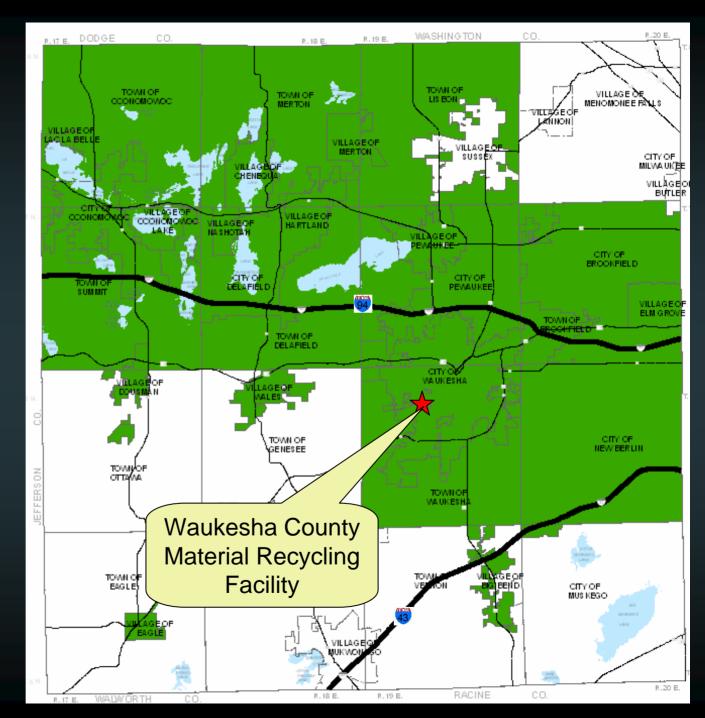
Presentation Outline

- Background on county recycling program
- County MRF Options for the future
 - 2007 study findings/recommendations
- Similarities to City of Milwaukee
 - How can we work together/next steps

Background on County Program

- Waukesha County is "Responsible Unit" for 25 communities (since 1990)
 - Pool state grants (\$1 million/yr)
 - Coordinate education program
 - Pay for blue recycle bins
 - MRF investment/risk, oversight, maintenance
- County-owned/privately operated MRF
 - Dual-stream system (paper & containers separate)
 - Average 23,000 tons/year of recyclables
 - Last expansion in 1995

Participating Municipalities

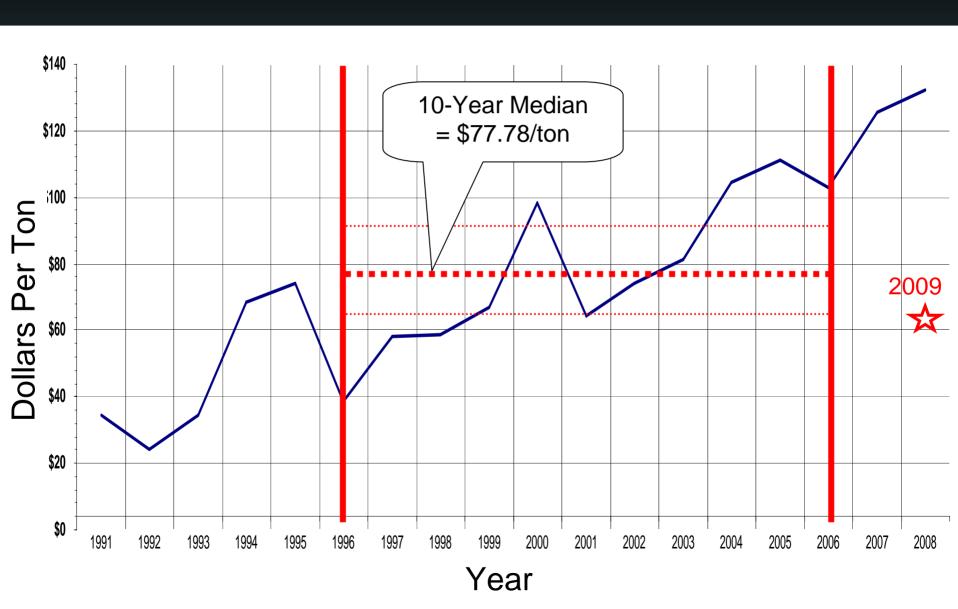


Background on County Program (continued)

- 25 Participating Communities must:
 - Collect dual stream recyclables
 - 88,000 households (pop. 270,000)
 - \$12 million/yr. in private contracts (\$3.5 mil. recycle)
 - Deliver recyclables to county MRF
 - Report program costs to county/annual grants

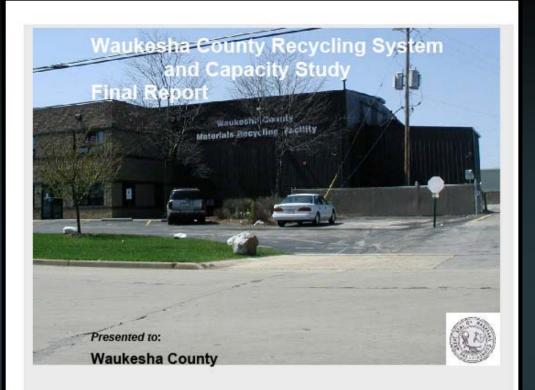
Total Revenue Per Ton Shipped

Waukesha Co. MRF 1991-2008



County MRF: "Enterprise Fund"

- Self-sustaining no tax levy or processing fees to communities (up front County loan paid off)
- Revenues: material sales (50%), state grants & operator processing fees (up to \$6.50/ton)
- Current fund balance = \$11 million:
 - Good markets and competitive operating contracts
 - Distributions to communities of \$6.2 million in the last 9 years + \$1 million for 2010 (proposed)
 - 2012 Projected Fund Balance: \$11-13 million
 - Assume continued state grants of \$1 million/yr., material sales of \$700K./yr. and community dividends of \$1 million/yr.
 - Use to pay for future MRF investments



Prepared by:

RRT Design & Construction





GERSHMAN, BRICKNER & BRATTON, INC.

2007 Study

Waukesha County Recycling System

Study: Existing Dual Stream MRF Capacity

 Can handle future dual stream program for the <u>short term</u>

However, some major issues need to be

addressed:

- Sort line
- Tipping floor
- Bale storage



Plastic Containers Overwhelming Sort System





Tipping Floor Space is Limited

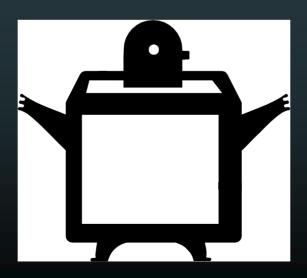


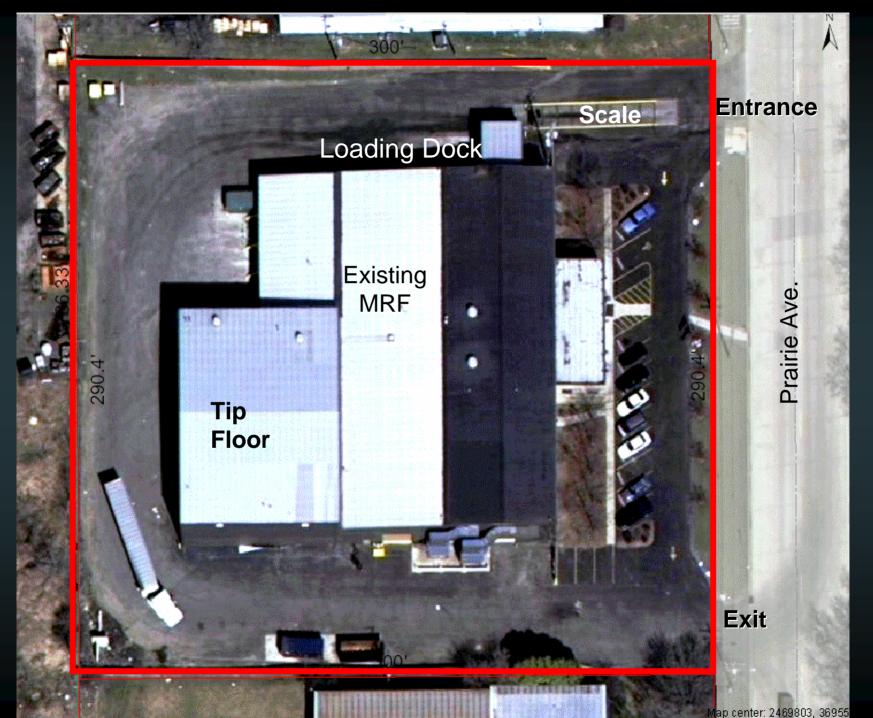
Bale Storage is Inadequate



Study: Existing Dual Stream MRF Capacity (cont.)

- Must expand MRF or build new in future
- <u>Cannot</u> expand MRF on current 2-acre site, because...



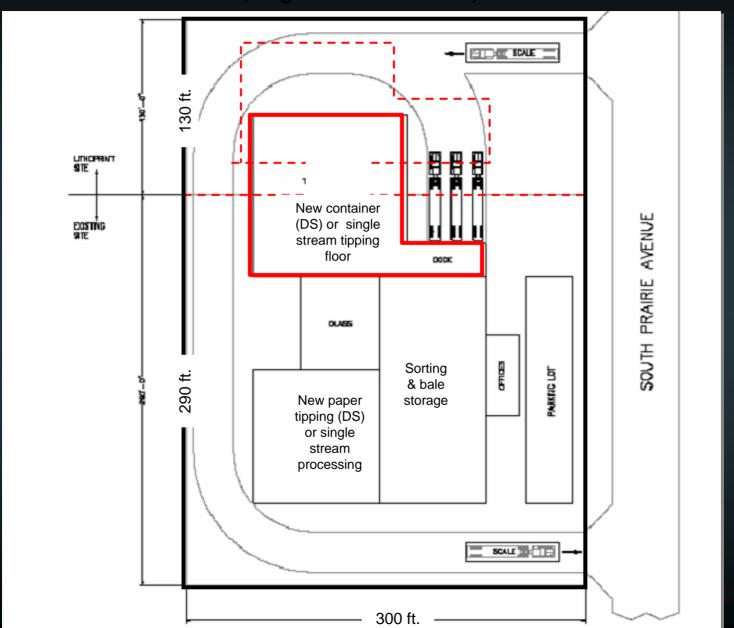


Possible MRF Expansion

- If 1 acre site to the north purchased, limited expansion is possible
 - Tipping/storage areas/new equipment
 - Could also convert to single stream
- Industry trends & community pressures to switch to Single Stream will influence future decisions

Concept Drawing – North Expansion

(single or dual stream)



Possible MRF Expansion (cont.)

- Estimated costs:
 - Dual stream: \$6.5 million + property/business
 - Single stream: \$7.0 million + property/business
- However, the expanded site could <u>not</u> handle a very large increase in tonnage

Recyclables Collection

Dual Stream vs. Single Stream





Existing program (blue bin)

(manual/paper & containers separated)

Industry trend (cart)

(automated/all recyclables mixed)

SS Pros (Collection) vs. Cons (MRF Impacts)

Single Stream Collection Cost Savings

Single Stream MRF Impacts

Collection Trends/Pressures

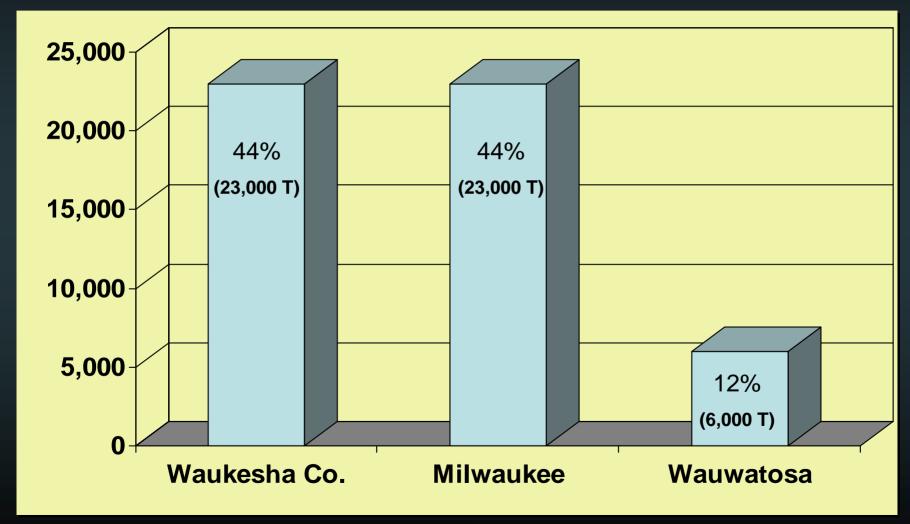
- Private haulers are pushing for Single Stream collection to save money
 - Trend is playing out nationwide
 - >100 SS MRFs (25% in 2008)
 - Locally, only 1 of 3 private haulers (Veolia) still offers dual stream collection
 - Waste Mgt. and Johns already switched to SS
 - 3 participating communities without hauling contracts already switched to SS (problem)
- More communities want to switch to SS

Scenarios for Future Projections:

- Tonnage
 - Participating county municipalities (25)
 - Adding non-participating communities (12)
 - Adding Milwaukee & Wauwatosa
- Single vs. Dual Stream



Annual Tons Recycled (52,000 Tons)*



^{*}Rounded from 2008 data (no other communities included with City of Milwaukee data)

Key Study Findings & Recommendations

- 1. Switching to Single Stream is <u>strongly</u> recommended
 - Pros far outweigh the cons
 - Could save partic. communities >\$700,000/year in collection & disposal costs
 - 10% or \$12.36/HH/Year savings (minus cart \$)
 - Needs all new MRF equipment/more space
- Recycling tons increase considerably with a Single Stream system – assumed + 25%
 - In-county data shows 45% increase/capita

Key Study Findings & Recommendations (continued)

- Doubling tonnage greatly improves the economics of a Single Stream MRF
 - 2 shifts = much faster return on investment
 - New site needed to double tonnage
- 4. National MRF data shows:
 - SS paper/fiber is equally marketable
 - Increased residue from SS depends on public education (projected increase from 3% to 10%)

Single Stream Options

(2007 Costs & 2010 Projected Tonnage)

1. Expand/Convert Current MRF:

- Participating Municipalities only (30,565 tons)
- Acquire/relocate Lithoprint
- Estimated bldg. costs = \$7 million + Lithoprint costs
- Projected annual net revenues = \$0.12 million

2. Build New Regional MRF (publicly-owned/privately operated):

- Add tonnage for <u>2 shifts</u> (76,066 tons NP/Tosa/Milw)
- Estimated building costs = \$8.25 million + land
- Projected annual net revenues = \$1.7 million

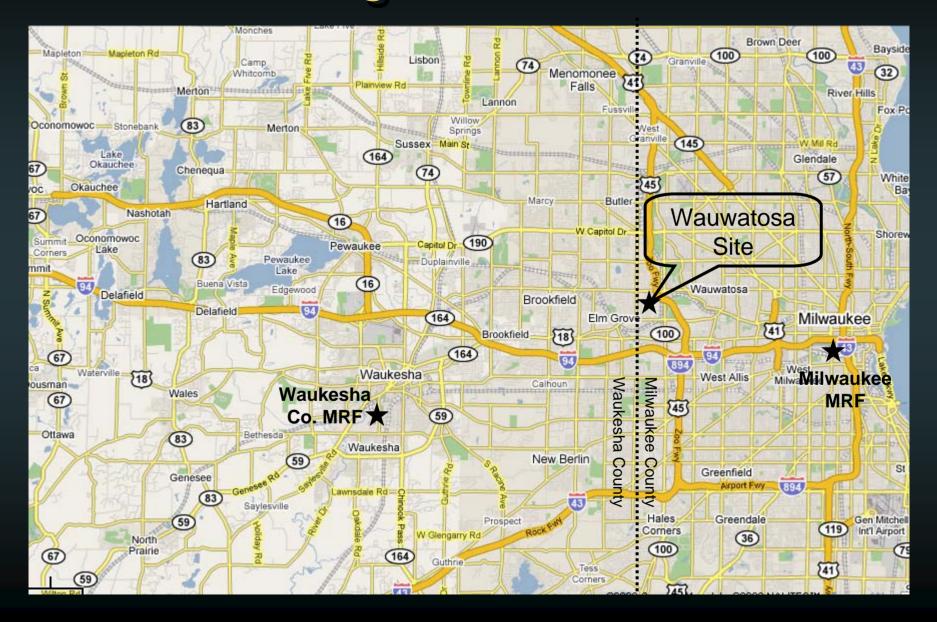
3. Send recyclables to privately-owned MRF

Costs unknown (RFP process)

County Response to Private MRF Option

- Existing County MRF is already privatized
 - Public ownership of the facility (40% nationally)
 - Private operation & marketing/good competition
- Public/private partnership has been very successful
- Privately-owned MRF does not ensure longterm competition/price stability for communities
- Having a publicly-owned/privately operated MRF in SE helps keep costs down for <u>all</u> communities

Possible Regional MRF Location



Single Stream Economic Summary

(Revenues & expenses to be prorated to participating communities)

- Projected 2010 NET revenues from a Regional Single Stream MRF are 14.5 times larger than converting county MRF to single stream
 - \$1.7 million (regional/76,066 T) vs. \$0.12 million (county/30,565 T)
 - 6 times larger for Waukesha Co./Milwaukee (44%)
- Payoff of capital costs (\$8.25 million) for a new Regional Single Stream MRF = <u>5 years</u>
- Payoff of capital costs (\$7 million) for converting county MRF to single stream = <u>58+ years</u>

Summary Look at the SS System

- Collection: Savings in collection costs and landfill disposal costs (reduced trash)
 - \$700,000 per year for partic. municipalities

- MRF: It's all about the tons!
 - 2.5 times tonnage = 10 times faster return on investment

Similarities: Waukesha Co. & City of Milwaukee

- Publicly-owned dual stream MRFs
- Tonnage processed (23,000/yr.)
- Aging facilities facing costly updates
- Pressures to improve program efficiencies
- Pressures to switch to Single Stream:
 - Reduce collection & landfill disposal costs
 - + Increase recycling rate
- Concerns about future price stability
- 14-year history of coordinating education efforts

Why Work Together? (Regional Single Stream MRF)

- 1. Lower costs/ton capital and O & M
- 2. Better return on investments/reduced risk
- 3. Long-term price stability
- 4. Good example of regional cooperation
- Both MRFs already publicly-owned and privately operated
 - no threat to private sector

Next Steps, Issues & Timelines

- Commit to joint study (ASAP):
 - Milwaukee, Waukesha Co. & Wauwatosa
- Establish scope of study/write RFP (fall 2009):
 - Refine & update economic analysis
 - I.D. financial options (sharing costs & revenues)
 - Technical investigation of Tosa site
 - Transportation issues
 - Concept plan/budget
 - Institutional options (ownership, contracting, etc.)
 - Collection or other issues?
- Release RFP & hire consultant early 2010
- Complete study by end of 2010

Questions?

Perry Lindquist, Land Resources Manager
Waukesha County - Dept. of Parks and Land Use
Room 260 Administration Center
515 W. Moreland Blvd., Waukesha WI 53188
plindquist@waukeshacounty.gov
262-548-7867

SS Pros (Collection) vs. Cons (MRF Impacts)

Single Stream Collection Cost Savings	Single Stream MRF Impacts
Automation decreases personnel costs (workers comp claims, etc.)	Increases MRF labor and capital costs
Large cart allows Every Other Week collection of recyclables	Increases residue level at MRF (non-recyclables)
• Flexibility: Can use compaction vehicles to reduce capital & trips to the MRF, more households per route – faster collection	Potential for decreased quality of processed recyclables (glass/paper)
Higher rates of recycling & reduced landfill disposal costs – easier for the general public to implement (no sorting)	 Higher recyclable volumes to process Increased net cost per ton processing

All of these factors were built into the economic analysis

APPENDIX D

Recycling Facility Alternatives Study

Recycling Facility Alternatives Study City of Milwaukee, Wisconsin



Site:

Materials Recovery Facility 1313 West Mount Vernon Avenue Milwaukee, WI 53233

Prepared for:

City of Milwaukee Zeidler Municipal Building 841 North Broadway, Room 620 Milwaukee, WI 53202

Prepared by:

AECOM 4135 Technology Parkway Sheboygan, WI 53083

November 2009

AECOM Project No. 114079

Recycling Facility Alternatives Study City of Milwaukee, Wisconsin

Site:	Author: Donald F. Pirrung, P.E.
Materials Recovery Facility 1313 West Mount Vernon Avenue	
Milwaukee, WI 53233	Title: Senior Engineer
Prepared for: Zeidler Municipal Building 841 North Broadway, Room 620 Milwaukee, WI 53202	Date:
,	Reviewer: Nancy K. Wright, P.E.
Prepared by: AECOM 4135 Technology Parkway	Title: Senior Engineer
Sheboygan, WI 53083	
November 2009	D :

AECOM Project No. 114079

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EXECUTIVE SUMMARY

The City of Milwaukee is under contract with Waste Management Recycle America (WMRA) to operate the City's recycling facilities. The City's contract extended to June 30, 2009, plus the City has the sole option to renew the contract for up to five 1-year periods. The existing dual stream processing equipment is at the end of its useful life at the City's Material Recycling Facility (MRF) and the City is interested in evaluating recycling alternatives.

The following recycling alternatives were evaluated:

- Alternative A Dual Stream at Existing City Facility
- Alternative B Single Stream at Existing City Facility
- Alternative C Two Transfer Stations to Third Party
- Alternative D One Transfer Station at Existing City Facility
- Alternative E Regional MRF at Wauwatosa
- Alternative F Regional MRF at Existing City Facility

Alternative A involves a continuation of the current dual stream collection program. Under all the other alternatives, recycling collection for the City of Milwaukee would be upgraded to reflect single stream operation. One-person or two-person collection crews are possible. The collection fleet can be upgraded over time to increase efficiency. The existing 95-gallon carts can be reused and modified easily by removal of the divider within the cart.

Under all the alternatives, the study addresses recycling collection for the City of Milwaukee under monthly, 3-week, and 2-week collection scenarios.

The regional MRF would include the City of Milwaukee, Waukesha County, and City of Wauwatosa. In 2007, Waukesha County commissioned a study which included evaluating a regional MRF and the conclusion was that a regional MRF showed promise and should be further explored.

Recycling collection for Waukesha County and City of Wauwatosa and transport to the City of Milwaukee MRF are not part of this study, but are recommended to be evaluated by Waukesha County and the City of Wauwatosa to develop the most cost-effective approach if this alternative is further considered.

The six recycling facility alternatives are described as follows:

Alternative A - Dual Stream at Existing City Facility

Alternative A would consist of continuing the City's current dual stream processing at the existing MRF. The existing equipment would be replaced entirely due to the age and condition of the processing equipment. The structural aspects of the facility would remain basically the same. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is projected to remain about the same and operation would continue by a private party. There are options regarding implementing this alternative which include the City purchasing and installing the equipment, or having a third party design, build and operate the system. If the City purchased and installed the equipment, a third party could operate it.

Recycling collection would remain the same as the existing program. Recycling trucks would be parked at the existing City MRF. Separate cost estimates are prepared for monthly, every 3-week, and every 2-week collection scenarios.

Alternative B – Single Stream at Existing City Facility (City Only)

Alternative B would consider single stream processing instead of the current dual stream. Single stream processing means all the recyclables are collected in a single undivided cart and then sorted at the MRF. This approach is more user friendly and collection friendly resulting in more recyclables being placed at the curb by the public and more efficient collection by the recycling truck operation. Single stream collection is more user friendly because the public can simply consolidate all recyclables in the home and place them all in one cart without further sorting. The recycling industry is moving toward single stream recycling nationwide. Single stream can accommodate fully automated collection which improves efficiency by allowing carts to be serviced without the driver exiting the vehicle.

The existing recycling equipment would be removed and replaced with the new equipment. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is projected to remain about the same or less depending on the extent of automation as compared to the existing staff. There are two options regarding implementing this alternative which include the City purchasing and installing the equipment and using a third party to operate, or having a third party design, build and operate the system.

Recycling trucks would be parked at the existing City MRF. Separate cost estimates are prepared for monthly, every 3-week, and every 2-week collection scenarios.

Alternative C - Two Transfer Stations to Third Party

Alternative C pertains to constructing two new transfer stations for recyclables. One station would be located at 3879 West Lincoln Avenue, which is the location of the current self-help center and solid waste transfer station. The second transfer station would be located on the northwest side of the City. Multiple locations are under consideration.

Collection of recyclables would be taken to one of the transfer stations. The recyclables would be placed in a compactor to crush the materials to increase the density, thereby allowing more recyclables to be placed in a semi tractor trailer. This approach saves on the transportation cost for trucking recyclables to the MRF. For this evaluation, the collection trucks are assumed to be located at the respective transfer station. If this alternative is selected, parking accommodations for the recycling trucks need to be further confirmed regarding available space.

Operation and maintenance costs for the transfer stations are estimated and based on a private firm performing the work. Operation and maintenance costs for the hauling to the MRF and MRF operation are based on services performed by a third party.

Recycling trucks would be parked at the transfer locations. Recycling collection costs are identified for monthly, 3-week, and 2-week collection for single stream processing.

Alternative D – One Transfer Station at Existing City Facility

Alternative D would consist of converting the existing City MRF into a recycling transfer station. This alternative was addressed in the October 2008 Draft No. 2 Recycling Facilities Study report prepared by Earth Tech AECOM.

A compactor and related improvements would be added to the MRF. The transfer station would be operated by a third party which would transport the recyclables by semi truck to a processing facility. Transfer station capital equipment could be provided directly by the third party firm and are estimated for this study. For this evaluation, the WMRA MRF in Germantown was used for the cost evaluation.

Recycling collection addresses monthly, 3-week, and 2-week collection scenarios based on single stream collection.

Alternative E - Regional MRF at Wauwatosa

Alternative E is based on Waukesha County, City of Wauwatosa, and City of Milwaukee developing a new MRF located at West 116th Street and Walnut in Wauwatosa. The Waukesha County Study will serve as the basis for this alternative with some additional input from vendors for updated equipment costs. A single stream MRF is evaluated. The operation would be by a third party.

Recycling collection would be based on the City of Milwaukee recycling trucks being parked at the regional MRF. This assumption needs to be further verified with the City of Wauwatosa and Waukesha County. Another option is to park the City of Milwaukee recycling trucks at the existing City MRF though the collection costs would be somewhat higher, as discussed in the Earth Tech AECOM October 2008 Draft No. 2 Report. Preliminary discussions between the City of Milwaukee and City of Wauwatosa indicate there would be room for the City of Milwaukee trucks to be parked at the Wauwatosa site.

Recycling collection addresses monthly, three-week, and two-week collection scenarios based on single stream collection.

Alternative F – Regional MRF at Existing City Facility

Alternative F considers Waukesha County, City of Wauwatosa, and City of Milwaukee developing a MRF at the City's existing MRF on Mount Vernon. The City's current dual stream processing would be replaced with single stream processing equipment. The existing equipment would be replaced entirely due to its age, size, and condition. The structural aspects of the facility would remain basically the same. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is expected to increase from the current level based on additional recycling tonnage and is estimated based on the Waukesha County Report. The processing would be performed by a private firm as currently done.

Cost Evaluation

A present worth cost analysis was prepared to evaluate recycling facility alternatives and recycling collection alternatives. The estimated capital, operation and maintenance costs were determined for each recycling facility alternative. The estimated revenue from the sale of recyclables was determined. Four scenarios were evaluated:

- Low Recyclables Price, Low Recyclable Volume
- Low Recyclables Price, High Recyclable Volume
- High Recyclables Price, Low Recyclable Volume
- High Recyclables Price, High Recyclable Volume

The revenue is based on a 50:50 share with the processing contractor, as currently done under the City's contract. The benefit of avoided landfill tipping fees through increased recycling was also estimated.

Increased frequency for collecting recyclables and single stream collection can improve the volumes of recyclables collected.

The present worth analysis is based on a 15-year period. The salvage value of new equipment is estimated at zero after 15 years. The salvage value of structural facilities is estimated to be worth 50 percent of its original value after 15 years.

Results of the Study

Collection Alternatives

Collection of recyclables is currently performed on a monthly basis. Some areas of the City collect recyclables by having City personnel walk up the driveway to collect the 95 gallon cart and then return the cart. This service adds to the collection cost. A more efficient approach is to have the cart placed by the resident at the curb to more efficiently serve the public and save the City on collection costs.

The most cost-effective method was to collect the recyclables on a three-week frequency with placement of the cart at the curb by the resident. Single stream collection is proposed using existing carts and trucks. A partition in the cart will be removed. Three week frequency is estimated to increase recyclables volume by ten percent.

As the City implements this collection program, the goal will be to continually improve collection and eventually initiate collection on a two-week frequency in the future for added public convenience and increased recyclables volume.

The recyclables collection would be accomplished by trucks with one person. The City could employ some fully-automated trucks to improve collection time and also reduce manpower injuries. Two person collection was found to increase recyclables collected but was offset by substantially greater labor costs and therefore was not cost-effective.

Recycling Facility Alternatives

The most cost-effective alternative based on a present worth analysis was Alternative D - One Transfer Station at Existing City Facility. This alternative provides the City with the least risk and lowest capital investment. The transfer station would be operated by a third party. The recycling processing also would be performed by a third party. For this evaluation, the WMRA recycling facility in Germantown was considered.

Pay as You Throw

There is increasing interest in managing municipal solid waste through "pay as you throw" (PAYT) programs. The most common approach is for the user to pay for a certain size garbage container(s) and the recycling cart is free. The PAYT program results in a decrease in the trash tonnage and increase in recycling tonnage. A 16 to 17 percent diversion from residential trash is the average, which is generally divided equally among recycling, yard waste and source reduction.

Recommendations

The following recommendations are made:

- Implement Alternative D One Transfer Station at Existing City Facility, based on the economics.
 It presents the least investment and least risk to the City of Milwaukee. Single stream collection offers the benefit of more efficient collection. It maximizes the cart volume and improves convenience for residents.
- 2. Negotiate with WMRA to implement Alternative D.
- 3. Implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection for the cart to be located at the curb (no walk up driveway) to improve collection efficiency. Make improvements to the routes based on the new software for routing trucks.
- 4. Implement Pay As You Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.

1.0 INTRODUCTION

This study was commissioned by the City of Milwaukee to compare capital, operation and maintenance, and collections costs for recycling facility alternatives to serve the City of Milwaukee. The alternatives include upgrading the process equipment at the City's existing recycling facility; developing one or two recycling transfer stations and transporting the materials to a third-party recycling center; and a regional recycling facility in Wauwatosa or at the City's existing facility.

2.0 BACKGROUND

2.1 City-Owned Recycling Facilities

The City of Milwaukee is under contract with Waste Management Recycle America LLC (WMRA) to operate the City's recycling facilities at South 13th Street and West Mount Vernon Avenue in the Menomonee River Valley. The City's contract was awarded in July 2004 and extends to June 30, 2009. The City has the sole option to renew the contract for up to five 1-year periods. This option shall be exercised by the City in writing and delivered to the Contractor a minimum of 6 months prior to the contract end date. If the City does not notify the Contractor during this notification period, the contract is automatically extended for 1 year. Currently, WMRA is operating the City's recycling facilities under the first 1-year renewal period.

The bidding of recycling services in January 2004 was a very competitive process. There were five bidders which included FCR, Allied Waste, Newark Group, Onyx now known as Veolia, and Recycle America Alliance, now known as WMRA. There were three bid options as follows:

- Bid Option 1: Operation of City-Owned Material Recovery Facility (MRF)
- Bid Option 2: Processing of Recyclables at an Alternate Location
- Bid Option 3: Processing of Recyclables at Two Alternate Locations

All the bidders submitted prices for Bid Option 1. Onyx and WMRA submitted on Bid Option 2, WMRA also submitted on Bid Option 3, and their pricing was the same for all three Bid Options. Their proposed approach for alternate MRF locations was to use the A-1 Recycling Center located at 2101 West Morgan Avenue for the southern sector and use a proposed Milwaukee North MRF located at 9601 North Wausaukee Road in Germantown for the northern sector. If these alternate MRF locations were selected, the bidder would have needed to submit an Operating Plan for the City review, input and approval within 10 days after the Bid date. The result was the City accepted Bid Option 1 and continued to use the City-owned MRF.

The bid provided by WMRA was a very competitive price resulting in long-term savings to the City for recycling. Cost sharing of the recycling revenue is at 50 percent for the City and the Contractor, and recycling revenues have been increasing over the years due to a global demand for recyclable materials.

Appendix A contains a draft letter to the bidders summarizing the MRF bid results. In addition, excerpts from WMRA's bid regarding potential use of alternate MRF locations is also included in this Appendix.

2.2 Existing and Proposed Regional Recycling Facilities

Waukesha County had a study conducted in 2007 which included evaluating the potential of a regional recycling facility to serve Waukesha County, City of Wauwatosa, and City of Milwaukee. The report entitled "Waukesha County Recycling System and Capacity Study, Final Report" was prepared by RRT Design and Construction and GBB (Waukesha County Study). The conclusion of the regional facility investigation was that the regional concept had merit and should be further explored. One of the main

advantages for this regional facility is to provide a long-term competitive situation for recycling services. The regional facility is based on the premise that it would be government-owned and operated by a private firm. After the Waukesha report, a preliminary MRF site was identified near West 116th Street and Walnut in Wauwatosa, and elected officials in Wauwatosa approved the site for consideration.

WMRA recently constructed a recycling facility in Germantown which has the capacity to handle the recyclables from the City of Milwaukee and provides the City with another option in the future. In this case, the City could convert the existing recycling facility into a transfer station or use other transfer sites.

The WMRA facility currently receives recyclables at their facility in Germantown from Waste Management customers as far away as Green Bay, Madison and Janesville in addition to southeastern Wisconsin.

3.0 EXISTING RECYCLING FACILITIES AND COLLECTION ROUTES

The City of Milwaukee has 34 recycling routes which are served by 34 trucks. In recent years, this number has been reduced to 31 crews during the seven months of the year from May through November, accomplished through eliminating up-the-driveway service in some routes. Each of the trucks has 1 driver on board who collects and dumps the recyclables as well as driving the truck. Most routes have carts to collect recyclables. Some routes have bins for recyclables. The recycling trucks are parked at the recycling facility, also referred to as the Materials Recovery Facility or MRF, and travel to the designated recycling route to collect recyclables. At the end of the day, the recycling truck brings the recyclables to the MRF for processing and the truck is parked.

Currently recyclables are picked-up from each household one time each month, with some exceptions. A pilot study by the City of Milwaukee and research from other cities has shown greater recycling rates when pick-up is more frequent than once per month. The following are believed to be some of the reasons why collection more frequent than once per month is preferred:

- The carts become full for many households before their next pickup, so they stop recycling until their cart is emptied, with overflow recyclables going in the garbage.
- The carts can become too heavy for some residents to safely move so they stop recycling for the month before their cart becomes too heavy.
- When collection is more frequent, it is more justifiable to require residents to roll out carts, allowing for considerable gains in collection efficiency versus up-the-drive service.

Data has shown more frequent collection of recyclables can increase recycling volumes by 10 to 20 percent. This study investigates the costs of increasing the frequency of collection based on efficient pilot studies conducted in Milwaukee and looks at the costs versus the benefits. It also looks at the costs of using two-person crews rather than one-person crews.

Currently, recycling in Milwaukee is dual stream, meaning that the paper products are separated from the cans and bottles by the consumer. The carts have a divider to keep the two streams separate. The carts are rolled to the rear of the split-body recycler truck where a lifting mechanism dumps the cart so that the two waste streams fall into their respective side of the truck. Although these split trucks are used today and are still being ordered, if single stream recycling is decided on for the future, the existing trucks and carts can still be utilized by removing the cart divider and tipping full carts into both sides of the truck. The tipping mechanism on the split packers allows for tipping carts on either side as well as in the middle as described above. Also, until single stream trucks and carts would be purchased in the future, the trucks could be modified to add another cart tipper arm if two-person crews are decided on.

The MRF's equipment is in poor condition due to many years of operation. Most of the equipment was installed in the early 1990s, and the manufacturer of the equipment is no longer in business. This

situation makes it difficult for the contractor to maintain the equipment and has resulted in the contractor needing to pay a premium for custom-made equipment parts to keep the equipment operating. WMRA recently shared a report with the City that was an assessment of the condition of the processing equipment in the existing City MRF. The report recommends no further investment in the existing equipment other than routine maintenance. This supports the conclusion that within the near future the City must either install a new system or have recyclables processed at another facility. Technology changes in recycling have been dramatic over the past 10 to 20 years, resulting in substantially more cost-effective and efficient processing equipment. For example, modern processing equipment accommodates the prevalence of single serve plastic bottles that generally were not part of the recycling stream fifteen years ago, and thus are not efficiently sorted with older equipment. The result is the existing processing equipment is both outdated and nearing the end of its useful life.

4.0 RECYCLING FACILITY ALTERNATIVES

The City of Milwaukee has several opportunities to continue to serve the city with recycling collection and processing. Now is the time to assess these recycling options because the City's existing MRF equipment is near the end of its life, and the City's contract with WMRA can be extended for five 1-year periods allowing the City to plan and implement another recycling program if desired during this period.

The recycling facility alternatives are as follows:

Alternative A – Dual Stream at Existing City Facility

Alternative B – Single Stream at Existing City Facility (City Only)

Alternative C – Two Transfer Stations to Third Party

Alternative D – One Transfer Station at Existing City Facility

Alternative E – Regional MRF at Wauwatosa

Alternative F – Regional MRF at Existing City Facility

The description of each alternative is presented herein. Estimated costs for each alternative are presented later in this report. The cost estimates in this report assume that the "third party" is WMRA in Germantown. For all alternatives, recycling collection costs are identified for monthly, 3-week, and 2-week collection scenarios. Only alternative A would continue the current dual stream collection program. Under all other alternatives, the City of Milwaukee would employ single stream collection.

4.1 Alternative A – Dual Stream at Existing City Facility

Alternative A would consist of continuing the City's current dual stream processing at the existing MRF. The existing equipment would be replaced entirely due to the age and condition of the processing equipment. The structural aspects of the facility would remain basically the same. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is projected to remain about the same and operation would continue by a private party. There are options regarding implementing this alternative which include the City purchasing and installing the equipment, or having a third party design, build and operate the system. If the City purchased and installed the equipment, a third party could operate it.

Recycling collection would remain the same as the existing program. Recycling trucks would be parked at the existing City MRF. Separate cost estimates are prepared for monthly, every 3-week, and every 2-week collection scenarios.

4.2 Alternative B – Single Stream at Existing City Facility (City Only)

Alternative B would consider single stream processing instead of the current dual stream. Single stream processing means all the recyclables are collected in a single undivided cart and then sorted at the MRF. This approach is more user friendly and collection friendly resulting in more recyclables being placed at the curb by the public and more efficient collection by the recycling truck operation. Single stream collection is more user friendly because the public can simply consolidate all recyclables in the home and place them all in one cart without further sorting. The recycling industry is moving toward single stream recycling nationwide. Single stream can accommodate fully automated collection, which improves efficiency by allowing carts to be serviced without the driver exiting the vehicle.

The existing recycling equipment would be removed and replaced with the new equipment. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is projected to remain about the same or less staff depending on the extent of automation as compared to the existing staff. There are two options regarding implementing this alternative which include the City purchasing and installing the equipment and using a third party to operate, or having a third party design, build and operate the system.

Recycling collection would be upgraded to reflect single stream operations, as it would under all the remaining alternatives as well. One-person or two-person collection crews are possible. The collection fleet can be upgraded over time to increase efficiency. The existing 95-gallon carts can be reused and modified easily by removal of the divider within the cart.

4.3 Alternative C – Two Transfer Stations to Third Party

Alternative C pertains to constructing two new transfer stations for recyclables. One station would be located at 3879 West Lincoln Avenue, which is the location of the current self-help center and solid waste transfer station. The second transfer station would be located on the northwest side of the City. Multiple locations are under consideration.

Collection of recyclables would be taken to one of the transfer stations. The recyclables would be placed in a compactor to crush the materials to increase the density, thereby allowing more recyclables to be placed in a semi tractor trailer. This approach saves on the transportation cost for trucking recyclables to the MRF. For this evaluation, the collection trucks are assumed to be located at the respective transfer station. If this alternative is selected, parking accommodations for the recycling trucks need to be further confirmed regarding available space.

Operation and maintenance costs for the transfer stations are estimated and based on a private firm performing the work. Operation and maintenance costs for the hauling to the MRF and MRF operation are based on services performed by a third party.

Recycling collection costs are identified for monthly, 3-week, and 2-week collection for single stream processing.

4.4 Alternative D – One Transfer Station at Existing City Facility

Alternative D would consist of converting the existing City MRF into a recycling transfer station. This alternative was addressed in the October 2008 Draft No. 2 Recycling Facilities Study report prepared by Earth Tech AECOM.

A compactor and related improvements would be added to the MRF. The transfer station would be operated by a third party which would transport the recyclables by semi truck to a processing facility.

Transfer station capital equipment could be provided directly by the third party firm and are estimated for this study.

Recycling collection addresses monthly, 3-week, and 2-week collection scenarios based on single stream collection.

4.5 Alternative E – Regional MRF at Wauwatosa

Alternative E is based on Waukesha County, City of Wauwatosa, and City of Milwaukee developing a new MRF located at West 116th Street and Walnut in Wauwatosa. The Waukesha County Study will serve as the basis for this alternative with some additional input from vendors for updated equipment costs. A single stream MRF is evaluated. The operation would be by a third party.

Recycling collection would be based on the City of Milwaukee recycling trucks being parked at the regional MRF. This assumption needs to be further verified with the City of Wauwatosa and Waukesha County. Another option is to park the City of Milwaukee recycling trucks at the existing City MRF though the collection costs would be somewhat higher, as discussed in the Earth Tech AECOM October 2008 Draft No. 2 Report. Preliminary discussions between the City of Milwaukee and City of Wauwatosa indicate there would be room for the City of Milwaukee trucks to be parked at the Wauwatosa site.

Recycling collection addresses monthly, three-week, and two-week collection scenarios based on single stream collection.

4.6 Alternative F – Regional MRF at Existing City Facility

Alternative F considers Waukesha County, City of Wauwatosa, and City of Milwaukee developing a MRF at the City's existing MRF on Mount Vernon. The City's current dual stream processing would be replaced with single stream processing equipment. The existing equipment would be replaced entirely due to its age, size, and condition. The structural aspects of the facility would remain basically the same. A cost allowance is included for some structural improvements to accommodate the new process equipment. Staffing is expected to increase from the current level based on additional recycling tonnage and is estimated based on the Waukesha County Report. The processing would be performed by a private firm as currently done.

Recycling collection for Waukesha County and City of Wauwatosa and transport to the City of Milwaukee MRF are not part of this study, but are recommended to be evaluated by Waukesha County and the City of Wauwatosa to develop the most cost-effective approach if this alternative is further considered.

Recycling collection for the City of Milwaukee addresses monthly, 3-week, and 2-week collection scenarios based on single stream collection.

5.0 COST ANALYSIS CONSIDERATIONS

5.1 Sources for Cost Information

AECOM attempted to obtain actual cost data when developing the budget costs. The source of the cost data is noted when a cost is used for the first time. When the data was well researched in a previous report and updating this data was not possible due to time constraints, or in the opinion of AECOM updating the data would not yield a different result, the previous report data was used. If information was not available from either of the previously discussed sources, AECOM estimated these costs using their experience with historical data for similar projects. A summary of references (footnotes) and additional detail about some of the cost data can be found in Appendix J.

In all cases it is important to note that these are budget costs. As budget costs they are based on many different assumptions. The basis of these costs and the key assumptions are documented in this section.

5.2 Common Assumptions and Cost Components

There are several global assumptions and costs that will be used when determining the particular cost of each alternative. This information is presented in this section.

5.2.1 Volume of Recyclables

The Waukesha County Study presented data which projected the volume of recyclable materials that would be generated by City of Milwaukee. The Waukesha County Study also presents data projecting the volume of recyclable materials that would be generated by various communities within Waukesha County that are likely to use the services of a new MRF. In July of 2009, Perry Lindquist from Waukesha County updated these figures in his presentation to the City of Milwaukee.

The volume of recyclables for these two scenarios is presented in the following table:

Scenario	Waukesha Study ¹ (tons/year)	Perry Lindquist Presentation ² (tons/year)	Projected Volumes (tons/year)*
City of Milwaukee only	28,354 - 29,015	23,000	23,000 - 27,000
City of Milwaukee, City of Wauwatosa, Waukesha County (County)	76,000 – 80,817	52,000	52,000 - 60,000
vvaukesna County (County)			

NOTES:

Mr. Lindquist explained during his presentation to the City of Milwaukee that some Waukesha County communities will probably not be part of a regional plan based on discussions with these parties. Therefore, Mr. Lindquist's tonnage estimates are viewed as more reasonable projections and therefore are incorporated into this report.

5.2.2 Collection Frequency and Projected Volumes

The Projected Volumes presented in the table above are based on the monthly collection schedule that the City is currently following.

^{*} Projected volumes used in this report's cost analysis

If the City were to switch to single stream processing/collection a modest increase in the recycling volume will also be realized due simply to the fact that recycling is easier. For purposes of the cost analysis a 4% increase will be added to the Projected Volume for those scenarios that utilize single stream processing/collection.

As part of this report, AECOM will also evaluate the impact of increasing the collection to every three weeks, and every two weeks. The various collection schedules and all the impacts are discussed later in Section 5 in this report. The net result however is that increasing the frequency of the collection schedule should result in an increase in the Projected Volume of recyclable material.

For purposes of the cost analysis, AECOM increased the total Projected Volume by 10% (of the monthly collection volume) for a three week collection schedule, and by 20% (of the monthly collection volume) for a two week collection schedule.

5.2.3 Dual Stream Recycling

Current trends in the recycled waste industry continue to move away from Dual Stream Recycling. This is happening for a variety of reasons which have been well documented in previous reports.

The Waukesha County Study concludes that:

"The body of evidence indicates that single stream recycling is here to stay and should be considered the state of the art when properly designed and operated. This conclusion is reached because of its obvious advantages to the user, the increase in collected tons, and that collection cost savings can be significant."

This conclusion is well supported in various studies and trade journals. As such, AECOM is using the cost information for Dual Stream Recycling and the associated equipment provided in the Waukesha Study, and applying an escalation factor.

Dual Stream Recycling Capital Equipment Costs

The Waukesha County Study estimates the cost of Dual Stream Equipment and Systems to be \$3,500,000.4

This cost is assumed to be for Dual Stream Equipment capable of processing 30,000 tons per year. These costs are presented in 2007 dollars. Adjusting these costs for inflation, the installed cost of Dual Stream Equipment and Systems in 2009 dollars is \$3,600,000.⁵

As stated above AECOM did not research the cost of Dual Stream processing equipment. The \$3,600,000 figure above is still suspected to be low. In order to come up with a more realistic number for the cost of dual stream equipment, AECOM estimated the cost using the following method:

The cost for Single Stream equipment was researched (see section 5.2.4). Using the Waukesha County Study, the ratio of dual stream equipment cost/single stream equipment cost was calculated to be 88% (\$3,500,000/\$4,000,000)⁴. This ratio was multiplied by the Single Stream Equipment Cost derived by AECOM (88% x \$5,200,000) which resulted in a cost of \$4,576,000. This is the figure that AECOM used for the Dual Stream Equipment cost.

The cost for equipment capable of processing 60,000 tons per year is not presented. It is assumed that if the City were to build a facility to process more than their own recyclables that they would install a single stream system.

The estimated costs for Dual Stream Equipment are presented in the following table.

Cost Item	Estimated Cost	Notes
Dual Stream Equipment (30,000 tons/year)	\$4,576,000	
Engineering/Design and Constructions Services	\$549,000	12% of cost*
Contingency	\$686,000	15% of cost
Subtotal	\$5,811,000	
City Administrative Costs	\$174,000	Estimated at 3% of Subtotal
Total	\$5,985,000	

NOTES:

5.2.4 Single Stream Recycling Capital Equipment Costs

In order to estimate the equipment cost of a single stream system, AECOM contacted several of the industry leading MRF equipment manufacturers for current budget numbers (see Appendix J for additional information). In addition to soliciting information from equipment manufacturers, AECOM also obtained information from the public records about two recently installed systems that are approximately the same size.

A brief summary of the information collected is presented in the table below:

Information Source	System Size	Cost
RRT Design and Construction	30,000 TPY	\$4,161,000
Waukesha County Study		
Prices adjusted for inflation and presented in 2009 dollars. 5,6		
2009 dollars. 5,6		
Van Dyk Baler Corporation	30,000 TPY	
Van Dyk Baler is the distributor for Bollegraff		did not respond
turnkey systems.	80,000 TPY*	
Bulk Handling Systems	30,000 TPY	
Bulk Handling Systems provides turnkey systems		did not respond
	80,000 TPY*	
JWR Incorporated	30,000 TPY	
JWR Inc.		
Jerry Flickinger		
Equipment Sales Manager	80,000 TPY*	\$6,000,000 - \$7,000,000
Kent County, Michigan	15 -18 TPH or	\$5,205,000
Calvin Brinks	30,000 - 36,000	
Purchasing Supervisor	TPY	
Kent County Purchasing Division		
provided public information about their recently		
awarded contracts for construction. The facilities'		
equipment was designed and installed by RRT		
Design and Construction		
Outagamie County, Wisconsin	25 TPH or	\$7,700,000
Jill Haygood	50,000 TPY	
Outagamie County provided public information		

^{*} This percentage is based on AECOM historical data for engineering, development of bid documentation, and construction/start-up oversight.

Information Source	System Size	Cost		
about their recently constructed facility. The facilities' equipment was designed and installed by Bulk Handling Systems				
NOTES:				
* At the time the information was solicited 80,000 tons per year was still being considered.				

For purposes of this report, AECOM will use the figures presented in the table below for estimating the cost of an installed single stream processing system:

Commodity	30,000 tons/year	80,000 tons/year
Process Equipment	\$5,200,000	\$7,700,000
Engineering Design and Construction Services (12%)	\$624,000	\$924,000
Contingency (15%)	\$780,000	\$1,155,000
Subtotal	\$6,604,000	\$9,799,000
City Administrative Costs (3%)	\$198,000	\$293,000
Total	\$6,802,000	\$10,092,000

An 80,000 ton per year system would not be required. If the City were to purchase equipment for processing their recyclables the 30,000 ton per year system would be selected. This system can be operated at a rate of 15 to 18 tons per hour therefore:

15 tons/hour x 40 hours/week x 52 weeks/year = 31,200 tons per year

18 tons/hour x 40 hours/week x 52 weeks/year = 37,440 tons per year

If the City were to partner with Waukesha County, a 30,000 ton per year system would also be selected and a second shift would be added to achieve the 60,000 TPY processing rate.

For purposes of the cost analysis, it is assumed that all costs and revenue related to operation of the MRF would be split on a percentage based on the total tonnage provided by each entity. The City's split percentage would be 44% of the cost and revenues. Waukesha County and City of Wauwatosa would be 44% and 12% respectively, for their share.

If the City were to partner with Waukesha County and build a MRF somewhere other than at the existing City MRF then the additional cost of a building and the cost of site improvements would be required. The cost of land is not considered because the Waukesha Study did not use a land cost in their analysis. The Waukesha County Study estimates the cost of the building to be \$3,500,000 and the cost of site improvements to be \$750,000.⁶ When these two numbers are added and adjusted for 2009 dollars the total cost for a facility's building and site improvements is \$4,427,000. As discussed in section 5.2.3, the Waukesha Study numbers are assumed to be on the low side. Using the same scale up factor as in section 5.2.3 (88%) a cost of \$5,000,000 is more realistic (\$4,427,000/0.88). As a final check this figure is compared to the building costs for the similarly sized facility that was constructed in Kent County Michigan that was discussed in the previous section. The costs for the building and site improvements for that Kent County Michigan facility were \$6,388,000 (see Appendix J).

Taking all of these different numbers into consideration, and factoring in their own historical data AECOM will use a cost of \$6,000,000 for the building and site improvements for the cost analysis. This is aside from the process equipment costs listed in the table above.

5.2.5 **MRF** Operation and Maintenance

Operation and Maintenance of a Dual Stream Recycling Facility

The Waukesha Study estimates the annual cost of operation and maintenance of a Dual Stream Facility to be \$42.96/ton⁷ (2010 dollars) for a 30.000 ton per year system.

Operation and Maintenance of a Single Stream Recycling Facility

The Waukesha County Study estimates the annual cost of operation and maintenance of a single stream facility to be \$44.02/ton (2010 dollars) for a 30,000 ton per year system and \$36.70 (2010 dollars) for an 80,000 ton per year system.7

There is limited detail in the Waukesha County Study as to what went into the development of these costs. General rules of thumb suggest that it costs approximately \$50,00/ton to operate a large volume single stream facility which is also in the same range of costs. A third party contract can be quite variable in its processing fee depending upon if they also receive a portion of the recyclables revenue.

City Operation and Maintenance Costs

The O&M cost is largely dependent on the system selected (the level of automation), the cost of local labor and a variety of other factors. The City has historically contracted all of the Operation and Maintenance of their existing MRF to a third party for a negotiated rate per ton. For purposes of the Cost analysis in this report, AECOM will assume that the City will continue to contract this service.

The O&M cost that AECOM used for each particular cost scenario is presented in the table below:

Cost Scenario	O&M Rate (\$/ton)	Source	
Dual Stream Processing	\$43.00	Waukesha County Study	
Single Stream Processing	\$46.00	AECOM scaled up factor from current City rate of \$41.94/ ton*	
NOTES:			

AECOM's estimates for O&M are in line with data presented in the AECOM Recycling Facility Study that was presented in October of 2008. The Waukesha County Study and the City's own data confirm that these are reasonable estimates.

The O&M Data is used in Costs analysis as part of the Revenue calculation.

5.2.6 MRF Revenue

The City's contract with WMRA for processing recyclables is based on the current market rate for the processed material, and the current negotiated O&M cost. There is also an adjustment to deduct the volume of mixed residue waste but for purposes of this report the mixed residue waste is assumed to be factored out in the recovery rate.

The simplified formula for calculating the recycling revenue for MRF in the cost analysis is as follows:

[(Recycled Material Market Price per ton) / 2 - (MRF O&M Cost per ton)] x (Pick-Up Schedule Volume in tons)

Phone conversation with Rick Mevers on 8-17-09. AECOM assumes more people/equipment are required to operate a Single Stream MRF resulting in a higher O&M cost per ton.

The avoided disposal costs can be added in order to provide a total net benefit per ton. For scenarios that increase recovery of recyclables, this is used to calculate the full benefit of that scenario by applying the avoided disposal costs to any resulting additional recycling tons. The avoided disposal cost formula is calculated as follows:

(Trash Reduction Volume in tons) x (Trash Disposal Price per ton)

Where:

- Recycled Material Market Price = Current market price per ton for sellable materials recovered at the MRF
- Pick-Up Schedule Volume = Volume of Recyclables picked up and brought to the facility for each collection scenario
- MRF O&M Cost = Operation and Maintenance Cost of the MRF (see section 5.2.5)
- Trash Reduction Volume = the volume of recyclable material that would otherwise go in the trash for landfill disposal (used in two and three week collection schedules only)
- Trash Disposal Price = the City's cost to dispose of trash (\$35.00/ton)

A positive result in this revenue formula represents an income to the City and a negative result in this formula represents a cost to the City.

Recycled Material Market Price

The Waukesha County Study estimates median net revenue of \$77.78 per ton. This number is based on data compiled by the County over 10 years from 1991 to 2006. It should be noted that this data is several years old and market conditions are constantly changing.

In order to determine the Recycled Material Market Price, AECOM will use a figure that is based on revenues listed in the monthly contract reports from WMRA to the City. The determination of this figure is based on data presented in the table below:

Year	Revenue Per Ton ⁹ (\$/ton)	Average Revenue Per Ton* (\$/ton)
2003	\$74.97	\$74.97
2004	\$95.43	\$85.20
2005	\$96.80	\$89.07
2006	\$88.61	\$88.95
2007	\$108.56	\$92.87
2008	\$116.58	\$96.82
2009	\$46.69	\$89.66

NOTES:

The recycling market is based on a global economy. The recent down turn in the economy directly impacts the recycling revenue. The long-term forecast is for an improved economy and a return to higher values for recyclables.

\$90.00 per ton will be used as the Recycled Material Market Price for the "LOW Cost" scenarios.

\$110.00 per ton will be used as the Recycled Material Market Price for the "HIGH Cost" scenarios.

^{*} Sum of the current + previous year(s) revenue / total number of years

5.2.7 Modifications to Existing MRF

Existing City MRF Demolition

The existing City MRF dual stream processing equipment would be removed if the existing MRF is used in a particular cost scenario. Some of the equipment may have some salvage value, and the equipment does have a scrap value, however the current price of scrap steel is relatively low. A cost of \$250,000 is included for the demolition of the equipment. This cost assumes that any salvage/scrap value for the equipment will go to the demolition contractor as part of the \$250,000 estimate. If there is salvageable equipment (with a salvage value associated with it) this could lower the \$250,000 cost estimate. A cost of \$100,000 is also included for some facility upgrades if the existing MRF structure is continued to be used. These are assumed to be the cost of some minor structural, floor, utility, and miscellaneous repairs following demolition.

Some alternatives consider no longer using the City MRF. In these cases the existing MRF may also be demolished. The demolition cost of the MRF is not included in any of the alternatives because the future use of the existing MRF in these scenarios has not been determined.

Using the existing MRF as a transfer station or as the location for the new recycling facility has several advantages:

- There is sufficient space at the existing facility for either application.
- The City currently owns this asset; new land acquisition is not an issue.
- The use of the facility essentially remains unchanged ("not in my back yard" issues are avoided).
- The City recently spent \$320,000 on roof repairs that will be taken advantage of and building/facility costs will be minimized.
- The haul routes to the facility are known and can be calculated.
- The geographic location is easily accessible to/from major highways.

AECOM estimates that it will cost \$250,000 to demolish the equipment at the existing City MRF. The estimated costs to modify the existing MRF are presented in the table below. The useful life of the new facility is estimated to be 15 years before major upgrades would need to be made (see section 5.2.11).

Although there are several advantages to utilizing the existing location, it is recognized that the existing MRF is located in an area where real estate values are on the rise, and as such this property is a valuable asset to the City for future planning.

5.2.8 Waste Transfer Station Equipment

For purposes of this report, AECOM will use the figures presented in the table below for estimating the cost of an installed/delivered piece of equipment.

Commodity*	Cost/unit	Source
Compactor	\$150,000	Stepp Equipment Corporation
Transfer Trailers	\$110,000	Stepp Equipment Corporation
Semi Tractor	\$100,000	AECOM Recycling Facility Study
Yard Truck	\$100,000	AECOM Recycling Facility Study
Front-End Loader	\$350,000	AECOM Recycling Facility Study

NOTES:

^{*} The City is not likely to purchase this equipment. There is the option that all of the equipment will be provided by a third party as part of a design/build/operate scenario.

5.2.9 Transfer Facility Cost

In developing an estimate for the costs associated with constructing a new Transfer Facility (TF), three separate scenarios were considered:

- Constructing two new Transfer Facilities including the cost of two new buildings. This is referred to the New North TF Scenario, and New South TF Scenario.
- Constructing a new Transfer Facility at the existing MRF which includes the cost of modifying the
 existing building. This is referred to as the Existing MRF Transfer Facility Scenario.

The following assumptions were made about all three scenarios:

- The cost of land was not considered. All new Transfer Facilities are presumed to be located on property that the City already owns.
- Each facility will need to have the following features:
 - Site improvements (paving, drainage, fencing, etc.)
 - o Building with tipping floor and 3 truck bays (80'x80'x30')
 - o 1 compactor
 - o 1 scale
 - 1 fuel station
 - Parking for a portion of the recycle truck fleet (including electrical stations for winter)
 - 1 yard truck
 - o 1 end-loader
 - o 1 semi tractor
 - Parking for 3 compacted waste hauling trailers and semi tractor

Some of these features already exist at the assumed locations. If this alternative is deemed feasible, additional evaluation should be performed to refine the costs such as relocating the scale to serve the New North TF, or use of the existing trash scale to serve the New South TF. The current cost estimate is meant to be on the conservative side. A cost for this feature will be included if the feature does not exist.

Neither the cost of relocation of the satellite recycle drop off centers (Self Help Center on the Northwest side), or the cost of relocation of any waste processing equipment/operations have been included in these cost scenarios.

AECOM will use the figures presented in the table below for estimating the construction costs of the New North Transfer Facility.

Commodity	Cost	Source
Site Improvements and new building	\$1,100,000	AECOM historical data (Fayette
		County Landfill – Iowa)
Scale	\$ 100,000	AECOM Estimate
Fuel Station (underground tank assumed)	\$ 100,000	AECOM Estimate
Parking for a portion of the recycle truck fleet	\$ 75,000	AECOM Estimate
(10,000 square feet for 12 trucks and electrical		
outlets)		
Subtotal	\$1,375,000	
Engineering/Design and Construction Services	\$ 165,000	12% of cost
Contingency	\$ 206,000	15%
Facility and Equipment Subtotal	\$1,746,000	
City Administrative Costs	\$ 52,000	Estimated at 3%

Commodity	Cost	Source
Total	\$1,798,000	

AECOM will use the figures presented in the table below for estimating the construction costs of the New South Transfer Facility.

Commodity	Cost	Source
Site Improvements and new building	\$1,100,000	AECOM historical data (Fayette
		County Landfill – Iowa)
Scale	\$ 100,000	AECOM Estimate
Fuel Station (underground tank assumed)	\$ 100,000	AECOM Estimate
Parking for a portion of the recycle truck fleet	\$ 150,000	AECOM Estimate
(20,000 square feet for 24 trucks and electrical		
outlets)		
Subtotal	\$1,450,000	
Engineering/Design and Construction Services	\$ 174,000	12% of cost
Contingency	\$ 218,000	15%
Facility and Equipment Subtotal	\$1,842,000	
City Administrative Costs	\$ 55,000	Estimated at 3%
Total	\$1,897,000	

AECOM will use the figures presented in the table below for estimating the construction costs of a new Transfer facility located at the existing City MRF location.

Commodity	Cost	Source
Site Improvements for compactor installation	\$100,000	AECOM Estimate
Engineering /Design and Construction Services	\$ 12,000	12% of cost
Contingency	\$ 15,000	15%
Subtotal	\$ 127,000	
City Administrative Costs	\$ 4,000	estimated at 3%
Total	\$ 131,000	

5.2.10 Recyclables Transfer Facility Operation and Maintenance

The City currently contracts the O&M of their waste transfer facilities to a third party, so it is assumed that they would do the same for a new Recyclables Transfer Facility. It is also assumed that the O&M cost would include the processing fee at a third party MRF, and the cost of transportation to the MRF.

The current industry trend is to include the non-subsidized processing cost in the fee along with some revenue sharing component. This allows the third party MRF to cover their operating costs no mater what the market for recyclables is doing.

The O&M cost that AECOM used for the Transfer Facility Scenarios are presented in the table below

Cost Scenario	O&M Rate (\$/ton)	Source
Two Transfer Facility Operations	\$60.00	\$42.00/ton for O&M + \$18.00/ton (\$9x2) for transportation to MRF
Single Transfer Facility Operations	\$52.00	\$42.00/ton for O&M + \$10.00/ton for transportation to MRF

AECOM's estimates for O&M are in line with data presented in the AECOM Recycling Facility Study that was presented in October of 2008.

The O&M Data is used in Costs analysis as part of the Revenue calculation.

5.2.11 Transfer Facility Net Revenue

The City currently does not have a contract for transferring Recyclables to a third party MRF for processing to use as a model. As stated above, the current trend is for the third party MRF to ensure that their processing costs are covered. It is also reasonable to assume that the third party fee would also have some element of revenue sharing to it. This provides financial incentive for the processor to try and obtain the best rate for the recyclables, and to operate as efficiently as possible.

The formula for calculating the Net Revenue in the cost analysis for the Transfer Facility is as follows:

[(Recycled Material Market Price per ton) / 2 - (Third Party O&M Cost per ton)] x (Pick-Up Schedule Product Volume in tons)

The avoided disposal costs can be added in order to provide a total net benefit per ton. For scenarios that increase recovery of recyclables, this is used to calculate the full benefit of that scenario by applying the avoided disposal costs to any resulting additional recycling tons. The avoided disposal cost formula is calculated as follows:

(Trash Reduction Volume) x (Trash Disposal Price)

Where:

- Recycled Material Market Price = Current market price per ton for sellable materials recovered at the Third Party MRF
- Pick-Up Schedule Volume = Volume of Recyclables picked up and brought to the Transfer Facility for each collection scenario
- Third Party O&M Cost = O&M Cost (see section 5.2.10)
- Trash Reduction Volume = the volume of recyclable material that would otherwise go in the trash (used in two and three week collection schedules only)
- Trash Disposal Price = the City's cost to dispose of trash (\$35.00/ton)

A positive result in this revenue formula represents an income to the City and a negative result in this formula represents a cost to the City.

5.2.12 Facility and Equipment Life Expectancy

Buildings and grounds are generally expected to last 40 to 50 years.9

Process equipment with routine maintenance and service can last for many years. The waste recycling industry relies heavily on material handling equipment. A reasonable estimate for the life expectancy of material handling equipment is 10 to 15 years. This is also true for motors, controls, starters, and most electrical equipment.^{9, 10}

Recycling commodities may change due to packaging, consumer trends, etc., it is reasonable to assume that in 15 years there will also be the need to change most of the equipment to adapt to the changing times. This assumption holds true when looking at the City's dual stream recycling equipment which is no longer considered optimal even though it was purchased and installed in the mid 1990's.

The equipment and building at the transfer facility is subjected to more severe service as such it has a shorter life expectancy.

AECOM will use the figures presented in the table below for estimating the useful life of a particular piece of equipment.

Commodity	Life Expectancy	Source
Buildings and Grounds	30 years	EPA publication EPA 816-R-03-016
		September 2003
Single Stream Process	10 to 15 years	AECOM/ Waukesha Study/JWR
Equipment	-	Incorporated
Compactor	10 years	Stepp Equipment Corporation
Yard Truck	15 years	AECOM / Stepp Equipment Corporation
Front End Loader	15 years	AECOM / Stepp Equipment Corporation

Based on all of the information presented above, the life cycle of a transfer station or a MRF will be evaluated for no longer than 15 years. This coincides with the assumptions in the Waukesha County Study.¹¹ The salvage value of a new building (if required) will be assumed to be 50% if its original cost.

5.2.13 Transportation Cost Estimates

The transportation costs consist of collection and transport of recyclables. Transport costs are included for taking compacted loads of recyclables from the two new transfer stations or from the downtown transfer station to the WMRA Germantown (third party) recycling center. If the existing MRF is improved and used as a processing center or if the regional Wauwatosa recycling center is used there are no transport costs to the City because end-users pick up the sorted recyclables at the MRF.

Collection of recyclables is based on 34 dual stream recycling trucks, each with a one-man crew, collecting within the 34 collection routes, or sectors. In the summer there are typically 31 collection routes, and the City is considering going to 31 collection routes year round. For simplicity, this study assumes 31 collection routes for the monthly collection alternative and 34 collection routes for the three and two week alternatives. Costs associated with driving the collection trucks to the sectors in the morning from either of the MRFs or from the two Transfer Stations and back at the end of the day are included in the cost estimates. This drive is assumed to occur only once per day per sector. Driving within each of the 34 sectors is assumed to be common to all options so it is not evaluated as a separate cost item.

Additional costs will be added to the collection options if additional personnel and additional trucks are required to carry out the scenario described. For example, additional drivers and trucks are required to accomplish the scenario of one driver pickup up every 2 weeks (approximately 13 drivers and 13 trucks). Approximately 13 more employees are needed to staff the 2-person crew for pickup up every 3 weeks, while 2 trucks and 35 employees are needed for 2-person crew to pick up every 2 weeks. Costs for single compartment trucks are assumed to be capital expenditures of \$198,000. Costs for the additional employees are included at their full cost including benefits for the full, 52-week year (\$96,885). Costs for all scenarios are shown on Tables 1 through 4.

The City of Milwaukee performed a pilot study in which they collected data to determine what the crew requirements would be if they want to change from picking up recyclables once per month through upthe-drive service to once every 3 weeks or once every 2 weeks with carts placed at the collection location by the resident. They found that, on average, a typical one-person crew can service 350 households each day for dual stream recycling when the carts are set out at the collection location once per month. We assume the rate is the same for single stream, although it might be a little better. A summer 2009 analysis of the twice per month recycling pilot program showed that more frequent pickup results in more households per day served. The main reason for this is probably because not as many carts are out every time when pickup is more frequent. For twice per month pickup, on average, the 1-person crews pick up 372 households per day. By dividing the total number of households that need recycling pick-up

each month by the pickup rate (number of HH/day) and by the number of pick-up days in the cycle, the number of crews needed to pick-up on that cycle can be determined. This data and resultant information is shown on the spreadsheet included in Appendix K. The costs are included in Tables 1 through 4.

The City of Milwaukee collects recyclables from carts located either up the driveways, in alleys, or at the curb depending on the areas. Some areas are also served using bins. Retrieving carts up the driveway is time consuming. The current rate of collection is about 270 households per day. Based on a City of Milwaukee pilot study, the recycling collection rate was 350 households per day when the carts are placed at the curb, or are in the alley. It is in the City's best interest to avoid as much as possible walking up driveways to retrieve carts for collection. This time adds to the City's cost for recycling collection. Some cities charge a fee for those households that request the additional service of the City to going up the driveway to get the cart.

The City of Milwaukee is also interested in determining what effect single stream recycling and two-person crews would have on the recycling rates and collection costs. The data available for garbage collection crews can be used to estimate the crew requirements if two-person crews are used on cycles of once per month, once every 3 weeks, or once every 2 weeks. On average, a typical two-person crew can service 500 households each day. By dividing the total number of households that need recycling pick-up each month by 500 HH/day and by the number of pick-up days in the cycle, the number of crews needed to pick-up on that cycle can be determined. This data and resultant information is shown on the spreadsheet included in Appendix F. The costs are included in Tables 1 through 4.

Recyclable collection one time per month is not desirable for several reasons based on the City's survey of users. Many users collect more recyclables than the 95-gallon cart can handle in a one month period so the surplus recyclables end up in the trash thereby reducing the City's recycling revenue and increasing the solid waste cost to the City. Secondly, elderly people have complained about the weight of a filled cart after one month of collection. More frequent collection would reduce the content weight in the cart. Other users commented that monthly collection was too infrequent resulting in users forgetting to put out the cart and compounding the problem of an overfilled cart. Studies performed by others also indicate more frequent collection improves recycling participation and increases tonnage.

5.3 Present Worth Analysis

A present worth analysis was performed to determine the project costs for the recycling alternatives. The present worth is the theoretical amount of money needed to cover capital, operations and maintenance, and transportation costs over the term of the project. It is based on investing the money today at a certain interest rate to cover all costs over the project term.

For this project, a 15-year term is proposed to reflect the useful life of new processing equipment at the MRF. An annual interest of seven percent is used.

Present Worth Analysis:

- Capital cost will be figured at the beginning of the period.
- Annual costs will be calculated using uniform present worth calculation.
- The "Salvage Value Cost" portion of the equation will only be used in scenarios where a new facility is required

$$P = (Capital\ Cost) + \left[A x \frac{(1+i)^n - 1}{i(1+i)^n} \right] + D (1+i)^{-n}$$

Where:

P = Present worth

Capital Cost = Sum of the capital cost

Α	=	Sum of the annual Income and annual costs
D	=	Sum of the salvage values at the end of the period
i	=	Annual interest rate (7%) or (.07)
n	=	Period (15 years)

Therefore, for all equations, the uniform present worth factor for annual costs will be the same.

$$\frac{(1 + (.07))^{15} - 1}{(0.7) (1 + (.07))^{15}} = 9.11$$

For those equations that use depreciation, the present worth factor for the depreciation will be the same.

$$(1+(.07))^{-15} = 0.3624$$

6.0 COST ANALYSIS

The cost analysis for the respective alternatives is included in these Appendices:

Alternative	<u>Appendix</u>
A - Dual Stream at Existing City Facility (City Only)	D
B - Single Stream at Existing City Facility (City Only)	Е
C - Two Transfer Stations to Third Party	F
D - One Transfer Station at Existing City Facility	G
E - Regional MRF at Wauwatosa	Н
F - Regional MRF at City Facility	I

7.0 DISCUSSION OF RESULTS

7.1 Discussion of Recycling Facility Alternatives Cost Comparison

Tables 1 through 4 are a cost comparison of recycling facility alternatives addressing four scenarios of recycling tonnage and recycling revenue. The table includes capital, operation and maintenance, transportation, and total present worth costs. The following is a discussion of the alternatives addressing monetary and non-monetary considerations. A discussion on the transportation options is presented later in this section for all the alternatives.

As previously mentioned, City costs are shown as a negative number such as the annual O&M cost. Revenue to the City such as the revenue from recyclables is a positive number. Therefore, the alternative with the largest positive number or least negative number is the most-cost effective solution for the City. Alternative D - One Transfer Station at the Existing City Facility with single stream collection every three weeks using one person per truck is the most cost-effective solution and results in a total present worth revenue of approximately \$-3,546,000 based on Table 1 - Low Volume, Low Price scenario, and \$-892,000 based on Table 2 - Low Volume, High Price scenario. Salvage values of new

facilities were incorporated into the analysis for scenarios C and E. Salvage values are the worth of a structure or process equipment at the end of a cost analysis period and converted to a present worth. Based on a 15-year life processing equipment would have nearly zero salvage value. Structures would have about 50 percent value based on a 30-year life. Based on a general review of the alternatives, Alternative D is the most cost-effective because it has the least capital cost.

The analysis considers revenue sharing at 50:50 between the third party and the City based on the City's current agreement.

Alternative A – Dual Stream at Existing City Facility

Dual stream processing is currently being performed by the City. This alternative replaces the existing equipment with new equipment. The MRF would only serve the City. The industry trends are definitely moving away from dual stream processing because single stream collection of recyclables is more cost-effective, and recycling volumes are higher with single stream collection because it is easier for the public to place all recyclables in one cart without presorting of materials.

Alternative B – Single Stream at Existing City Facility (City Only)

Single stream processing at the existing City MRF was evaluated and would only serve the City. The existing equipment would be replaced with single stream equipment. Industry trends are toward single stream collection and processing. Based on the present worth analysis, Alternative B was not the most cost-effective alternative.

Alternative C – Two Transfer Stations to Third Party

Two transfer stations servicing the City of Milwaukee, one on the south side and one on the northwest side of the City would need to be constructed. Collection trucks would need to be parked at the transfer stations and parking space for these trucks may not be available. If parking space is not available at the transfer station(s), either one or more properties would need to be obtained or continue to park the trucks at the existing City MRF. The cost assessment considered parking at the two transfer stations.

Recyclables would be transported to a third party. For this evaluation, transport to WMRA's new MRF in Germantown was considered. The costs to construct two transfer stations are significant. These costs do not include the capital cost for the self-help center relocation for the northwest side of Milwaukee or the solid waste transfer station relocation. Based on the present worth analysis, Alternative C was not the most cost-effective alternative.

Alternative D – One Transfer Station at Existing City Facility

The alternative considers converting the City's MRF on Mount Vernon Avenue into a recycling transfer station. The improvements could be provided by WMRA or another third party in the future, who would operate the facility. Recyclables would be transported to a third party processor, such as WMRA's MRF in Germantown, for example.

This alternative was addressed in the Earth Tech AECOM October 2008 recycling report with input from WMRA. This approach would increase the City's cost due to transporting the recyclables to Germantown by about \$250 per semi truckload according to WMRA preliminary 2008 proposal. Closing the City's MRF and sending Milwaukee recyclables to the Germantown MRF would reduce WMRA labor costs associated with processing the City's recyclables. This situation may result in more savings passed on to the City, potentially offsetting the additional transportation costs. These matters can be further negotiated with WMRA in the future.

Based on the present worth analysis, Alternative D was the most cost-effective alternative. Alternative D results in the least capital investment to the City. It also is the least risk to the City. The City keeps the option available in the future, say 5 to 15 years from now, to relocate the transfer station if the City deems the property too valuable for operation as a transfer station. Alternatively, the City also would also retain the option under Alternative D to install new recycling processing equipment in the building in the future if development of a new MRF becomes advantageous. This study provides the City with estimated costs for transfer stations to better assess the economics of a new transfer station.

In the future, the key to the City's success is to have a strong, favorable, and fair contract with a third party to continue to meet the City's needs in the years ahead. Market volatility directly impacts the recycling pricing, and now is not a good time to obtain favorable rates for recycling. The City's current contract is very fair to all parties, but more recent contracts for other communities such as Waukesha County and City of Wauwatosa have been more favorable, but were developed when the value of recyclables was substantially better.

Alternative E - Regional MRF at Wauwatosa

This alternative was originally evaluated in the Waukesha County Study, though not specific to the Wauwatosa site later identified and then considered in this study. AECOM has since gathered additional capital cost information on similar single stream MRFs constructed in 2008-2009. The newly constructed MRFs tend to have higher construction costs than originally projected in the Waukesha County Study. For these reasons, AECOM's projected capital costs for a regional MRF at Wauwatosa are significantly higher than indicated in the Waukesha Study.

Implementing a regional MRF involving Waukesha County, City of Wauwatosa, and City of Milwaukee can be a political and administrative challenge. Winnebago, Outagamie, and Brown Counties successfully implemented joint landfill and single stream recycling MRF construction and operations.

A government owned MRF which is privately operated does provide the communities with additional control because the operating contract can be bid out every 5 to 10 years to maintain competition. On the other hand, Alternative D involving a transfer station and a third party for processing minimizes your capital investment. In the future, if the communities no longer feel the contract is fair, the matter of building a new MRF can be re-evaluated at that time. The business aspects of recycling are rapidly changing depending on the market for goods. If recycling prices improve, other private businesses may move into the area providing more competition. Secondly, recycling prices are dictated by a global economy. Therefore, the pricing of a third party business in Wisconsin is primarily influenced by the global market. The competitive nature of the recycling business should keep third party businesses providing fair, competitive services.

The current third party contracts with the City of Milwaukee, Waukesha County, City of Wauwatosa and other communities throughout southern Wisconsin present competitive fair rates for recycling services.

The regional MRF would require additional discussions and negotiations by the affected governments to determine the contract requirements and allocation of capital, operation and maintenance costs, as well as recycling revenues.

Alternative E Costs to the City are based on the City providing 44 percent of the recyclable tonnage. Capital costs likewise reflect the City's share. Based on the present worth analysis, Alternative E is not the most cost-effective option.

Alternate F - Regional MRF at Existing City Facility.

This alternative would replace the existing dual stream equipment with single stream equipment. For regional operation including Waukesha County, City of Wauwatosa, and City of Milwaukee, a two-shift operation is proposed to reduce the capital cost for the equipment.

The capital cost for this alternative is less than a regional MRF at Wauwatosa because the City of Milwaukee MRF already has the structure, scale, and parking facilities. Highway access off of Interstate I-94 is very good using the 13th Street exit.

The transportation costs from Waukesha County and City of Waukesha would need to be addressed. There may need to be a transfer station at Waukesha County, or possibly converting their existing MRF into a transfer station if feasible.

Governmental coordination, negotiations, and contracts would need to be resolved by the affected parties similar to Alternative E, Regional MRF at Wauwatosa.

The regional MRF would be operated by a third party such as WMRA. Alternative F costs to the City are based on the City providing 44 percent of the recyclable tonnage. Capital costs likewise reflect the City's share. Based on the present worth analysis, Alternative F is not the most cost-effective option.

7.2 Single Stream Recycling Benefits

Single stream recycling is recommended for the following reasons:

- Increased public participation is documented nationwide resulting in more recyclables processed.
- The estimated increase in recyclables for the City of Milwaukee, estimated at 4% in this study, could reach 10 percent based on the Waukesha County Study.
- Industry trends nationwide are toward single stream because of more efficient collection and improved public participation.
- Maximize full cart volume without divider restricting contents of each side's respective materials.
- Existing City carts can be reused with a minor modification, and purchasing undivided carts in the future saves approximately 15-20% compared to the cost of split carts.
- Existing packer trucks can be used, and purchasing single body recycling packers in the future saves approximately 15% compared to the cost of split-body trucks.

7.3 Labor Impacts

The most cost-effective alternative is Alternative D – One Transfer Station at Existing City Facility. There would be no change in travel time for City collection trucks, and only modest labor savings can be achieved by tipping at two transfer sites instead of one. A third party such as WMRA would operate the transfer station and transport the recyclables to Germantown where their MRF is a state-of-the-art single stream processing facility. WMRA has offered to employ the existing WMRA staff from the City MRF for positions at the Germantown MRF. The same labor contractor would be involved and the City's contractual requirements for employment would still be enforced. The proposed Alternative D would result in less WMRA employees than the current MRF. There is the possibility that WMRA could offer a bus service to take the current Milwaukee MRF staff to Germantown.

7.4 Transportation and Collection Alternatives

The collection of recyclables addressed one person and two person crews, and monthly, every three weeks, and every two weeks pick up. Monthly collection and every three week collection can be cost-effectively accomplished. Collection every three weeks has the potential for more recyclables being collected based on a City survey, a City pilot program, and similar studies by others. An estimated increase in recyclables of ten percent is projected with three week pickup as compared to monthly. For three week pickup to be cost effective, the carts need to be placed at the curb. The City would no longer provide walk up the driveway service, unless reimbursed by the customer for this extra effort. This is based on a one person crew. DPW research shows that Milwaukee residents would consider it a service improvement to have scheduled, more frequent, and guaranteed dates of collection requiring them to set out carts versus having driveway service on unknown dates about once per month.

Two week pickup was evaluated and an increase of about 20 percent in recyclables is estimated over monthly pickup. The two week frequency required additional personnel and trucks which cost more than the direct financial benefit of receiving more recyclables. Therefore, this approach does not appear cost-effective at this time.

Two-person crews were not cost-effective. The analysis showed that two-person crews collected from approximately 40 percent more households per day than one-person crews. This increase is not enough to justify the cost of additional personnel. Also, the trucks might fill up in less than one day, meaning they would travel more distance in order to empty the load during the day and return to collecting.

An expanded pilot program could be implemented for three week collection to further refine the collection program. The City also plans to either purchase or develop software to evaluate collection routes for potentially better collection efficiency.

However, every other week collection is a goal worth pursuing in future years because it provides a greater customer service level that is more comparable to that of other communities, both regionally and throughout the country. The increased recovery of recyclables that comes with more collection also provides the public with greater environmental benefits. Furthermore, anticipated City efforts to reduce residential garbage disposal will likely result in increased demand for more recycling collection capacity. While it may not be deemed cost-effective to move to every other week collection presently, it is clear that once per month collection will not be sufficient for a large percentage of households served. AECOM strongly recommends increasing recycling collection to at least every third week collection at this time.

8.0 OTHER RECYCLING CONSIDERATIONS

8.1 Measures to Reduce Tonnage to Landfill and Benefits

There are a number of measures the City can do to reduce tonnage to the landfill. These items include the following:

Public Education

Public education in the form of news releases, media events, flyers and related information can inform the public regarding measures to be taken to reduce solid waste and increase recycling revenue. Waste diverted from landfills is equally beneficial to the user and City. DPW's Recycle For Good promotion campaign is a prudent investment in public outreach and education.

Recycling Collection Frequency

The City's pilot study in addition to other studies throughout the nation show a positive trend toward increased recyclables when the collection frequency increases. For the City of Milwaukee, this study indicates three week frequency collection is possible with existing staff and

trucks if the carts are placed at the curb and staff no longer needs to walk up the driveway to obtain the cart. Some of the cities have added a surcharge to users where staff needs to walk up the driveway to obtain a cart.

Pay as You Throw

There is increasing interest nationwide in a "pay as you throw" (PAYT) program. The most common approach is for the user to pay for a certain size garbage container(s) and the recycling cart is free. The more items recycled the less garbage which benefits the user as well as the City. Lisa Skumatz of Skumatz Economic Research Associates, Inc. (SERA) has studied PAYT and surveyed over 700 communities about recycling and PAYT. The results are very positive in favor of PAYT.

Appendix L of this report contains technical literature from SERA summarizing the results of their findings. About 25 percent of the communities nationwide have PAYT. The PAYT program results in a decrease in the trash tonnage and increase in the recycling tonnage. They found PAYT has the single biggest impact on diversion and can result in 16 to 17 percent diversion from residential trash which is generally divided equally among recycling, yard waste and source reduction. Additional information is contained in Appendix L.

9.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

9.1 Summary

The City of Milwaukee is under contract with WMRA to operate the City's recycling facilities. The City's contract extended to June 30, 2009, plus the City has the sole option to renew the contract for up to five 1-year periods. The existing dual stream processing equipment is at the end of its useful life and the City is interested in evaluating recycling alternatives.

The following recycling alternatives were evaluated:

- Alternative A Dual Stream at Existing City Facility
- Alternative B Single Stream at Existing City Facility
- Alternative C Two Transfer Stations to Third Party
- Alternative D One Transfer Station at Existing City Facility
- Alternative E Regional MRF at Wauwatosa
- Alternative F Regional MRF at Existing City Facility

The regional MRF would include the City of Milwaukee, Waukesha County, and City of Wauwatosa. In 2007, Waukesha County commissioned a study which included evaluating a regional MRF and the conclusion was a regional MRF showed promise and should be further explored.

The following recycling collection options were evaluated for the City of Milwaukee:

- Dual Stream one-person crew
- Single Stream
 - o One-person operation
 - Two-person crew

Other recycling considerations addressed in the study included potential measures to reduce tonnage going to landfills. Single stream collection is viewed as one way to increase public participation in recycling programs. With single stream, it is easier to recycle because there is only one cart and no

required sorting between different types of recyclables. In the case of the City of Milwaukee, an estimated 4 percent increase in recyclables is expected and as high as a 10 percent increase may be possible using single stream collection. Pay as you throw is an approach which has increased recyclables and decreased waste tonnage based on results from other communities. PAYT has been shown to be the single most effective method of diverting materials from the waste stream.

Recycling collection frequency was evaluated to address the capital and operating expenses for the following:

- Monthly
- 3 Weeks
- 2 Weeks

9.2 Conclusions

Based on the findings in this study, the following conclusions are made:

- Alternative D One Transfer Station At Existing City Facility, is the most cost-effective approach. Processing would be performed by a third party such as WMRA at their new MRF in Germantown. For the sake of discussion, in the fall of 2008 WMRA suggested the same per ton billing rates as the current plus the additional cost to operate the transfer station and transport the recyclables. The additional cost is about \$250 per semi truckload. Less staff would be needed, but WMRA indicated they would offer jobs at the Germantown MRF to their employees currently working at the City's MRF.
- 2. Single stream collection offers the benefit of more efficient collection. It maximizes the cart volume and improves convenience for residents. One-person crews are more cost-effective at this time. While the City currently employs a semi-automated collection program with cart lifters on the back of trucks, single stream allows the possibility of using fully-automated vehicles where the driver does not have to exit the truck. A one person operation with a collection truck with arm attachments to pick up a cart results in an efficient operation and less workmen compensation claims because the heavy lifting is performed entirely with mechanical means.
- 3. Recycling collection frequency can have an effect on the amount of recyclables obtained. Two-week collection frequency is ideal as compared to the current monthly pick-up, but was not cost-effective. Three-week collection is the most cost-effective while also expected to increase recycling volume. Recycling collection scheduled with a set out date at the collection point (no driveway walk up) is the most cost-effective and efficient operation. Public information and refrigerator magnets with a calendar may help improve participation. Two-week collection results in higher collection costs due to more recycling trucks and more staff. The benefits of additional recycling revenue must be balanced against the added collection cost.
- 4. Pay As You Throw has been successfully implemented throughout the nation and has been proven to increase the recycling tonnage as well as to reduce waste.

9.3 Recommendations

The following recommendations are made:

- 1. Implement Alternative D One Transfer Station at Existing City Facility, based on the economics. It presents the least investment and least risk to the City of Milwaukee.
- 2. Negotiate with WMRA to implement Alternative D.

- 3. Implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection for the cart to be located at the curb or alley line (no walk up driveway) to improve collection efficiency. Make improvements to the routes based on new software for routing trucks.
- 4. Implement Pay As You Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.

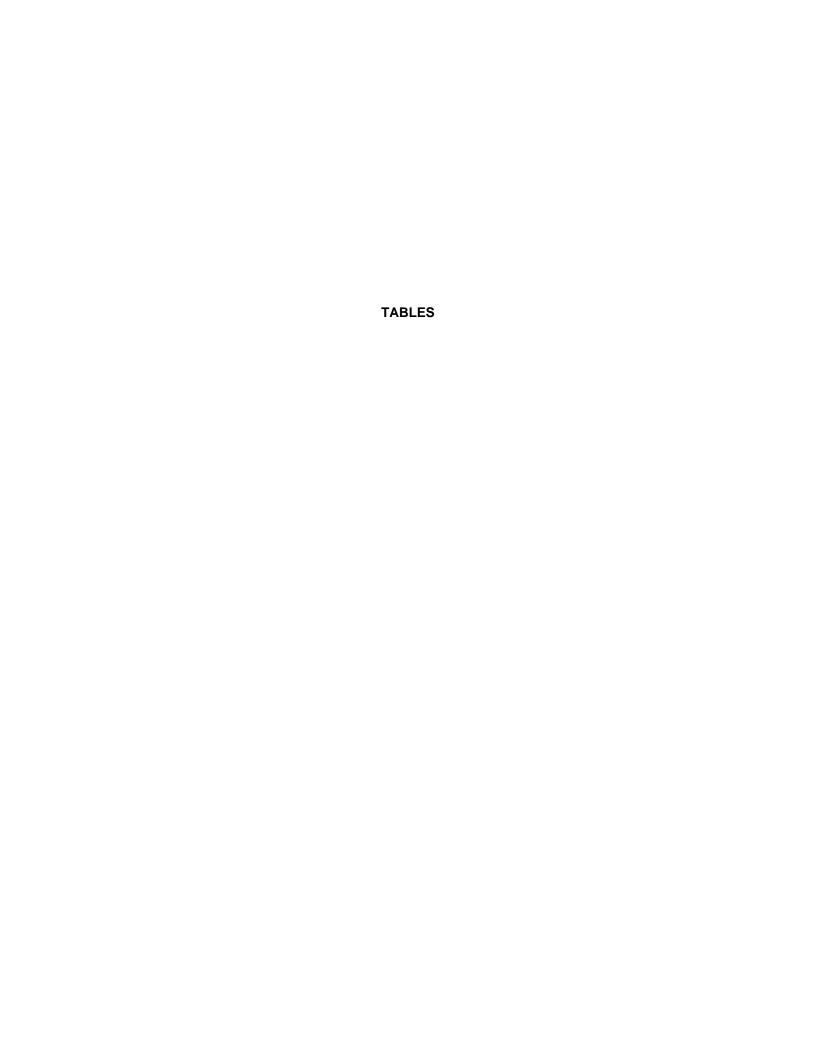


TABLE 1 COST COMPARISON OF RECYCLING ALTERNATIVES LOW VOLUME - LOW PRICE

LO	W Volume (23,000	TPY) - LOW Recycled	Material Price (\$90.00/Ton)	Processing						
	System	Schedule	Cost / Income	Alternative A – Dual Stream at Existing City Facility	Alternative B – Single Stream at Existing City Facility (City Only)	Alternative C – Two Transfer Stations to Third Party	Alternative D – One Transfer Station at Existing City Facility	Alternative E – Regional MRF at Wauwatosa	Alternative F – Regional MRF at Existing City Facility	
		Monthly*	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$0 \$46,000 \$0 -\$5,816,037	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	c		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$80,500 \$50,600 -\$271,000 -\$7,509,195	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	Dual Stream	(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	L		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$9,141,000 \$161,000 \$55,200 -\$1,395,912 -\$19,885,699	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Collection			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
ŭ		Monthly*	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$0 -\$23,920 -\$247,088 -\$9,520,316	-\$3,695,000 \$0 -\$358,800 -\$188,735 -\$8,078,873	-\$381,000 \$0 -\$167,440 -\$247,088 -\$4,156,482	-\$5,632,880 \$0 -\$22,880 -\$306,353 -\$8,200,653	-\$3,242,880 \$0 -\$22,880 -\$247,088 -\$5,701,724	
	۶	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$83,720 -\$26,312 -\$271,000 -\$8,997,375	-\$3,695,000 \$83,720 -\$358,800 -\$207,000 -\$7,809,504	\$83,720 -\$184,184 -\$271,000	-\$5,632,880 \$80,080 -\$26,058 -\$336,000 -\$7,770,262	-\$26,058 -\$271,000	
	Single Stream	(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$83,720 -\$26,312 -\$1,531,000 -\$20,473,329	-\$3,695,000 \$83,720 -\$394,680 -\$1,467,000 -\$19,285,458	-\$381,000 \$83,720 -\$184,184 -\$1,531,000 -\$15,240,211	-\$5,632,880 \$80,080 -\$26,058 -\$1,596,000 -\$19,246,216	-\$26,058 -\$1,531,000	
	Ξ	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$9,958,000 \$167,440 -\$28,704 -\$1,531,000 -\$22,638,601	-\$6,601,000 \$167,440 -\$430,560 -\$1,467,000 -\$21,755,736	-\$200,928 -\$1,531,000	-\$8,538,880 \$80,080 -\$29,420 -\$1,596,000 -\$21,453,469	-\$29,420 -\$1,531,000	
			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,499,000 \$167,440 -\$28,704 -\$3,662,000 -\$39,588,536	-\$4,142,000 \$167,440 -\$430,560 -\$3,598,000 -\$38,705,671	-\$828,000 \$167,440 -\$200,928 -\$3,662,000 -\$34,486,135	-\$6,079,880 \$160,160 -\$29,420 -\$3,727,000 -\$38,403,404	\$160,160 -\$29,420	

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

TABLE 2 COST COMPARISON OF RECYCLING ALTERNATIVES HIGH VOLUME - LOW PRICE

HIG	H Volume (27,000	TPY) - LOW Recycled	Material Price (\$90.00/Ton)	Processing						
	System	Schedule	Cost / Income	Alternative A – Dual Stream at Existing City Facility	Alternative B – Single Stream at Existing City Facility (City Only)	Alternative C – Two Transfer Stations to Third Party	Alternative D – One Transfer Station at Existing City Facility	Alternative E – Regional MRF at Wauwatosa	Alternative F – Regional MRF at Existing City Facility	
			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$0 \$54,000 \$0 -\$5,743,173	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	c	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$94,500 \$59,400 -\$271,000 -\$7,301,535	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	Dual Stream	(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	u	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$9,141,000 \$189,000 \$64,800 -\$1,395,912 -\$19,543,242	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Collection		(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
ŭ			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$0 -\$28,080 -\$247,088 -\$9,558,205	-\$3,695,000 \$0 -\$421,200 -\$188,735 -\$8,647,206		-\$5,632,880 \$0 -\$2,640 -\$306,353 -\$8,016,309	\$0 -\$2,640 -\$247,088	
	۶	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$98,280 -\$30,888 -\$271,000 -\$8,906,441	-\$3,695,000 \$98,280 -\$421,200 -\$207,000 -\$8,302,059	\$98,280 -\$216,216 -\$271,000	-\$5,632,880 \$92,400 -\$30,067 -\$336,000 -\$7,694,565	\$92,400 -\$30,067 -\$271,000	
	Single Stream	(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$98,280 -\$30,888 -\$1,531,000 -\$20,382,395	-\$3,695,000 \$98,280 -\$463,320 -\$1,467,000 -\$19,778,013	-\$381,000 \$98,280 -\$216,216 -\$1,531,000 -\$15,399,344	-\$5,632,880 \$92,400 -\$30,067 -\$1,596,000 -\$19,170,519	\$92,400 -\$30,067 -\$1,531,000	
	ισ	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$9,958,000 \$196,560 -\$33,696 -\$1,531,000 -\$22,418,846	-\$6,601,000 \$196,560 -\$505,440 -\$1,467,000 -\$22,172,513	-\$3,287,000 \$196,560 -\$235,872 -\$1,531,000 -\$17,589,245	-\$8,538,880 \$92,400 -\$33,946 -\$1,596,000 -\$21,270,274	\$184,800 -\$33,946 -\$1,531,000	
		(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,499,000 \$196,560 -\$33,696 -\$3,662,000 -\$39,368,781	-\$4,142,000 \$196,560 -\$505,440 -\$3,598,000 -\$39,122,448	-\$828,000 \$196,560 -\$235,872 -\$3,662,000 -\$34,539,180	-\$6,079,880 \$184,800 -\$33,946 -\$3,727,000 -\$38,220,209	\$184,800 -\$33,946 -\$3,662,000	

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

TABLE 3 COST COMPARISON OF RECYCLING ALTERNATIVES LOW VOLUME - HIGH PRICE

LOV	V Volume (23,000 T	TPY) - HIGH Recycled	Material Price (\$110.00/Ton)	Processing						
	System	Schedule	Cost / Income	Alternative A – Dual Stream at Existing City Facility	Alternative B – Single Stream at Existing City Facility (City Only)	Alternative C – Two Transfer Stations to Third Party	Alternative D – One Transfer Station at Existing City Facility	Alternative E – Regional MRF at Wauwatosa	Alternative F – Regional MRF at Existing City Facility	
		Monthly*	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$0 \$276,000 \$0 -\$3,721,220	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	c	3 Weeks (1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$80,500 \$303,600 -\$271,000 -\$5,204,897		Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	Dual Stream		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
		2 Weeks (1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$9,141,000 \$161,000 \$331,200 -\$1,395,912 -\$17,371,919	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Collection		2 Weeks (2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
ŭ		Monthly*	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$0 \$215,280 -\$247,088 -\$7,341,706	-\$3,695,000 \$0 -\$119,600 -\$188,735 -\$5,900,263	-\$381,000 \$0 \$71,760 -\$247,088 -\$1,977,872	-\$5,632,880 \$0 \$205,920 -\$306,353 -\$6,116,765	-\$3,242,880 \$0 \$205,920 -\$247,088 -\$3,617,836	
	٤	3 Weeks (1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$83,720 \$236,808 -\$271,000 -\$6,600,904	-\$3,695,000 \$83,720 -\$131,560 -\$207,000 -\$5,413,033	-\$381,000 \$83,720 \$78,936 -\$271,000 -\$1,367,786	-\$5,632,880 \$80,080 \$234,524 -\$336,000 -\$5,396,903	\$80,080 \$234,524 -\$271,000	
	Single Stream		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$83,720 \$236,808 -\$1,531,000 -\$18,076,858	-\$3,695,000 \$83,720 -\$131,560 -\$1,467,000 -\$16,888,987	-\$381,000 \$83,720 \$78,936 -\$1,531,000 -\$12,843,740	-\$5,632,880 \$80,080 \$234,524 -\$1,596,000 -\$16,872,857	-\$3,242,880 \$80,080 \$234,524 -\$1,531,000 -\$14,321,692	
	<u> </u>	2 Weeks (1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$9,958,000 \$167,440 \$258,336 -\$1,531,000 -\$20,024,270	-\$6,601,000 \$167,440 -\$143,520 -\$1,467,000 -\$19,141,404	-\$3,287,000 \$167,440 \$86,112 -\$1,531,000 -\$14,921,869	-\$8,538,880 \$160,160 \$264,776 -\$1,596,000 -\$18,773,969		
		2 Weeks (2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,499,000 \$167,440 \$258,336 -\$3,662,000 -\$36,974,205	-\$4,142,000 \$167,440 -\$143,520 -\$3,598,000 -\$36,091,339	-\$828,000 \$167,440 \$86,112 -\$3,662,000 -\$31,871,804	-\$6,079,880 \$160,160 \$264,776 -\$3,727,000 -\$35,723,904	-\$3,662,000	

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

TABLE 4 COST COMPARISON OF RECYCLING ALTERNATIVES HIGH VOLUME - HIGH PRICE

HIG	HIGH Volume (27,000 TPY) - HIGH Recycled Material Price (\$110.00/Ton)			Processing							
	System	Schedule	Cost / Income	Alternative A – Dual Stream at Existing City Facility	Alternative B – Single Stream at Existing City Facility (City Only)	Alternative C – Two Transfer Stations to Third Party	Alternative D – One Transfer Station at Existing City Facility	Alternative E – Regional MRF at Wauwatosa	Alternative F – Regional MRF at Existing City Facility		
			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$0 \$324,000 \$0 -\$3,284,040	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	-	3 Weeks (1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$6,235,000 \$94,500 \$356,400 -\$271,000 -\$4,596,489		Not Applicable	Not Applicable	Not Applicable	Not Applicable		
	Dual Stream		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Collection	О		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	-\$9,141,000 \$189,000 \$388,800 -\$1,395,912 -\$16,592,282	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
		(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Analyzed	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
ŭ			Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$0 \$252,720 -\$247,088 -\$7,000,706	-\$3,695,000 \$0 -\$140,400 -\$188,735 -\$6,089,707	-\$381,000 \$0 \$84,240 -\$247,088 -\$1,864,205	-\$5,632,880 \$0 \$237,600 -\$306,353 -\$5,828,227	-\$3,242,880 \$0 \$237,600 -\$247,088 -\$3,329,298		
	۶		Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$98,280 \$277,992 -\$271,000 -\$6,093,193	-\$3,695,000 \$98,280 -\$154,440 -\$207,000 -\$5,488,811	-\$381,000 \$98,280 \$92,664 -\$271,000 -\$1,110,142	-\$5,632,880 \$92,400 \$270,605 -\$336,000 -\$4,956,075			
	Single Stream	(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,052,000 \$98,280 \$277,992 -\$1,531,000 -\$17,569,147	-\$3,695,000 \$98,280 -\$154,440 -\$1,467,000 -\$16,964,765	-\$381,000 \$98,280 \$92,664 -\$1,531,000 -\$12,586,096	-\$5,632,880 \$92,400 \$270,605 -\$1,596,000 -\$16,432,029	\$92,400 \$270,605 -\$1,531,000		
	ισ	(1 person / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$9,958,000 \$196,560 \$303,264 -\$1,531,000 -\$19,349,848	-\$6,601,000 \$196,560 -\$168,480 -\$1,467,000 -\$19,103,515	-\$3,287,000 \$196,560 \$101,088 -\$1,531,000 -\$14,520,247	-\$8,538,880 \$184,800 \$305,510 -\$1,596,000 -\$18,178,542	\$305,510 -\$1,531,000		
		(2 persons / truck)	Capital (\$) Trash Reduction Income (\$/Yr) Recyclable Income (\$/Yr) Collection Costs (\$/Yr) Total Pres. Worth (\$)	Not Applicable	-\$7,499,000 \$196,560 \$303,264 -\$3,662,000 -\$36,299,783	-\$4,142,000 \$196,560 -\$2,021,760 -\$3,598,000 -\$52,932,939	-\$828,000 \$196,560 -\$1,752,192 -\$3,662,000 -\$48,349,670	-\$6,079,880 \$184,800 \$305,510 -\$3,727,000 -\$35,128,477	\$184,800 \$305,510		

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.



APPENDIX A

2004 BID SUMMARY FOR RECYCLING AND EXCERPTS FOR RECYCLE AMERICA ALLIANCE BID

January 30, 2004

Mr. Chris Rooney Onyx Waste Services Midwest, Inc. W144 S6350 College Court P.O. Box 456 Muskego, WI 53150

Mr. Ray Carter Lee County Landfill Allied Waste 1214 South Bataan Road Dixon, IL 61021

Mr. William Theado Recycled Fibers Division Newark Group 2601 E. River Road Moraine, OH 45439

Mr. Bill Leonidas FCR, Inc. 809 W. Hill Street Charlotte, NC 28208

Mr. Harry Peltz Recycle America Alliance 4600 N. Port Washington Road Milwaukee, WI 53212

Subject: Bid Tabulation
City of Milwaukee
MRF Services
Official Notice No. 166

Dear Bidders:

Pursuant to the Official Notice to Bidders, sealed bids for the above referenced project were received in Room 507, Municipal Building on January 22, 2004, until 10:30 a.m. and publicly opened and read aloud at 10:45 a.m. We have reviewed all of the bids received for the project. Enclosed is the Bid Tabulation. In addition, we have reviewed the Qualifications Statements of the Bidders for conformance to the Bid Specifications. The results are as follows.

Mr. Chris Rooney

Mr. Ray Carter

Mr. William Theado

Mr. Bill Leonidas

Mr. Harry Peltz

January 30, 2004

Page 2

Provision of Materials Recovery Facility (MRF) and Recyclables Receiving, Processing, and Murketing Official Notice No. 166

Five sealed bids were received. The low bid was submitted by Recycle America Alliance LLC in the amount of \$ - 3,370,500. This amount is the Net Processing Fee for the first year and the negative value represents a revenue to the City. This bid amount was the same for Bid Options 1, 2, and 3. The second low bid was submitted by the Newark Group Recycled Fibers Division in the amount of \$ - 500,000 for Bid Option 1, Operation of City-Owned Material Recovery Facility.

The Qualifications Statement from Recycle America Alliance, LLC meets the Bid Specifications requirements. The forms accompanying their bid were complete.

The City has determined Recycle America Alliance LLC is the Apparent Low Bidder for this project. We wish to thank all the Bidders for their interest and for submitting a Bid.

If you have any questions regarding these matters, please contact Mike Engelbart of my staff at (414) 286-2355.

Very truly yours,

City of Milwaukee

Mariano A. Schifalacqua Commissioner of Public Works

Enclosure: Bid Tabulation

Liwork/71436/ADMIN/TRANS/LETTERS/166 Bid Tabulation Letter.doc

Bid Tab Summary

Material Recovery Facility (MRF) and Recyclables Receiving, Processing, and Marketing

Official Notice Number: 166

Bldo	der	FCR	Allied	Newark	Onyx	Recycle America	Current Contract
Bid.	Option: Operation of City Owned Material Recover Facility						
	Tipping Fee (per ton)	У			<u> </u>		
۹.	Tipping Fee (per year)	35	47	10		37.50	
	Guaranteed year 1 Recyclables Sale Revenue per ton	1,750,000	2,350,000	500,000	0		
3.	Guaranteed year 1 Recyclables Sale Revenue per ton	40	20	20		104.91	850,00
;	Guaranteed year 1 Recyclables Sale Revenue per year Net Processing Fee (A-B) per year	2,000,000		1,000,000	0	5,245,500	
	Option 2-Processing Fee (A-B) per year	-250,000	1,350,000	-500,000	0	-3,370,500	
	Option 2s Processing of Recyclables at an Alternate Location Tipping Fee (per ton)	on .				0,010,000	1 000,000
•					58	37.50	r
-	Tipping Fee (per year)	0	0	01	2,900,000	1,875,000	<u>t</u>
	Guaranteed year 1 Recyclables Sale Revenue per ton				2	104.91	<u> </u>
_	Guaranteed year 1 Recyclables Sale Revenue per year	0	0	0	100,000	5,245,500	
-	Net Processing Fee (A-B) per year	0	0	0	2,800,000	-3,370,500	
_	Total Additional Cost to City due to alternate MRF					0,070,000	
A76	Total City Cost (C+D)						
u v	Option 3: Processing of Recyclables at Two Alternate Local	tions			··		
	Tipping Fee (per ton)					37.50	
	Tipping Fee (per year)	0	0	0	0	1,875,000	
	Guaranteed year 1 Recyclables Sale Revenue per ton					104,91	
	Guaranteed year 1 Recyclables Sale Revenue per year	0	0	. 0	0	5,245,500	
	Net Processing Fee (A-B) per year	Ö	0	0.		-3,370,500	
_	Total Additional Cost to City due to alternate MRFs					-3,370,300	
<u> </u>	Total City Cost (C+D)			1.5			
equ	lired Forms (Indicate with Y/N If present)			-			
	Sworn Statement of Bidder	Y	Y	Y	Y	Y	<u> </u>
	Bid Bond Form and Affidavit	Y	Y	Y	'	Y	· · · · · · · · ·
	Non-Collusion Affidavit	Y	Y				
	Disclosure of Ownership ¹	Y, NA	Y, NA	Y	Y, NA	Y, NA	
	Designation of Confidential and Proprietary Information	Y	Y, NA	Y	Y Y	T, NA	
	Parental Guarantee- Material Recovery Facility ¹	Y, NA	Y, NA	Y	Ÿ	Y, NA	
	Parental Guarantee- Financial Qualifications ¹	Y, NA	Y, NA	Y	'	Y, NA	
	Acknowledgement of Addendums 1, 2, & 3	Y	Y	Y	'	Y Y	

- Must be included but may be marked as not applicable.
 NA means Not Applicable as noted by Bidder.



City of Milwaukee

Official Notice - #166

Material Recovery Facility and Recyclables Receiving, Processing, and Marketing



Submitted By:

Recycle America Alliance, L.L.C. 4600 N. Port Washington Road Milwaukee, WI 53212

Dated: January 22, 2004

Part II - Technical Proposal

II-3 Location and Description of Alternate MRF(s) (if applicable)

3.2.3 Location and Operating Plan of Alternate MRF(s) (if applicable)

The Bidder shall provide a map showing the location of the alternate MRF(s). The Apparent Low Bidder shall submit an Operating Plan for City review, input, and approval within 10 days after the Bid date. This information shall consist of a detailed description of the proposed operations to be employed at the MRF(s) in order to comply with the specifications. The description shall include the following:

- Anticipated traffic flow management procedures for City collection vehicles, including collection vehicle maneuvering, tipping, and weighing procedures.
- Procedures and preliminary schedule for maintaining MRF processing equipment, scales, and mobile equipment.
- Discussion of mobile equipment repair and replacement policies and protocols.
- Operating hours.
- Staffing (number of employees, job classifications, and job descriptions).
- Dust, litter, vector, odor control, and snow and ice control procedures.
- A facility layout that specifies traffic flow and materials receiving areas.

RAA Statement:

This response is in addition to the previous RAA statement as noted in the RFQ.

As another option, Recycle America Alliance is proposing two alternate processing and drop off locations located in the City of Milwaukee. The Recycle America Alliance location in the southern sector is the A-1 Recycling Center located at 2101 West Morgan Ave. and the Recycle America Alliance site in the northern sector is the Milwaukee North MRF located at 9601 N. Wasaukee Road.

The trucks will enter the property at the identified entrance gate and proceed to the inbound scale to be weighed. Once the inbound gross weight has been recorded, the trucks will be directed to the tipping area for residential fiber. When the tipping floor is available, the driver will be directed to back into the building by the loader operator and drop off the residential fiber stream on his truck.

Once the fiber stream has been tipped and the fiber compartment on the truck is empty the driver will be directed to the drop off area for mixed rigid containers. When the tipping area for mixed containers is available the driver will be directed to the area to drop off the mixed rigid containers from the container compartment of the truck.

Page 15 1/20/2004

Part II - Technical Proposal

When the driver has completed dropping off the mixed containers the driver will proceed to the outbound scale to be weighed. Once the weighing process is complete, the driver will exit the property by the assigned exit gate.

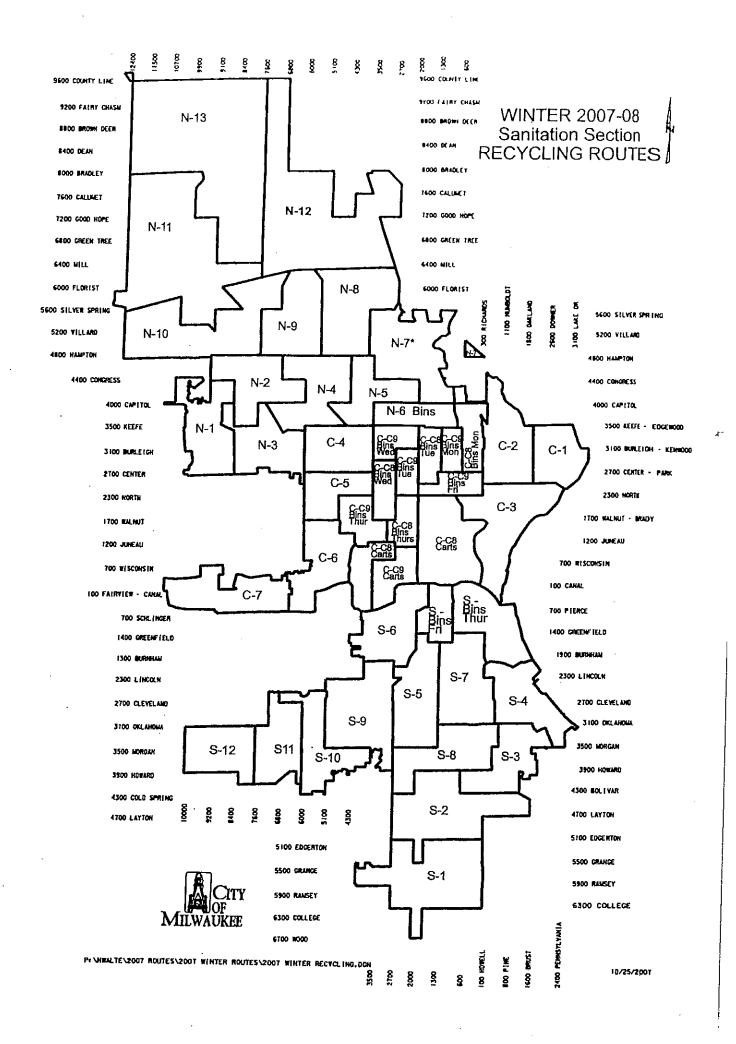
The residential mixed fiber will be processed at either site and shipped to market. All mixed rigid mixed container will be loaded on company equipment and transferred to one of Recycle America Alliance processing locations in the greater Milwaukee Area for processing and marketing.

All scale information will be sent to the City as required by the contract. While on the Recycle America Alliance property all City of Milwaukee personnel will be required to follow the Recycle America Alliance safety plan and tipping floor policy including the wearing of high visibility PPE. The receiving hours at both Recycle America Alliance Milwaukee plants is 7:00am to 4:00pm M – F and 7am to 12 noon on Sat.

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APPENDIX B

WINTER 2007-08 SANITATION SECTION RECYCLING ROUTES MAP



Pirrung, Don

From:

Meyers, Rick [rick.meyers@milwaukee.gov]

Sent:

Thursday, August 14, 2008 10:22 AM

To:

Pirrung, Don

Cc:

Booker, Wanda

Subject:

RE: Recycling Proposal

Attachments: 2007-08 Recycling routes.pdf

Don.

Attached is our route map for winter recycling routes. We have 34 recycling routes. In 2006 and 2008 budget cuts reduced the summer route number to 31. Here is how the routes break down:

North: N-1 through N-5 and N-7 through N-13 = 12 cart routes, + 1/2 bin route (N-6) = 12.5 routes/trucks Central: C-1 through C-7 = 7 cart routes, + 2 bin/cart combo routes* (C-8 and C-9) = 9 routes/trucks South: S-1 through S12 = 12 cart routes, + 1/2 bin route (S bins Thurs & S bins Fri) = 12.5 routes/trucks Total = 34 routes (31 cart routes and 3 bin routes)

*For C-8 and C-9 routes, after those trucks have collected their bin route area for the day they collect a portion of the areas on the map that are labeled "C-8 carts" and "C-9 carts," keeping those areas on roughly a once per month schedule.

In summer 2008 right now we have 31 total trucks each day, with 28 cart and 3 bin. The summer route map is basically the same except consolidating a couple of routes in each Sanitation area. I can provide that map as well if needed.

Winter routes are December through March each year and summer routes are April through November. We have the data on total tons collected in each route, households per route, lbs/HH, etc., that can be provided if/when needed. Let me know if you have any more questions or information needs at this point. We look forward to your proposal!

-Rick

APPENDIX C LABOR AND MAINTENANCE/FUEL COSTS FROM THE CITY OF MILWAUKEE

Pirrung, Don

From:

Booker, Wanda [Wanda Booker@milwaukee.gov]

Sent:

Wednesday, August 13, 2008 3:13 PM

To:

Pirrung, Don

Cc:

Meyers, Rick; Purko, James

Subject:

FW: Recycling Proposal

Attachments: rates_recycling study_earthtech.xls

Don -

See rates you requested attached. I need a copy of your proposal to attach to the service order. Let me know what othe information you need.

Booker, Wanda

Operations Driver Worker

hourly rate (adjusted to 2008)	22.90
Indirect Salary (2008)	6.86
Fringe Benefit (2008)	13.75
Overhead (2008)	3.06
Total Hourly Rate	46.58

Recycling Packer

annual maintenance	10,714.56
annual fuel (13 gal/day, \$4/gal)	12,896.00
hourly maint/fuel	11.20

purchase price	223,500.00
expected life (years)	11

APPENDIX D ALTERNATIVE A – DUAL STREAM AT EXISTING CITY FACILITY

Assumptions Common To Scenario A

LOW Recyclable Volume (TPY) = 23,000 HIGH Recyclable Volume (TPY) = 27,000 Pick-Up Schedule Volume (Monthly Set-Out Collection*).	Dual Stream Collection Volume of Recyclables (data - Section 5.2.1)	
Pick-Up Schedule Volume (Monthly Set-Out Collection*) Assume a Dual Stream volume is starting basis LOW Product Volume (TPY) = 23,000 HIGH Product Volume (TPY) = 27,000 Pick-Up Schedule Volume (Three Week Collection) Assume a 10% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 25,300 HIGH Recyclable Volume (TPY) = 29,700 Volume of Recyclables not put in Trash (Three Week Collection) Recyclable Volume (3 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 2,300 HIGH Trash Reduction Volume (TPY) = 2,700 Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclables Not put in Trash (Two Week Collection) Recyclables Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000	LOW Recyclable Volume (TPY) =	23,000
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Recyclable Volume (3 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 2,300 HIGH Trash Reduction Volume (TPY) = 2,700 Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	Volume of Decyclobian not put in Tranh (Three Week Catherina)	
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Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		•
Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	HIGH Trash Reduction Volume (TPY) =	2,700
Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	Bick Un Schodula Valuma (Two Mack Callection)	•
LOW Recyclable Volume (TPY) = 27,600 HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		
HIGH Recyclable Volume (TPY) = 32,400 Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		
Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		•
Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	HIGH Recyclable Volume (TPY) =	32,400
Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = 4,600 HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	Mitana of Description and and in Toronto (Toronto Marcol O. H., 15.).	
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HIGH Trash Reduction Volume (TPY) = 5,400 Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		
Capital Costs Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		4,600
Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000	HIGH Trash Reduction Volume (TPY) =	5,400
Cost to demolish equipment and modify existing MRF = \$250,000 Dual Stream Processing Equipment = \$5,985,000		
Dual Stream Processing Equipment = \$5,985,000	<u>Capital Costs</u>	
Dual Stream Processing Equipment = \$5,985,000	Oast to demalish any imment and modify existing \$ADE	* 050.000
	Cost to demolish equipment and modify existing MRF =	\$250,000
	Dual Stream Processing Equipment =	¢E 00E 000
Annual Costs	Dual Official (100cs) this Equipment -	φυ, υ ου,υυυ
Allinear Cooks	Annual Costs	
	Ainual Vosts	

MRF Operating and Maintenance Costs (\$/ton) = \$43

Trash Disposal Price (\$/ton) = \$35

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income =
[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x
(Pick-up Schedule LOW Recyclable Volume)

HIGH Volume Price Income =
[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x
(Pick-up Schedule HIGH Recyclable Volume)

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

Trash Reduction Income =

(LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF)

UPWF = 9.1079

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)]

Alternative A - Capital Costs

Cost to demolish equipment and modify existing MRF =

-\$250,000

Dual Stream Processing Equipment =

-\$5,985,000

Two Week Collection Additional Equipment =

-\$2,906,000

Alternative A - Annual Costs

LOW Volume O&M Costs =

In Annual Recyclable Income Formula

HIGH Volume O&M Costs =

In Annual Recyclable Income Formula

Three Week Collection (1 person/truck)

-\$271,000

Two Week Collection (1 person/truck)

-\$1,395,912

LOW Recycled Material Price

Variables for LOW Recycle	d Material Price	
	£' 2'0'2\$' - 3 "	
LOW Recycled Material Price	(\$/ton) =	\$90
Total Necycles Material Tick		ФЭ∪

Alternative A - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$6,235,000	-\$6,235,000
Three Week Collection (1 person/truck)	-\$6,235,000	-\$6,235,000
Two Week Collection (1 person/truck)	-\$9,141,000	-\$9,141,000

Alternative A - Annual Recycleable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$46,000	\$54,000
Three Week Collection (1 person/truck)	\$50,600	\$59,400
Two Week Collection (1 person/truck)	\$55,200	\$64,800

Alternative A - Annual Trash Reduction Revenue

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$80,500	\$94,500
Two Week Collection (1 person/truck)	\$161,000	\$189,000

Alternative A - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	. \$0	\$0
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000
Two Week Collection (1 person/truck)	-\$1,395,912	-\$1,395,912

Alternative A - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$5,816,037	-\$5,743,173
Three Week Collection (1 person/truck)	-\$7,509,195	-\$7,301,535

Two Week Collection (1 person/truck)

-\$19,885,699 -\$19,543,242

HIGH Recycled Material Price

Variables for HIGH Recycled Material Price	AND THE RESERVE	345 Y 444
		0.00
HIGH Recycled Material Price (\$/ton) =		\$110
HIGH Recycled Material Price (\$/ton) =		**************************************
	Service and the service of	

Alternative A - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$6,235,000	-\$6,235,000
Three Week Collection (1 person/truck)	-\$6,235,000	-\$6,235,000
Two Week Collection (1 person/truck)	-\$9,141,000	-\$9,141,000

Alternative A - Annual Recycleable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$276,000	\$324,000
Three Week Collection (1 person/truck)	\$303,600	\$356,400
Two Week Collection (1 person/truck)	\$331,200	\$388,800

Alternative A - Annual Trash Reduction Revenue

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$80,500	\$94,500
Two Week Collection (1 person/truck)	\$161,000	\$189,000

Alternative A - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	-\$271,000	-\$ 271,000
Two Week Collection (1 person/truck)	-\$1,395,912	-\$1,395,912

Alternative A - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$3,721,220	-\$3,284,040
Three Week Collection (1 person/truck)	-\$5,204,897	-\$4,596,489
Two Week Collection (1 person/truck)	-\$17,371,919	-\$16,592,282

APPENDIX E

ALTERNATIVE B – SINGLE STREAM AT EXISTING CITY FACILITY (CITY ONLY)

Assumptions Common To Scenario B

Dual Stream Collection Volume of Recyclables (data - Section 5.2 LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	. <u>.1)</u> 23,000 27,000
Pick-Up Schedule Volume (Monthly Set-Out Collection*) Assume a 4% increase in Dual Stream volume LOW Product Volume (TPY) = HIGH Product Volume (TPY) =	23,920 28,080
Pick-Up Schedule Volume (Three Week Collection) Assume a 10% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	26,312 30,888
Volume of Recyclables not put in Trash (Three Week Collection) Recyclable Volume (3 wk) - Recyclables Volume (month LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =	ly) 2,392 2,808
Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	28,704 33,696
Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (mont LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =	hly) 4,784 5,616
Capital Costs	
Cost to demolish equipment and modify existing MRF =	\$250,000
Single Stream Processing Equipment	\$6,802,000
Annual Costs	
MRF Operating and Maintenance Costs (\$/ton) =	\$46
Trash Disposal Price (\$/ton) =	\$35

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule LOW Recyclable Volume)

HIGH Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule HIGH Recyclable Volume)

Trash Reduction Income

Trash Reduction Income = (LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF)

UPWF = 9.1079

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)]

Alternative B - Capital Costs

Cost to demolish equipment and modify existing MRF = -\$250,000

Single Stream Processing Equipment = -\$6,802,000

Two Week (1 person/truck) Equipment = -\$2,906,000

Two Week (2 people/truck) Equipment = -\$447,000

Alternative B - Annual Costs

LOW Volume O&M Costs = In Annual Recyclable Income Formula

HIGH Volume O&M Costs = In Annual Recyclable Income Formula

Monthly Collection (1 person/truck) -\$247,088

Three Week Collection (1 person/truck) -\$271,000

Three Week Collection (2 people/truck) -\$1,531,000

Two Week Collection (1 person/truck) -\$1,531,000

Two Week Collection (2 people/truck) -\$3,662,000

LOW Recycled Material Price

Variables for LOW Recycles	d Material Price
LOW Recycled Material Price	∍ (\$/ton);= \$9(
[5] 《阿拉拉斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯·西斯	

Alternative B - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$7,052,000	-\$7,052,000
Three Week Collection (1 person/truck)	-\$7,052,000	-\$7,052,000
Three Week Collection (2 people/truck)	-\$7,052,000	-\$7,052,000
Two Week Collection (1 person/truck)	-\$9,958,000	-\$9,958,000
Two Week Collection (2 people/truck)	-\$7,499,000	-\$7,499,000

Alternative B - Annual Recycleable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$23,920	-\$28,080
Three Week Collection (1 person/truck)	-\$26,312	-\$30,888
Three Week Collection (2 people/truck)	-\$26,312	-\$30,888
Two Week Collection (1 person/truck)	-\$28,704	-\$33,696
Two Week Collection (2 people/truck)	-\$28,704	-\$33,696

Alternative B - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	\$167,440	\$196,560

Alternative B - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (1 person/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (2 people/truck)	-\$3,662,000	-\$3,662,000

Alternative B - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$9,520,316	-\$9,558,205
Three Week Collection (1 person/truck)	-\$8,997,375	-\$8,906,441
Three Week Collection (2 people/truck)	-\$20,473,329	-\$20,382,395
Two Week Collection (1 person/truck)	\$22,638,601	-\$22,418,846
Two Week Collection (2 people/truck)	-\$39,588,536	-\$39,368,781

E - Cost Analysis Alternative B - Single Stream at Existing City Facility (City Only)

HIGH Recycled Material Price

Variables for HIGH Recycled Material Price HIGH Recycled Material Price (\$/fon) = − €, \$110		
	Variables for HIGH Recycled	Material Price
	THE STATE OF THE S	ran i i i i i i i i i i i i i i i i i i i
	HIGH Recycled Material Price	(\$/fon) =
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Alternative B - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$7,052,000	-\$7,052,000
Three Week Collection (1 person/truck)	-\$7,052,000	-\$7,052,000
Three Week Collection (2 people/truck)	-\$7,052,000	-\$7,052,000
Two Week Collection (1 person/truck)	-\$9,958,000	-\$9,958,000
Two Week Collection (2 people/truck)	-\$7,499,000	-\$7,499,000

Alternative B - Annual Recycleable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$215,280	\$252,720
Three Week Collection (1 person/truck)	\$236,808	\$277,992
Three Week Collection (2 people/truck)	\$236,808	\$277,992
Two Week Collection (1 person/truck)	\$258,336	\$303,264
Two Week Collection (2 people/truck)	\$258,336	\$303,264

Alternative B - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	\$167, 44 0	\$196,560

Alternative B - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (1 person/truck)	~\$1,531,000	-\$1,531,000
Two Week Collection (2 people/truck)	-\$3,662,000	-\$3,662,000

Alternative B - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$7,341,706	-\$7,000,706
Three Week Collection (1 person/truck)	-\$6,600,904	-\$6,093,193
Three Week Collection (2 people/truck)	-\$18,076,858	-\$17,569,147
Two Week Collection (1 person/truck)	-\$20,024,270	-\$19,349,848
Two Week Collection (2 people/truck)	-\$36,974,205	-\$36,299,783

APPENDIX F

ALTERNATIVE C – TWO TRANSFER STATIONS TO THIRD PARTY

F - Cost Analysis Alternative C - Two New Transfer Stations Recyclables To Third Party

Assumptions Common To Scenarios C & D

<u>Dual Stream Collection Volume of Recyclables (data - Section 5.2.1)</u> LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	23,000 27,000
Pick-Up Schedule Volume (Monthly Set-Out Collection*) Assume a 4% increase in Dual Stream volume LOW Product Volume (TPY) = HIGH Product Volume (TPY) =	23,920 28,080
Pick-Up Schedule Volume (Three Week Collection) Assume a 10% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	26,312 30,888
Volume of Recyclables not put in Trash (Three Week Collection) Recyclable Volume (3 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =	2,392 2,808
Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	28,704 33,696
Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =) 4,784 5,616
Capital Costs	
New North Transfer Facility =	\$1,798,000
New South Transfer Facility =	\$1,897,000
Annual Costs	
Transfer Facility Operating and Maintenance Costs (\$/ton) =	\$60
Trash Disposal Price (\$/ton) =	\$35

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

F - Cost Analysis Alternative C - Two New Transfer Stations Recyclables To Third Party

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (TF O&M Cost)] x

(Pick-up Schedule LOW Recyclable Volume)

HIGH Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (TF O&M Cost)] x

(Pick-up Schedule HIGH Recyclable Volume)

Trash Reduction Income

Trash Reduction Income = (LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF) and Single Payment Present Worth Factor (SPPWF)

UPWF = 9.1079

SPPWF = 0.3264

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)] + [(SPPWF)* (Sum of the Salvage Values)]

Alternative C - Capital Costs

New North Transfer Facility = -\$1,798,000 Salvage Value of North Transfer Facility after 15 years \$899,000

New South Transfer Facility = -\$1,897,000 Salvage Value of South Transfer Facility after 15 years \$948,500

Two Week (1 person/truck) Equipment = -\$2,906,000

Two Week (2 people/truck) Equipment = -\$447,000

Alternative C - Annual Costs

LOW Volume O&M Costs = In Annual Recyclable Income Formula

HIGH Volume O&M Costs = In Annual Recyclable Income Formula

Monthly Collection (1 person/truck) -\$188,735

Three Week Collection (1 person/truck) -\$207,000

Three Week Collection (2 people/truck) -\$1,467,000

Two Week Collection (1 person/truck) -\$1,467,000

Two Week Collection (2 people/truck) -\$3,598,000

LOW Recycled Material Price

Variables for LOW Recycled	Material Price	
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LOW Recycled Material Price	/b/4-1_	
LOW Recycled Waterial Files		\$90
2个相似。1888年1898年1998年1998		A

Alternative C - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$3,695,000	-\$3,695,000
Three Week Collection (1 person/truck)	-\$3,695,000	-\$3,695,000
Three Week Collection (2 people/truck)	-\$3,695,000	-\$3,695,000
Two Week Collection (1 person/truck)	-\$6,601,000	-\$6,601,000
Two Week Collection (2 people/truck)	-\$4,142,000	-\$4,142,000

Alternative C - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$358,800	-\$421,200
Three Week Collection (1 person/truck)	-\$394,680	-\$463,320
Three Week Collection (2 people/truck)	-\$394,680	-\$463,320
Two Week Collection (1 person/truck)	-\$430,560	-\$505,440
Two Week Collection (2 people/truck)	-\$430,560	-\$505,440

Alternative C - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	\$167, 44 0	\$196,560

Alternative C - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$188,735	-\$188,735
Three Week Collection (1 person/truck)	-\$207,000	-\$207,000
Three Week Collection (2 people/truck)	-\$1,467,000	-\$1,467,000
Two Week Collection (1 person/truck)	-\$1,467,000	-\$1,467,000
Two Week Collection (2 people/truck)	-\$3,598,000	-\$3,598,000

Alternative C - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$8,078,873	-\$8,647,206
Three Week Collection (1 person/truck)	-\$7,809,504	-\$8,302,059
Three Week Collection (2 people/truck)	-\$19,285,458	-\$19,778,013
Two Week Collection (1 person/truck)	-\$21,755,736	-\$22,172,513
Two Week Collection (2 people/truck)	-\$38,705,671	-\$39,122,448

F - Cost Analysis Alternative C - Two New Transfer Stations Recyclables To Third Party

HIGH Recycled Material Price

Variables for HIGH Recycled Material F	rice 🛴 🗀 🔭 🐣	radioantsant	Explain.
	978 B W W W 1896	1445 C 164 F 15 Sq.	左联 (\$196)
HIGH Recycled Material Price (\$/ton) =	agail standard d	CONTRACTOR	\$110
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Alternative C - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$3,695,000	-\$3,695,000
Three Week Collection (1 person/truck)	-\$3,695,000	-\$3,695,000
Three Week Collection (2 people/truck)	-\$3,695,000	-\$3,695,000
Two Week Collection (1 person/truck)	-\$6,601,000	-\$6,601,000
Two Week Collection (2 people/truck)	-\$4,142,000	-\$4,142,000

Alternative C - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$119,600	-\$140,400
Three Week Collection (1 person/truck)	-\$131,560	-\$154,440
Three Week Collection (2 people/truck)	-\$131,560	-\$154,440
Two Week Collection (1 person/truck)	-\$143,520	-\$168,480
Two Week Collection (2 people/truck)	-\$143,520	-\$2,021,760

Alternative C - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	. \$167,440	\$196,560

Alternative C - Annual Collection Costs

Schedule Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$188,735	-\$188,735
Three Week Collection (1 person/truck)	-\$207,000	-\$207,000
Three Week Collection (2 people/truck)	-\$1,467,000	-\$1,467,000
Two Week Collection (1 person/truck)	-\$1,467,000	-\$1,467,000
Two Week Collection (2 people/truck)	-\$3,598,000	-\$3,598,000

Alternative C - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$5,900,263	-\$6,089,707
Three Week Collection (1 person/truck)	-\$5,413,033	-\$5,488,811
Three Week Collection (2 people/truck)	-\$16,888,987	-\$16,964,765
Two Week Collection (1 person/truck)	-\$19,141,404	-\$19,103,515
Two Week Collection (2 people/truck)	-\$36,091,339	-\$52,932,939

APPENDIX G ALTERNATIVE D – ONE TRANSFER STATION AT EXISTING FACILITY

Assumptions Common To Scenarios C & D

Dual Stream Collection Volume of Recyclables (data - Section 5.2.1) LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	23,000 27,000
Pick-Up Schedule Volume (Monthly Set-Out Collection*) Assume a 4% increase in Dual Stream volume LOW Product Volume (TPY) = HIGH Product Volume (TPY) =	23,920 28,080
Pick-Up Schedule Volume (Three Week Collection) Assume a 10% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	26,312 30,888
Volume of Recyclables not put in Trash (Three Week Collection) Recyclable Volume (3 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =	2,392 2,808
Pick-Up Schedule Volume (Two Week Collection) Assume a 20% increase in volume over monthly volume LOW Recyclable Volume (TPY) = HIGH Recyclable Volume (TPY) =	28,704 33,696
Volume of Recyclables not put in Trash (Two Week Collection) Recyclables Volume (2 wk) - Recyclables Volume (monthly) LOW Trash Reduction Volume (TPY) = HIGH Trash Reduction Volume (TPY) =	4,784 5,616
<u>Capital Costs</u>	
Cost to demolish equipment and modify existing MRF =	\$250,000
New Transfer Facility Equipment	\$131,000
Annual Costs	
Transfer Facility Operating and Maintenance Costs (\$/ton) =	\$52
Trash Disposal Price (\$/ton) =	\$35

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (TF O&M Cost)] x

(Pick-up Schedule LOW Recyclable Volume)

HIGH Volume Price Income = [(LOW or HIGH Recycled Material Market Price) / 2 - (TF O&M Cost)] x

(Pick-up Schedule HIGH Recyclable Volume)

Trash Reduction Income

Trash Reduction Income = (LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF)

UPWF = 9.1079

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)]

Alternative D - Capital Costs

Cost to demolish equipment and modify existing MRF = -\$250,000

New Transfer Facility Equipment -\$131,000

Two Week (1 person/truck) Equipment = -\$2,906,000

Two Week (2 people/truck) Equipment = -\$447,000

Alternative D - Annual Costs

LOW Volume O&M Costs = In Annual Recyclable Income Formula

HIGH Volume O&M Costs = In Annual Recyclable Income Formula

Monthly Collection (1 person/truck) -\$247,088

Three Week Collection (1 person/truck) -\$271,000

Three Week Collection (2 people/truck) -\$1,531,000

Two Week Collection (1 person/truck) -\$1,531,000

Two Week Collection (2 people/truck) -\$3,662,000

LOW Recycled Material Price

Variables for LOW Recycle	d Material Price	3 - C
LOW Recycled Material Price	e (\$/ton) =	\$90
为一次,这种企业发展的企业。 第		Herador (1920) 15 (1920) 16 (1920)

Alternative D - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$381,000	-\$381,000
Three Week Collection (1 person/truck)	-\$381,000	-\$381,000
Three Week Collection (2 people/truck)	-\$381,000	-\$381,000
Two Week Collection (1 person/truck)	-\$3,287,000	-\$3,287,000
Two Week Collection (2 people/truck)	-\$828,000	-\$828,000

Alternative D - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$167,440	-\$196,560
Three Week Collection (1 person/truck)	-\$184,184	-\$216,216
Three Week Collection (2 people/truck)	-\$184,184	-\$216,216
Two Week Collection (1 person/truck)	-\$200,928	-\$235,872
Two Week Collection (2 people/truck)	-\$200,928	-\$235,872

Alternative D - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	\$167,440	\$196,560

Alternative D - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (1 person/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (2 people/truck)	\$3,662,000	-\$3,662,000

Alternative D - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$4,156,482	-\$4,421,704
Three Week Collection (1 person/truck)	-\$3,764,257	-\$3,923,390
Three Week Collection (2 people/truck)	-\$15,240,211	-\$15,399,344
Two Week Collection (1 person/truck)	-\$17,536,200	-\$17,589,245
Two Week Collection (2 people/truck)	-\$34,486,135	-\$34,539,180

HIGH Recycled Material Price

Variables for HIGH Recycled Material Price	
7 . 1	
HIGH Recycled Material Price (\$/ton) =	\$110
	J ill

Alternative D - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$381,000	-\$381,000
Three Week Collection (1 person/truck)	-\$381,000	-\$381,000
Three Week Collection (2 people/truck)	-\$381,000	-\$381,000
Two Week Collection (1 person/truck)	-\$3,287,000	-\$3,287,000
Two Week Collection (2 people/truck)	-\$828,000	-\$828,000

Alternative D - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$71,760	\$84,240
Three Week Collection (1 person/truck)	\$78,936	\$92,664
Three Week Collection (2 people/truck)	\$78,936	\$92,664
Two Week Collection (1 person/truck)	\$86,112	\$101,088
Two Week Collection (2 people/truck)	\$86,112	-\$1,752,192

Alternative D - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$83,720	\$98,280
Three Week Collection (2 people/truck)	\$83,720	\$98,280
Two Week Collection (1 person/truck)	\$167,440	\$196,560
Two Week Collection (2 people/truck)	\$167,440	\$196,560

Alternative D - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (1 person/truck)	-\$1,531,000	-\$1,531,000
Two Week Collection (2 people/truck)	-\$3,662,000	-\$3,662,000

Alternative D - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$1,977,872	-\$1,864,205
Three Week Collection (1 person/truck)	-\$1,367,786	-\$1,110,142
Three Week Collection (2 people/truck)	-\$12,843,740	-\$12,586,096
Two Week Collection (1 person/truck)	-\$14,921,869	-\$14,520,247
Two Week Collection (2 people/truck)	-\$31,871,804	-\$48,349,670

APPENDIX H ALTERNATIVE E – REGIONAL MRF AT WAUWATOSA

Assumptions Common To Scenarios E & F

Pick-Up Schedule Volume (Monthly	y Set-Out Collection)
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LOW Recyclable Volume (TPY) = 52,000 HIGH Recyclable Volume (TPY) = 60,000

Pick-Up Schedule Volume (3 Weeek Set-Out Collection*)

Assume a 10% increase in volume for Milwaukee's portion (44%)

LOW Recyclable Volume (TPY) = 54,288 HIGH Recyclable Volume (TPY) = 62,640

Volume of Recyclables not put in City Trash (Three Week Collection)

Recyclables Volume (3 wk) - Recyclables Volume (monthly)*

LOW City Trash Reduction Volume (TPY) = 2,288 HIGH City Trash Reduction Volume (TPY) = 2,640

Volume of Recyclables* (Two Week Collection)

Assume a 20% increase in volume for Milwaukee's portion (44%)

LOW Recyclable Volume (TPY) = 56,576 HIGH Recyclable Volume (TPY) = 65,280

Volume of Recyclables not put in City Trash (Two Week Collection)

Recyclables Volume (2 wk) - Recyclables Volume (monthly)**

LOW City Trash Reduction Volume (TPY) = 4,576 HIGH City Trash Reduction Volume (TPY) = 5,280

Capital Costs

Estimated City Share (44%) for Building and Property \$2,640,000

Assume \$6,000,000 for building and site improvements

City Share of Single Stream Processing Equipment = \$2,992,880

Assume 44% of \$6,802,000 equipment

Annual Costs

MRF Operating and Maintenance Costs (\$/ton) =

Trash Disposal Price (\$/ton) = \$35

* Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

^{*} The increase is all attributed to a change in Milwaukee collection changing percentage to 48%

^{**} The increase is all attributed to a change in Milwaukee collection changing percentage to 52%

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income = {[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule LOW Recyclable Volume) x (City Percentage)

HIGH Volume Price Income = {[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule HIGH Recyclable Volume)} x (City Percentage)

Trash Reduction Income

Trash Reduction Income = (LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF) and Single Payment Present Worth Factor (SPPWF)

UPWF = 9.1079

SPPWF = 0.3264

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)] + [(SPPWF)* (Sum of the Salvage Values)]

Alternative E - Capital Costs

Estimated City Share for Building and Property	-\$2,640,000
Salvage Value for City Share for Building and Property	\$1,320,000

City Share of Single Stream Processing Equipment = -\$2,992,880

Two Week (1 person/truck) Equipment = -\$2,906,000

Two Week (2 people/truck) Equipment = -\$447,000

Alternative E - Annual Costs

LOW Volume O&M Costs = In Annual Recyclable Income Formula

HIGH Volume O&M Costs = In Annual Recyclable Income Formula

Monthly Collection (1 person/truck) -\$306,353

Three Week Collection (1 person/truck) -\$336,000

Three Week Collection (2 people/truck) -\$1,596,000

Two Week Collection (1 person/truck) -\$1,596,000

Two Week Collection (2 people/truck) -\$3,727,000

LOW Recycled Material Price

Variables for LC	W Recycled	Material Price	Sara (America Photografic All Discours Color
AND CHARLES TO SECURE	ala esti i i i i i i i i	ter te despuis de la contrata de	
LOW Recycled N	/laterial Price (\$/ton) =	\$Ω
		100	gan 79 jaga sasar sala sa Manus Y

Alternative E - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$5,632,880	-\$5,632,880
Three Week Collection (1 person/truck)	-\$5,632,880	-\$5,632,880
Three Week Collection (2 people/truck)	-\$5,632,880	-\$5,632,880
Two Week Collection (1 person/truck)	-\$8,538,880	-\$8,538,880
Two Week Collection (2 people/truck)	-\$6,079,880	-\$6,079,880

Alternative E - Annual Recyclable Income

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$22,880	-\$2,640	
Three Week Collection (1 person/truck)	-\$26,058	-\$30,067	
Three Week Collection (2 people/truck)	-\$26,058	-\$30,067	
Two Week Collection (1 person/truck)	-\$29,420	-\$33,946	
Two Week Collection (2 people/truck)	-\$29,420	-\$33,946	

Alternative E - Annual Trash Reduction Income

Schedule	Low Volume	High V olume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$80,080	\$92,400
Three Week Collection (2 people/truck)	\$80,080	\$92,400
Two Week Collection (1 person/truck)	\$160,160	\$184,800
Two Week Collection (2 people/truck)	\$160,160	\$184,800

Alternative E - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$306,353	-\$306,353
Three Week Collection (1 person/truck)	-\$336,000	-\$336,000
Three Week Collection (2 people/truck)	-\$1,596,000	-\$1,596,000
Two Week Collection (1 person/truck)	-\$1,596,000	-\$1,596,000
Two Week Collection (2 people/truck)	-\$3,727,000	-\$3,727,000

Alternative E - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$8,200,653	-\$8,016,309
Three Week Collection (1 person/truck)	-\$7,770,262	-\$7,694,565
Three Week Collection (2 people/truck)	-\$19,246,216	-\$19,170,519
Two Week Collection (1 person/truck)	-\$21,453,469	-\$21,270,274
Two Week Collection (2 people/truck)	\$38,403,404	-\$38,220,209

HIGH Recycled Material Price

Variables for HI	Recycled Material Price	
Secretary and the second	Carpania Section at the allegations for a section of	
HIGH Recycled N	terial Price (\$/ton) = 5	110
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Alternative E - Capital Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$5,632,880	-\$5,632,880
Three Week Collection (1 person/truck)	-\$5,632,880	-\$5,632,880
Three Week Collection (2 people/truck)	-\$5,632,880	-\$5,632,880
Two Week Collection (1 person/truck)	-\$8,538,880	-\$8,538,880
Two Week Collection (2 people/truck)	-\$6,079,880	-\$6,079,880

Alternative E - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$205,920	\$237,600
Three Week Collection (1 person/truck)	\$234,524	\$270,605
Three Week Collection (2 people/truck)	\$234,524	\$270,605
Two Week Collection (1 person/truck)	\$264,776	\$305,510
Two Week Collection (2 people/truck)	\$264,776	\$305,510

Alternative E - Annual Trash Reduction Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$0	\$0
Three Week Collection (1 person/truck)	\$80,080	\$92,400
Three Week Collection (2 people/truck)	\$80,080	\$92,400
Two Week Collection (1 person/truck)	\$160,160	\$184,800
Two Week Collection (2 people/truck)	\$160,160	\$184,800

Alternative E - Annual Collection Costs

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$306,353	-\$306,353
Three Week Collection (1 person/truck)	-\$336,000	-\$336,000
Three Week Collection (2 people/truck)	-\$1,596,000	-\$1,596,000
Two Week Collection (1 person/truck)	-\$1,596,000	-\$1,596,000
Two Week Collection (2 people/truck)	-\$3,727,000	-\$3,727,000

Alternative E - Present Worth Analysis

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$6,116,765	-\$5,828,227	
Three Week Collection (1 person/truck)	-\$5,396,903	-\$4,956,075	
Three Week Collection (2 people/truck)	-\$16,872,857	-\$16,432,029	
Two Week Collection (1 person/truck)	-\$18,773,969	- \$18,178,542	
Two Week Collection (2 people/truck)	-\$35,723,904	-\$35,128,477	

$\label{eq:appendix} \mbox{APPENDIX I}$ $\mbox{ALTERNATIVE F-REGIONAL MRF AT EXISTING FACILITY}$

Assumptions Common To Scenarios E & F

Pick-Up	<u>Schedule</u>	<u>Volume</u>	<u>(Monthly</u>	y Set-Out Collection*)	

LOW Recyclable Volume (TPY) = 52,000 HIGH Recyclable Volume (TPY) = 60,000

Pick-Up Schedule Volume (3 Weeek Set-Out Collection)

Assume a 10% increase in volume for Milwaukee's portion (44%)

LOW Recyclable Volume (TPY) = 54,288 HIGH Recyclable Volume (TPY) = 62,640

Volume of Recyclables not put in City Trash (Three Week Collection)

Recyclables Volume (3 wk) - Recyclables Volume (monthly)*

LOW City Trash Reduction Volume (TPY) = 2,288 HIGH City Trash Reduction Volume (TPY) = 2,640

Volume of Recyclables* (Two Week Collection)

Assume a 20% increase in volume for Milwaukee's portion (44%)

LOW Recyclable Volume (TPY) = 56,576 HIGH Recyclable Volume (TPY) = 65,280

Volume of Recyclables not put in City Trash (Two Week Collection)

Recyclables Volume (2 wk) - Recyclables Volume (monthly)**

LOW City Trash Reduction Volume (TPY) = 4,576 HIGH City Trash Reduction Volume (TPY) = 5,280

Capital Costs

Cost to demolish equipment and modify existing MRF = \$250,000

City Share of Single Stream Processing Equipment = \$2,992,880

Assume 44% of \$6,802,000 equipment

Annual Costs

MRF Operating and Maintenance Costs (\$/ton) = \$46

Trash Disposal Price (\$/ton) = \$35

^{*} The increase is all attributed to a change in Milwaukee collection changing percentage to 48%

^{**} The increase is all attributed to a change in Milwaukee collection changing percentage to 52%

^{*} Monthly refers to the schedule of the current program, mostly non-guaranteed with up-the-driveway service for households not on alleys.

Annual Recyclable Income

Income from Recyclables

LOW Volume Price Income = {[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule LOW Recyclable Volume)} x (City Percentage)

HIGH Volume Price Income = {[(LOW or HIGH Recycled Material Market Price) / 2 - (MRF O&M Cost)] x

(Pick-up Schedule HIGH Recyclable Volume)} x (City Percentage)

Trash Reduction Income

Trash Reduction Income = (LOW or HIGH Trash Reduction Volume) x (Trash Disposal Price)

Present Worth Analysis

See Calculation Page for Uniform Present Worth Factor (UPWF)

UPWF = 9.1079

Present Worth = (Sum of Capital Costs) + [(UPWF) * (Sum of Annual Income + Annual Costs)]

Alternative F - Capital Costs

Estimated City Share for Building and Property -\$250,000

City Share of Single Stream Processing Equipment = -\$2,992,880

Two Week (1 person/truck) Equipment = -\$2,906,000

Two Week (2 people/truck) Equipment = -\$447,000

Alternative F - Annual Costs

LOW Volume O&M Costs = In Annual Recyclable Income Formula

HIGH Volume O&M Costs = In Annual Recyclable Income Formula

Monthly Collection (1 person/truck) -\$247,088

Three Week Collection (1 person/truck) -\$271,000

Three Week Collection (2 people/truck) -\$1,531,000

Two Week Collection (1 person/truck) -\$1,531,000

Two Week Collection (2 people/truck) -\$3,662,000

Variables for LOW	ecycled Material Price	CHARLON DONESCO (1200)
The state of the s	And the second of the second o	
LOW Recycled Ma	ial Price (\$/ton) ≘	\$9 0 \$90
Property for the fine for	rate i de la compresa del compresa del compresa de la compresa del la compresa de la compresa del la compresa de la compresa d	5中最50000000 HXXX

Alternative F - Capital Costs

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$3,242,880	-\$3,242,880	
Three Week Collection (1 person/truck)	-\$3,242,880	-\$3,242,880	
Three Week Collection (2 people/truck)	-\$3,242,880	-\$3,242,880	
Two Week Collection (1 person/truck)	-\$6,148,880	-\$6,148,880	
Two Week Collection (2 people/truck)	-\$3,689,880	-\$3,689,880	

Alternative F - Annual Recyclable Income

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$22,880	-\$2,640	
Three Week Collection (1 person/truck)	-\$26,058	-\$30,067	
Three Week Collection (2 people/truck)	-\$26,058	-\$30,067	
Two Week Collection (1 person/truck)	-\$29,420	-\$33,946	
Two Week Collection (2 people/truck)	-\$29,420	-\$33,946	

Alternative F - Annual Trash Reduction Income

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	\$0	\$0	
Three Week Collection (1 person/truck)	\$80,080	\$92,400	
Three Week Collection (2 people/truck)	\$80,080	\$92,400	
Two Week Collection (1 person/truck)	\$160,160	\$184,800	
Two Week Collection (2 people/truck)	\$160,160	\$184,800	

Alternative F - Annual Collection Costs

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088	
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000	
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000	
Two Week Collection (1 person/truck)	-\$1,531,000	-\$1,531,000	
Two Week Collection (2 people/truck)	-\$3,662,000	-\$3,662, 0 00	

Alternative F - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$5,701,724	-\$5,517,380
Three Week Collection (1 person/truck)	-\$5,219,096	-\$5,143,400
Three Week Collection (2 people/truck)	-\$16,695,050	-\$16,619,354
Two Week Collection (1 person/truck)	-\$18,902,304	-\$18,719,108
Two Week Collection (2 people/truck)	-\$35,852,239	-\$35,669,043

HIGH Recycled Material Price

Variables for HIGH Recycle	d Material Price	kannan paragan kan bandan kan ba
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HIGH Recycled Material Price	a (\$/fon) =	and the state of t
		Construction of the second configuration
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Alternative F - Capital Costs

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$3,242,880	-\$3,242,880	
Three Week Collection (1 person/truck)	-\$3,242,880	-\$3,242,880	
Three Week Collection (2 people/truck)	-\$3,242,880	-\$3,242,880	
Two Week Collection (1 person/truck)	-\$6,148,880	-\$6,148,880	
Two Week Collection (2 people/truck)	-\$3,689,880	-\$3,689,880	

Alternative F - Annual Recyclable Income

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	\$205,920	\$237,600
Three Week Collection (1 person/truck)	\$234,524	\$270,605
Three Week Collection (2 people/truck)	\$234,524	\$270,605
Two Week Collection (1 person/truck)	\$264,776	\$305,510
Two Week Collection (2 people/truck)	\$264,776	\$305,510

Alternative F - Annual Trash Reduction Income

Schedule	Low Volume	Hlgh Volume	
Monthly Collection (1 person/truck)	\$0	\$0	
Three Week Collection (1 person/truck)	\$80,080	\$92,400	
Three Week Collection (2 people/truck)	\$80,080	\$92,400	
Two Week Collection (1 person/truck)	\$160,160	\$184,800	
Two Week Collection (2 people/truck)	\$160,160	\$184,800	

Alternative F - Annual Collection Costs --

Schedule	Low Volume	High Volume	
Monthly Collection (1 person/truck)	-\$247,088	-\$247,088	
Three Week Collection (1 person/truck)	-\$271,000	-\$271,000	
Three Week Collection (2 people/truck)	-\$1,531,000	-\$1,531,000	
Two Week Collection (1 person/truck)	-\$1,531,000	-\$1,531,000	
Two Week Collection (2 people/truck)	-\$3,662,000	-\$3,662,000	

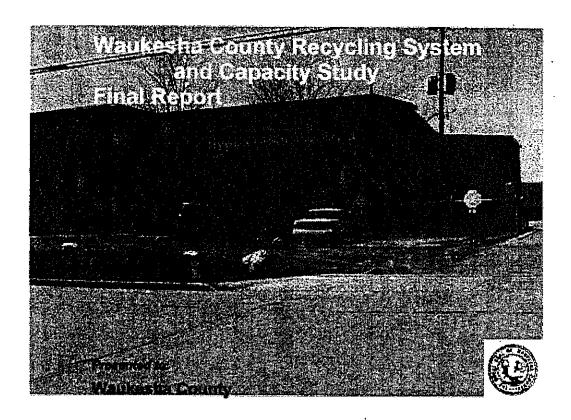
Alternative F - Present Worth Analysis

Schedule	Low Volume	High Volume
Monthly Collection (1 person/truck)	-\$3,617,836	-\$3,329,298
Three Week Collection (1 person/truck)	-\$2,845,738	-\$2,404,909
Three Week Collection (2 people/truck)	-\$14,321,692	-\$13,880,863
Two Week Collection (1 person/truck)	-\$16,222,803	-\$15,627,377
Two Week Collection (2 people/truck)	-\$33,172,738	-\$32,577,312

APPENDIX J REFERENCES AND RELATED INFORMATION ON COST ESTIMATING

Waukesha Study

Waukesha Study = Waukesha County Recycling System and Capacity Study Final Report – September 2007



Prepared by:

RRT Design & Construction





GERSHMAN, BRICKNER & BRATTON, INC.

September, 2007

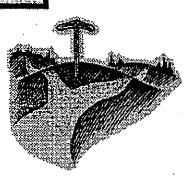
Innovation • Performance • Leadership

Waukesha Presentation

Waukesha County Recycling

Looking Ahead

Perry Lindquist, Land Resources Manager
Waukesha County Dept. of Parks & Land Use



July 27, 2009 Milwaukee Recycling Task Force

Recycling Facility Study City of Milwaukee, Wisconsin Draft No. 2



Site:

Materials Recovery Facility 1313 West Mount Vernon Avenue Milwaukee, Wi 53233

Prepared for: City of Milwaukee Zeidler Municipal Building 841 North Broadway, Room 620 Milwaukee, Wt 53202

Prepared by: Earth Tech AECOM 4135 Technology Parkway Sheboygan, WI 53083

October 2008

Earth Tech AECOM Project No. 108140

Table 1-9: Summary of Projected Recyclables for Processing, 2010-2025

Municipal Group	Tonnages Projected for 2010 (tpy)	Tonnages Projected for 2015 (tpy)	Tonnages Projected for 2020 (tpy)	Tonnages Projected for 2025 (tpy)
		, .		-
Dual-Stream Project Requirements:			·	
Waukesha Co. Participating Municipalities(1)	24,452	25,080	25,724	26,575
Single-Stream Project Requirements:				·
Waukesha Co. Participating Municipalities (2) Waukesha Co. Non-Participating Municipalities (2) City of Milwaukee (3) City of Wauwatosa (3)	30,565 12,197 28,354 4,944	31,350 12,642 28,723 4,971	32,155 13,089 29,056 4,992	33,219 ; 13,638 29,015 4,945
Total - All Entities as Regional Single-Stream MRF	76, 0 60	77,686	79,292	· 80,817 ~
Total w/o Non-Participating Municipalities	63,863	65,044	66,203	67,179



⁽¹⁾ From Table 1-5 ...

⁽²⁾ From Table 1-6

⁽³⁾ From Table 1-8

SS Pros (Collection) vs. Cons (MRF Impacts)

Single Stream Collection Cost Savings	Single Stream MRF Impacts				
Automation decreases personnel costs (workers comp claims, etc.)	• Increases MRF labor and capital costs				
Large out allows Every Other Week collection of recyclables	Increases residue level at MRP (non-recyclables)				
Hexibitity: Can use compaction vehicles to reduce capital & bits to the MRE, more households per route – faster collection	Potential for decreased quality of processed recyclables (glass/paper)				
Higher rates of recycling & <u>reduced tandfill</u> <u>disposal costs</u> — easier for the general public to implement (no switing)	Higher recyclable volumes to process Increesed net cost per ton processing				

All of these factors were built into the economic analysis

Collection Trends/Pressures

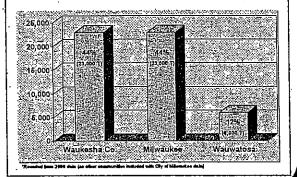
- Private haulers are pushing for Single Stream collection to save money
 - -Trend is playing out nationwide
 - >100 SS MRFs (25% in 2008)?
 - Localiy, only 1 of 3 private haulers (Veolia) still offers dual stream collection
 - · Waste Mgt. and Johns already switched to SS
 - 3 participating communities without hauling contracts already switched to SS (problem)
- · More communities want to switch to SS

Scenarios for Future Projections:

- Tonnage
 - Participating county municipalities (25)
 - Adding non-participating communities (12)
 - Adding Milwaukee & Wauwatosa
- · Single vs. Dual Stream



Annual Tons Recycled (52,000 Tons)*



Key Study Findings & Recommendations

- Switching to Single Stream is <u>strongly</u> recommended
 - Pros far outweigh the cons
 - Could save partic. communities >\$700,000/year in collection & disposal costs
 - 10% or \$12.36/HH/Year savings (minus cart \$)
 - Needs all new MRF equipment/more space
- Recycling tons increase considerably with a Single Stream system – assumed + 25%
 - In-county data shows 45% increase/capita

Key Study Findings & Recommendations (continued)

- 3. Doubling tonnage greatly Improves the economics of a Single Stream MRF
 - 2 shifts = much faster return on investment
 - New site needed to double tonnage
- 4. National MRF data shows:
 - SS paper/fiber is equally marketable
 - increased residue from SS depends on public education (projected increase from 3% to 10%)

Mil. would see about

4

FOOTNOTE #3

The body of evidence indicates that single stream recycling is here to stay and should be considered the state of the art when properly designed and operated. This conclusion is reached because of its obvious advantages to the user, the increase in collected tons, and that collection cost savings can be significant.



Section 2.h - Basis for Future MRF Sizing

For purposes of modeling projections required in Section 3 of the Project Report the following assumptions will be used:

- If municipalities switch to a single stream system, and institute state of the art collection systems along with appropriate public education, the amount of materials collected can increase by 20% to 30%. For purposes of modeling 25% will be used for Waukesha County participating municipalities and for the City of Wauwatosa. For the City of Milwaukee, 10% will be used as the city is already using a large cart for collection of dual stream recyclables (split cart) and therefore tonnages would not be expected to grow by 25%.
- In recent years the Waukesha MRF has been generating between 3 and 3.5% residue.
 The evidence suggests that a state of the art well managed single stream collection and
 public education program can result in total residue levels of well under 10%. For
 purposes of modeling, 10% will be used.



Such an expansion would cost approximately \$3.0 million for the bullding and site work in both cases, not including cost of additional property. Adding higher capacity Dual Stream processing capability along with an OCC screen would cost approximately \$3.5 million, bringing the total cost to an estimated \$6.5 million. Adding Single Stream capability and reconfiguring the current process lines would cost approximately \$4.0 million, bringing the total to an estimated \$7.0 million. These options would serve the needs of the Participating Municipalities as well as, potentially, the Non-Participating Municipalities.

Due to space and site limitations, neither of these options could serve as a full regional MRF with the projected tonnages of all Participating and Non-Participating Municipalities, in addition to those from Wauwatosa and Milwaukee.

The following tables 3.a.3-1 and 3.a.3-2 present the capital costs and a cost benefit matrix for the expansion of the existing facility:

Table 3.a.3-1: Expansion of Existing Facility Estimated Capital Costs (2007 Dollars)

:	Equipment and Systems	Building Costs	Total Costs
Dual Stream	\$3,500,000	\$3,000,000	\$6,500,000
Single Stream	\$4,000,000	\$3,000,000	\$7,000,000



Table 3.a.3-2: Expanded MRF Cost Benefit Matrix-Median Revenues

Operating Scenario	Year	Annual Capital Cost (1)	Annual Operating Costs (2)	Est. Yearly Income (Deficit)	Per Ton Income (Deficit) (4)	
		Ref A	Ref "B	Ref. IC/	ETotal C±(A+B) €	Single Park
Dual Stream Participating Only	2010	\$626,225	\$1,050,351	\$1,806,783	\$130,207 -	\$ 5.32
Single Stream Participating Only	2010	\$674,396	\$1,345,614	\$2,139,611	\$119,601	\$ 3.91

⁽¹⁾ Based on a Table 3.a.3-1 with a 15 year financing @ 5% Interest rate

(2) Based on Table 3-5

(3) Based on Table 3-8 Malerials Net Revenue Projection

⁽⁴⁾ Based on Est. Yearly Income divided by the MRF tonnage estimates presented in Table 3-3 and 3-4

US Inflation Calculator

FOOTNOTE #5

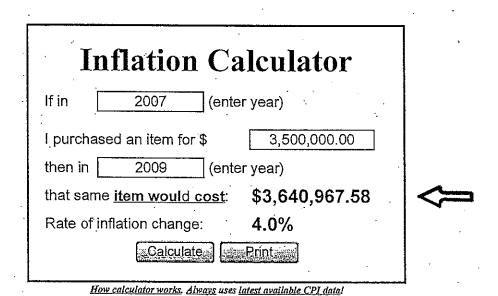
Easily find how the buying power of the US dollar has changed from 1913-2009; get inflation rates, charts and inflation news.

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The US Inflation Calculator measures the buying power of the dollar over time. To begin, just enter any two dates between 1913 and 2009, an amount, and click 'Calculate'.



Consumer prices up 0.7% in June, inflation falls 1.4% in year

July 15, 2009 · Filed Under Inflation, Inflation Rates · Comment

U.S. consumer prices jumped in June as higher energy costs — gasoline prices in particular — drove up the

FOOTNOTE 6

3.b.3 New Facility Dual and Single Stream Capital Costs

For purposes of modeling and projections, Table 3-9 summarizes the estimated capital costs for the recommended dual and single stream facility.

Table 3-9: Estimated Capital Costs (2007 Dollars)

	Equipment and Systems	Building Costs	Site Improvement Costs	Total Costs
Dual Stream	\$3,500,000	\$3,500,000	\$750,000	\$7,750,000
Single Stream	\$4,000,000	\$3,500,000	\$750,000	\$8,250,000



Note: These costs include engineering on a green field site not requiring extensive site work or foundation piling, excluding land purchase.

3.b.4 New Facility Dual and Single Stream Cost Benefit Analysis

Tables 3-10 and 3-11 on the following page summarizes the economics of developing either a dual or single stream MRF in Waukesha County for the six different operating scenarios in years 2010, 2015, 2020 and 2025. Cases are presented for low, high, and median material revenues to illustrate the effect of material prices on the economics.

These numbers do not include any revenue share or service fee payments to or from a potential third party operator. They represent the projected costs and revenues associated with building, paying for and operating a dual or single stream MRF in Waukesha County at various tonnage levels over a 15-year period ending in 2025. Clearly, the assumption that all costs will escalate at an annual 3% rate combined with the further assumption that secondary materials revenues will, over time, have a non escalating average strongly affects the results of this analysis. It causes the MRF in lower tonnage operating scenarios to be in a net deficit operating mode during the later years of its life. Of course, higher tonnages, as expected, raise the overall return of any MRF. No profits for a third party operator are included in costs and payments to or from a potential operator and/or sharing of revenue is not calculated. The analysis above, however, provides the County a framework to evaluate its options and select the contract structure most in its advantage.

What is most important under any scenario of MRF development is for the County to determine what tonnages would be made available by local municipalities. The Project Team's recommendations are included in Section 5 of this Report.

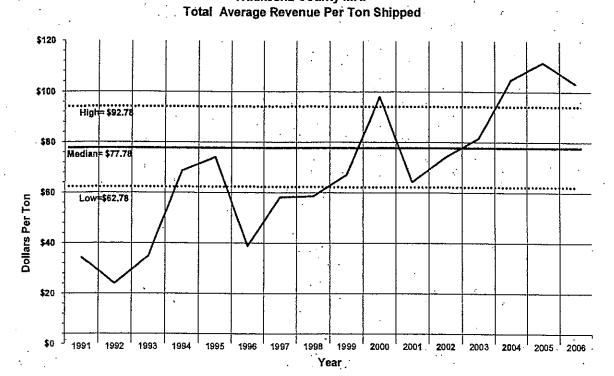
Table 3-5: Projected MRF Operating Costs - Dual Stream vs. Single Stream

_				4													1		,			
		Per Ton Operating	Cost		44.02	49.10	55.45	62.28			37.89	42.36	47.79	53.66				36.70	41.27	46.83	53.21	
		- 0			(c)	ь	49	43			63	€9	€Э	()				\$	\$	(/)	\$	
	누	Annual	O&M Cost		1,345,614	1,539,199	1,782,981	2,068,875			1,620,057	1,863,500	. 2,162,426	2,514,158				2,791,624	3,206,164	3,713,494	4,300,199	
	×				8	(/)	ŧΑ	₩			69	↔	Ġ	₩	1			\$	\$	G	\$	
Oli Calli	SINGLE STREAM MRF		Year		2010	2015	2020	2025			2010	2015	2020	2025				2010	2015	2020	2025	
min operating costs - Duai officiality to children officiality	SINGLE		Operating Scenario	Participating					Participating &	Non-Participating			ے ا	>		Participating, Non-Participating,	Wauwatosa, Milwaukee			1	. >	
Operating of		Per Ton Operating	Cost		\$ 42.96	\$ 48.11	\$ 54.28	\$ 60.88			\$ 34.71	\$. 38.78	\$ 43:69	\$ 48.98		•		\$ 32.24	\$ 36.24	\$ 41.17	\$ 46,69	
	RF	Annual	O&M Cost		\$ 1,050,351	\$ 1,206,698	`	\$ 1,617,853			\$ 1,272,078	\$ 1,462,762	\$ 1,695,903	\$ 1,969,541			-	\$ 2,140,086	\$ 2,457,636	\$ 2,850,166	\$ 3,293,953	
	DUAL STREAM MRF	÷	Year		2010	2015	2020	2025			2010	2015	2020	2025				2010	2015	2020	2025	
	DUAL		Operating Scenario	Participating			. 4	>	Participating &	Non-Participating			بغ [2	>.		Participating, Non-Participating,	Wauwatosa, Milwaukee				>	

3.b.2 New Facility Dual and Single Stream Expected Revenues

Figure 3-1 depicts the actual average dollars per ton received from the sale of all commodities from the Waukesha County MRF 1991-2006.

Figure 3-1
Waukesha County MRF





Over this period of time, 292,559 tons of various commodities have been sold resulting in total revenues of \$21,372,917. This equates to an average per ton value of \$73.06 and a median value of \$77.78 per ton. The high and low figures used in modeling potential revenue scenarios represent a generalized market range (+/- \$15/ton) for recyclable materials experienced by the county program during the past 10 years. The median, the high and low generalized market ranges are used to illustrate the effect of market prices upon facility operating parameters. The following table 3-6 summarizes these values.

		TE #9
	AI T	1 L. #13 E
FULL	INC	

Table 1: Typical Equi	ipment Life Expectancy
Equipment	Life Expectancy in Years
Source of supply	
Intake Structures	. 35 – 45
Wells and Springs	25 – 35
Galleries and Tunnels	30 – 40
Transmission mains	35 – 40
Pumping Plants	
Structures	30 – 60
Pumping Equipment	10 – 15
Treatment Plants	
Structures	30 – 60
Equipment	10 – 15
Chlorination Equipment	10 – 15
Transmission/Distribution	
Structures	30 – 60
Reservoirs and Tanks	30 – 60
Mains & Distribution Pipes	35 – 40
Services	30 – 50
Valves	35 – 40
Backflow Prevention Valves	35 – 40
Blow-off valves	35 – 40
Meters	10 – 15
Hydrants	40-60-
General Plant	A And And
Structures	30-40
Electrical Systems	7-10
Equipment	$\frac{7-10}{10-15}$
Transportation Equipment	\sim
Computers	5
Stores equipment	10
Lab/Monitoring Equipment	5-7
Tools and Shop Equipment	10 – 15
Landscaping/Grading	$40 - 60^{\circ}$
Power operated equipment	10 – 15

10

Communications equipment

FOOTNOTE #10

The highest tonnage scenarios modeled here for both a single and dual stream tonnage would be the participating plus the non-participating municipalities in a single shift. In the year 2025 the dual stream facility would need to be able to process, just over 14 tons per hour of fiber and just over 5 tons per hour of commingled containers. The Single Stream facility would need to process approximately 23 tons per hour of total material with almost 17 being fiber and almost 6 being commingled. Based upon these calculations, we recommend that the design basis for a Dual Stream MRF be 17.5 tons per hour of fiber and 7.5 tons per hour of commingled containers. The design basis for a Single Stream MRF should be 25 tons per hour total materials, with 17.5 tons being fiber and 7.5 tons being commingled. Note that "tons per hour" design is the same for both systems. It is assumed that additional materials captured by Single Stream collection would be processed during a second shift.

Because either of the Regional MRF scenarios requires two-shift processing, any design must provide a tipping floor capable of storing materials received during normal collection hours and processed during a second shift. If the County expects the facility to operate as a regional MRF, up to 500 tons of tipping floor storage could be required by the year 2025.

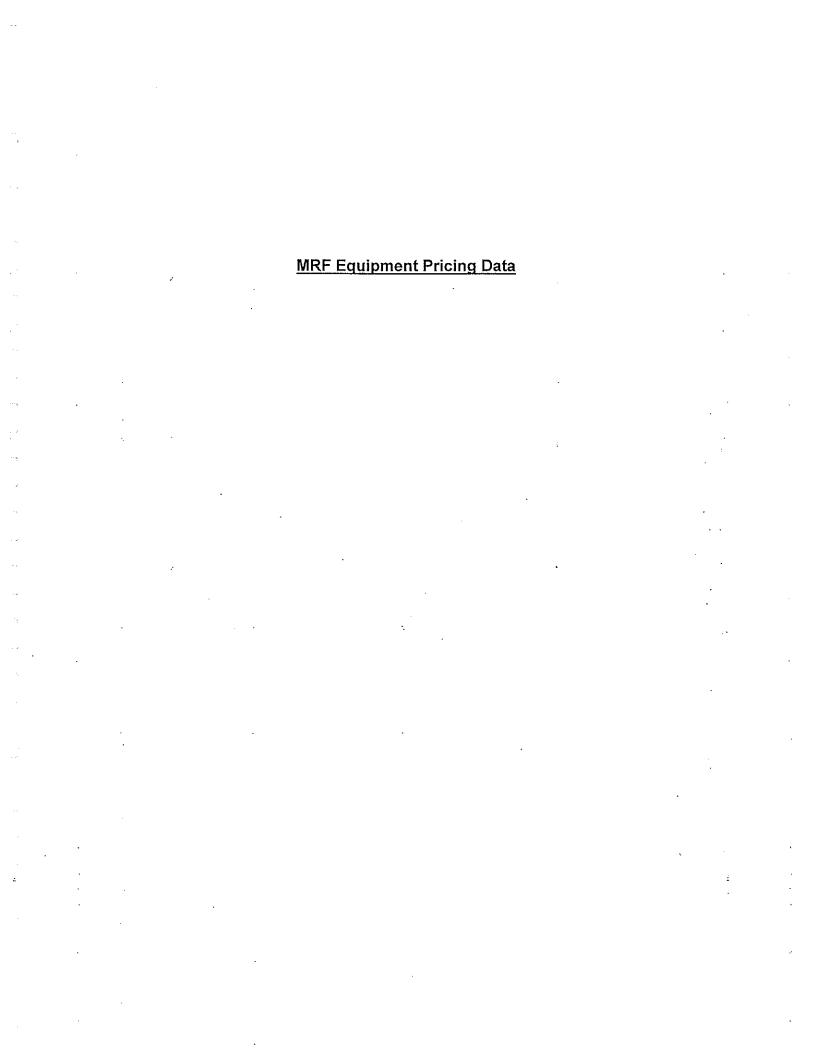
3.b.1 New Facility Dual and Single Stream Operating Costs

For each of the six operating scenarios, the primary factor to operating costs over time is inflation. All operating costs have been modeled using an inflation factor of 3% per year. Over the 15-year life of the projected new MRF, this has a very measurable effect. We believe this is probably the worst case. A secondary effect on operating costs is tonnage. Per Section 1, the tonnage levels of each operating scenario changes as a result of projected population changes over time.

Single Stream operating costs are higher than Dual Stream costs. This is primarily due to the increased levels of residue in the single stream material resulting in additional labor to prescreen incoming recyclables. Also, additional quality control personnel are needed to sort any fiber or containers that the screens do not automatically sort into the proper screen. Because of the additional screening systems required to sort fiber from containers, Single Stream Systems are more costly resulting in higher amortization costs. Single Stream systems affect labor needs in different ways; they create the need for additional labor for quality control while reducing labor relative to a Dual Stream system by automating the removal of both mixed broken glass and residue. The net effect is generally that Single Stream systems require additional personnel when compared to technologically comparable Dual Stream Systems.

While the capital costs associated with various hourly throughputs within a fairly narrow range are mostly constant, operating costs are not. Per ton Operations and Maintenance costs vary substantially in the same facility at different throughput levels. Similarly, dual and single stream operating costs also vary. Attached to this report as Appendix F are the detailed operating cost worksheets for the proposed MRF for the six operating scenarios and years, 2010, 2015, 2020, and 2025. These costs are summarized in the attached table 3-5.





Pirrung, Don

From:

Meyers, Rick [rick.meyers@milwaukee.gov]

Sent:

Thursday, August 13, 2009 12:33 PM

To:

Haygood, Jill E.

Cc:

Pirrung, Don

Subject: RE: Single Stream equipment cost numbers

Thanks, Jill. I have copied Don on this.

Don, if you don't get what you need, let me or Jill know. Thanks.

-Rick

From: Haygood, Jill E. [mailto:HaygooJE@co.outagamie.wi.us]

Sent: Thursday, August 13, 2009 11:46 AM

To: Meyers, Rick

Subject: Single Stream equipment cost numbers

Rick

FYI—Phil Stecker my supervisor is working with Don Piurring, a consultant I assumed you hired to get info. on pricing of single stream equipment. I hope you get all the info. you need in a timely manner, if not give me a call.

The basics of our system

BHS (Bulk Handling Systems)
Equipment Cost approximately 7.7 Million
Building Expansion 2.2 Million
25 Tons/Hour System

Process 50,000 tons annually (Residential Material from Brown, Outagamie, Winnebago), one shift 7:00am-3:30pm.

Hope this helps.

Jill Haygood
Outagamie County Recycling Coordinator
(920) 832-4710
Haygooje@co.outagamie.wi.us
"Live simple so others may simply live"



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New BHS Single Stream System Installed at Wisconsin MRF

BHS has completed the installation of a state-of-the-art 25 tph single stream sorting system at the new Material Recovery Facility (MRF) in Outagamle County, Wisconsin. The MRF is a joint effort of three counties - Brown, Outagamie, and Winnebago - and was built to process material from the new single stream program developed by the three counties. The program is expected to generate greater volumes of recyclable materials and divert these materials from landfill.

The three county single stream program combines paper with plastic, glass and metal recyclables. Phil Stecker, Director of Solid Waste for Outagamie County, said the new MRF launches a new era of recycling for 500,000 people in more than 60 Brown-Outagamie-Winnebago communities. He hopes the new program will reduce complications for residents and encourage greater community participation in recycling.

The Outagamie County MRF sets the new standard for single stream processing, incorporating the latest in screening, optical, and air separation technologies. The BHS single stream system is designed to maximize the recovery of marketable commodities, yielding minimal residual material and reducing disposal costs. Designed, manufactured and installed by BHS, the system focuses on the reduction of operating costs by optimizing integrated processes to emphasize mechanization and the extraction of recoverable materials on the first "pass". As a result, the products produced by the system are high in quality, the cost to process material is low, and the capture rate of high value materials is virtually 100% with extremely low

As reported by the Appleton Post Crescent, the approval of the facility by the Outagamie County Board of Supervisors will allow the cost of the new facility to be shared between Brown, Outagamie and Winnebago Counties, all of which currently participate in a tri-county agreement for solid waste and recycling processing. Moving recycling from the dual stream system, in which paper is collected separately, to a single stream collection is another way the tri-county agreement best meets the needs of the region.

BHS designs, manufactures and installs processing systems to efficiently extract recoverable materials from waste streams, thus minimizing residual volumes sent to landfills and preserving precious natural resources through demonstrated carbon footprint reduction capabilities. The Eugene, Oregon USA based company is the leading supplier of processing systems for the solid waste, recycling, forest products and power generation industries and continues to develop new generation products and systems, while adding to an extensive list of patented technologies.





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1040 Arrowsml Tel: 541.485.0999 866.688

Purchasing Division

County Administration Building 300 Monroe Avenue NW Grand Rapids, MI 49503-2289, USA

Phone: (616) 632-7720 Fax: (616) 632-7715

e-mail: <u>purchasing@kentcountymi.gov</u>

Kent County Purchasing is a division of the Fiscal Services Department. The Purchasing Division's primary responsibility is to departments of Kent County in a timely, efficient, and cost-effective manner while complying with the federal, state and local Commissioners.

The Division operates with the best interest of the tax paying public in mind and is held to the highest professional standard a Purchasing Managers (NAPM) lists 12 principles or standards that purchasing professionals should follow. The Kent County standards as well as the policies established by the Board of Commissioners.

The Division encourages broad-based participation through a fair and open competitive process.

From: To: Dennis Kmiecik Brinks, Calvin

Date:

8/7/2009 11:54 AM

Subject:

Cal,

Cal,

Here is the breakdown for the new MRF:

Building: \$6,388,296.50 Equipment: \$4,727,185.00

Baler: \$478,250.00

Construction Management: \$303,144.27

Land: (5 acres) na

Total\$11,896,875.77

Dennis

This message has been prepared on resources owned by Kent County, MI. It is subject to the Acceptable Use Policy of Kent County.

MRF Equipment Vendor and Trade References

Jerry Flickinger Equipment Sales Manager JWR Inc. PO box 356 Johnson Creek WI 53038 Cell Phone: 920-988-0538

Office Phone: 888-699-2848 Office Fax: 920-699-2847 Website: www.jwrinc.net

Jerry Flickinger provided cost information on Single Stream processing equipment.

Matz, Paul

From:

Jerry Flickinger [jerry@jwrinc.net] Friday, August 14, 2009 9:23 AM

Sent:

Matz, Paul

To: Subject:

RE: Automation Question

Hi Paul,

Sorry for the delay in getting back to you on this. Here is what I have.

Estimated cost for the following equipment that will process 20 tons per hour would be \$6,000,000 to \$7,000,000. This would require a second shift if they achieve the 80,000 ton level.

Infeed metering hopper for bulk loading of materials.

Main infeed conveyor.

Pre-sort station.

Trommell screen for glass and fines.

OCC screen.

Three Ballistic Separators. (These units are used to separate paper, containers, and fines.) Optical sort for both fiber and plastic.

Shaker conveyor for additional removal of fines and broken glass.

Magnet for removal of steel cans and other metals.

Eddy current separator for aluminum.

All related platforms, railings, stairs, and sorting station conveyors.

In addition to this, estimated mechanical installation costs will be right at 15% of the final total equipment cost. Estimated electrical installation costs will run right at 10% of the equipment total.

At this volume, I would recommend a 2 baler system, one for fiber, and one for containers. Both machines would be able to crossover and process the other materials in emergencies so this gives you a back up if one baler is down, and would not cost a lot more than the one huge baler it would take to handle this volume. The balers will add an additional \$800,000 including installation.

Estimated staffing for this system is 26 on the sorting stations, plus another 5 to 7 on rolling stock.

Estimated minimum building size to accommodate this equipment is 200' by 300'.

As for life span, that is a VERY tricky question. It is so dependent on the volume and cleanliness of the incoming material, and the quality of maintenance that is done that it's hard to estimate. IF it is maintained properly, 10 to 12 years is not out of the question, but in those 10 to 12 years you would need to figure on replacing some conveyor belts and drives, relining balers, and rebuilding cylinders.

I hope this gives you what you need. Call me if you have any questions.

----Original Message-----

From: Matz, Paul [mailto:Paul.Matz@aecom.com] Sent: Wednesday, August 12, 2009 1:23 PM

To: Jerry Flickinger

Subject: RE: Automation Question

Jerry.

Just checking in...Do you plan to send me any type of budget costs?

One additional question:

If you were to put a time estimate on the life span of the MRF equipment what would it be? If I had to make a educated guess I would say that it is 10-15 years.

Matz, Paul

From: Matz, Paul

Sent: Friday, August 07, 2009 9:35 AM

To: 'Jerry Flickinger'
Cc: Pirrung, Don

Subject: RE: Compactor Information

Jerry:

Thanks for the follow-up phone call.

As we discussed, I am currently working on a project for the City of Milwaukee.

The city is in the process of evaluating their current recycling capabilities and their future options. AECOM has been hired to develop a report that summarizes their options.

The report that we are writing is not intended to be a detailed cost study. The cost data that we will document in the report will provide the city with budget numbers, so that they can evaluate which options they should pursue in more detail. This is not a formal Request for Quote. Without going into great detail, their options are:

1. Build a new Single Stream MRF for their recyclables only

- Partner with some of the surrounding communities and build a new Single Stream MRF for a larger volume of recyclables
- 3. Build a new Transfer Facility and continue to send their recyclables to a privately owned MRF

To that end I would like to request your assistance with "budget numbers" for the first two options. The figures presented should be for the installed cost of all of the "process equipment". These numbers can be presented in a range, a unit price, or whatever format makes you the most comfortable to convey this type of data. I recognize that there are a lot of variables so let me bracket your estimate with some assumptions.

<u>Assumptions</u>

- Assume current "state of the art" for a single stream system. This would include all of the latest optical sorting for plastics, material detection, etc.
- Assume that a new facility would be constructed in the existing facility but all the necessary modifications would be made so that necessary space, grading, building, utilities, etc. would be available, and your firm would participate in the design of the facility.
- Use current pricing. We reorganize that these prices are time, and material cost sensitive.
- The design capacity of the facility shall be as follows:

Option 1 30,000 tons/year Option 2 81,000 tons/year

The make up of the recyclable materials is:

Commodity	Composition %
Newspaper #8 (including phone books and magazines)	61.17
Corrugated	7.58
Office Mix Paper	0.59
FE / Tin	2.58
Aluminu m	1.49
HDPE Natural	1.81
HDPE Colored	1.52
PET	4.70
Green Glass	2.13

Amber Glass	0.78
Flint Glass	1.4
Mixed Glass	14.17
Scrap Metal	.04

The recyclables will come in either compacted in transfer vehicles or in the collection trucks themselves.

Any additional information that you can provide like brochures, generic drawings, material lists, building/site layout requirements, operating cost data, etc. would be greatly appreciated. It is my intention to include this letter and a copy of all documentation that you provide in an Appendix to the report.

I will be compiling the data that over the next week so I would like to have you numbers no later the COB in Wednesday August 12.

Please feel free to contact me if you have any questions.

Thank you in advance for your assistance.

Paul Matz

Project Engineer AECOM Environment

D: 920.451.2751 C: 920.698.2444

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A Please consider the environment before printing this e-mail

From: Jerry Flickinger [mailto:jerry@jwrinc.net]

Sent: Thursday, August 06, 2009 4:12 PM

To: Matz, Paul; Mike Shawgo

Cc: David Wolf

Subject: RE: Compactor Information

Hello Paul;

As Mike has mentioned, JWR offers service and sales of all types of recycling equipment including balers, conveyors, shredders, and sorting equipment. If the new project may involve any of these types of equipment, we would greatly appreciate the opportunity to speak with you. I have been selling recycling equipment for over 10 years and JWR has been servicing this kind of equipment for over 25 years.

Please let me know if there is anything we can help you with.

Jerry Flickinger Sales Manager JWR Inc.

You can visit us on the web at www.jwrinc.net

From: Matz, Paul [mailto:Paul.Matz@aecom.com]

Sent: Thursday, August 06, 2009 10:14 AM

To: Mike Shawgo

Cc: Jerry Flickinger; David Wolf **Subject:** Compactor Information

Mike,

Got your e-mail.

Thanks for the information and the follow-up.

I will use \$150K as an installed budget price for a compactor.

8/25/2009

Hook forward to receiving the Sebright information.

Paul Matz

Project Engineer AECOM Environment

D: 920.451.2751 C: 920.698.2444

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A Please consider the environment before printing this e-mail

From: Mike Shawgo [mailto:mshawgo@steppequipment.com]

Sent: Thursday, August 06, 2009 9:52 AM

To: Matz, Paul

Cc: Jerry Flickinger; David Wolf **Subject:** City of MIlwaukee

Paul...I will get you some info from Sebright, Jerry and Dave at JWR are my expert resources on the baler and conveyor end. Please stay in touch...Mike

Sincerely,

Mike Shawgo

General Manager
Stepp Equipment Company
N58 W14810 Shawn Circle
Menomonee Falls WI 53051
262-252-5500 p
262-252-5519 f
414-881-0336 c

Visit our recently updated website @ www.steppequipment.com!

Transfer Facility Equipment Pricing Data

Transfer Facility Vendor and Trade References

Mike Shawgo General Manager Stepp Equipment Company N58 W14810 Shawn Circle Menomonee Falls WI 53051 Cell Phone: 414-881-0336 Office Phone: 262-252-5500

Office Fax: 262-252-5519

Website: milwaukee@steppequipment.com

Mike Shawgo provided cost information on Transfer Station equipment, and equipment life expectancies.

Matz, Paul

From: Mike Shawgo [mshawgo@steppequipment.com]

Sent: Wednesday, August 12, 2009 5:52 PM

To: Matz, Paul

Subject: RE: Compactor Information

Paul... These are hypothetical, but should give you a starting point .. Mike

From: Matz, Paul [mailto:Paul.Matz@aecom.com] Sent: Wednesday, August 12, 2009 4:49 PM

To: Mike Shawgo

Subject: RE: Compactor Information

Good information Mike.

Thanks again!!

If you have some knowledge of a particular piece of equipment, please let me know your opinion where I have ??

Commodity	Life Expectancy
Buildings and Grounds	40 years
Single Stream Process Equipment	20 years
Compactor	10-15 years
Transfer Trailers	10-15
Semi Tractor	10 -15
Yard Truck	15 years
Front End Loader	15 years

Paul Matz

Project Engineer AECOM Environment

D: 920.451.2751 C: 920.698.2444

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Please consider the environment before printing this e-mail

From: Mike Shawgo [mailto:mshawgo@steppequipment.com]

Sent: Wednesday, August 12, 2009 4:42 PM

To: Matz, Paul

Subject: RE: Compactor Information

10-15 years, depending on tonnage processed and the type of material.

From: Matz, Paul [mailto:Paul.Matz@aecom.com] Sent: Wednesday, August 12, 2009 4:29 PM

To: Mike Shawgo

Subject: RE: Compactor Information

Mike:

What is the life expectancy of a compactor assuming proper maintenance? Same question for a trailer?

Paul Matz

Project Engineer AECOM Environment

D: 920.451.2751 C: 920.698.2444

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A Please consider the environment before printing this e-mail

From: Mike Shawgo [mailto:mshawgo@steppequipment.com]

Sent: Friday, August 07, 2009 8:50 AM

To: Matz, Paul

Subject: RE: Compactor Information

Paul....Pricing on the transfer trailers, which must be steel and compactor compatible, will range from \$90,000-110,000. Also, there is a state law which allows more payload if the hauler is hauling compacted waste. That is the reason transfer compactors are so popular in Wisconsin. It is a permitted allowance, Wisconsin Statute 348.27, any Wisconsin DOT office can get you the info. ...Mlke

From: Matz, Paul [mailto:Paul.Matz@aecom.com]

Sent: Thursday, August 06, 2009 3:09 PM

To: Mike Shawgo

Subject: RE: Compactor Information

Mike:

When we talked this morning you mentioned that you had some knowledge of the price of a trailer that would work with the compactor.

You and I both agree that it is probably best for the city contract this service, but they have requested that we estimate the cost of trailers, so if you can provide any insight to these costs it would also be appreciated.

Thanks,

Paul Matz

Project Engineer
AECOM Environment

D: 920.451.2751 C: 920.698.2444

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From: Matz, Paul

Sent: Thursday, August 06, 2009 10:14 AM

To: 'Mike Shawgo'

Cc: Jerry Flickinger; David Wolf **Subject:** Compactor Information

Mike,
Got your e-mail.
Thanks for the information and the follow-up.
I will use \$150K as an installed budget price for a compactor.
I look forward to receiving the Sebright information.

Paul Matz

Project Engineer AECOM Environment

D: 920.451.2751 C: 920.698.2444

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A Please consider the environment before printing this e-mail

From: Mike Shawgo [mailto:mshawgo@steppequipment.com]

Sent: Thursday, August 06, 2009 9:52 AM

To: Matz, Paul

Cc: Jerry Flickinger; David Wolf **Subject:** City of MIlwaukee

Paul...I will get you some info from Sebright, Jerry and Dave at JWR are my expert resources on the baler and conveyor end. Please stay in touch...Mike

Sincerely,

Mike Shawgo

General Manager Stepp Equipment Company N58 W14810 Shawn Circle Menomonee Falls WI 53051 262-252-5500 p 262-252-5519 f 414-881-0336 c

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Summit, IL 60501

Phone: 708-458-7800

Fax: 708-458-1031

chicago@steppequipment.com

View Map For This Location

Wisconsin Location

N58 W14810 Shawn Circle

Menomonee Falls, WI 53051

Phone: 262-252-5500

Fax: 262-252-5519

milwaukee@steppequipment.com

View Map For This Location



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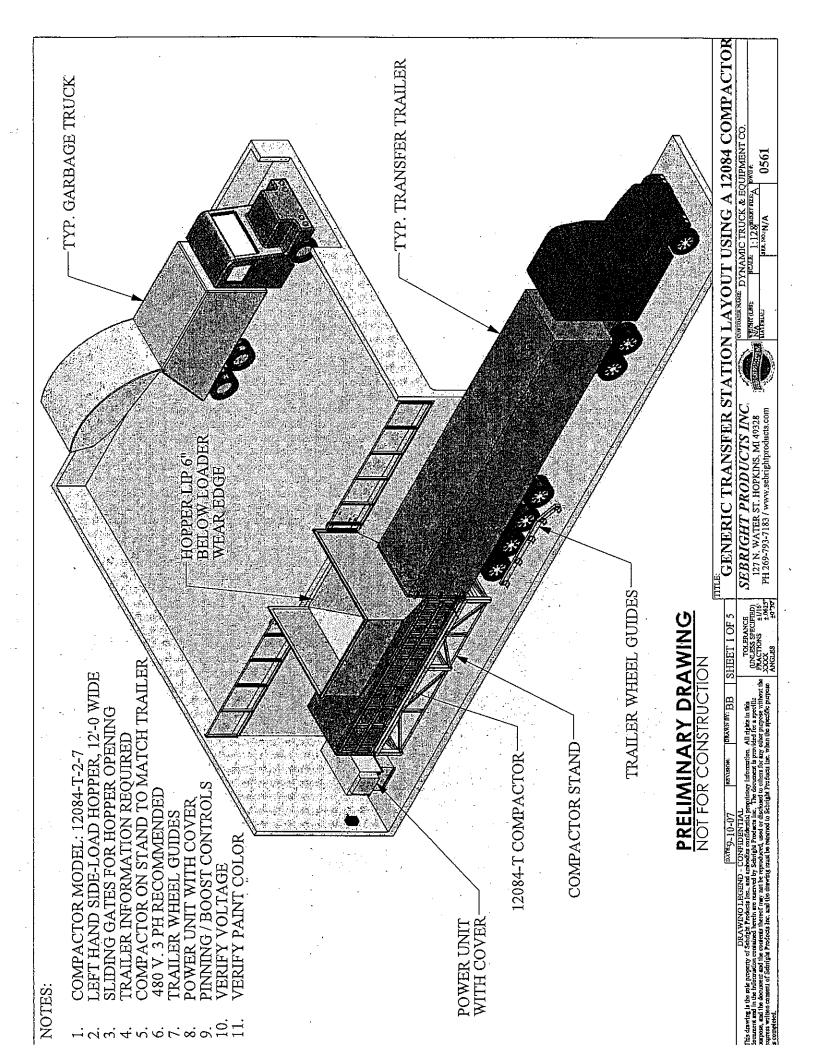
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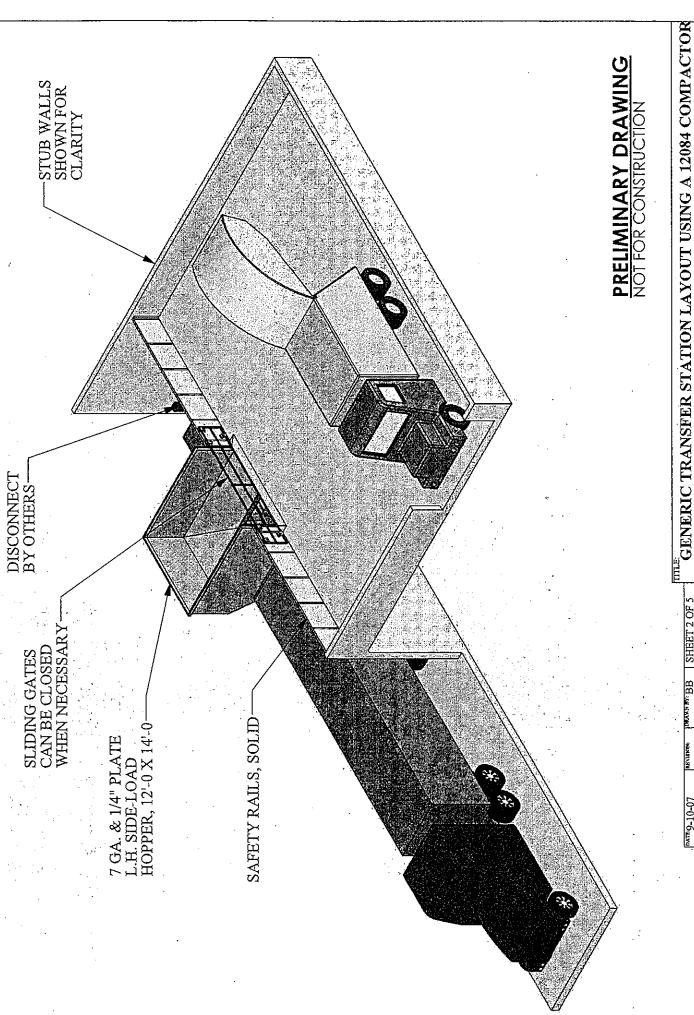






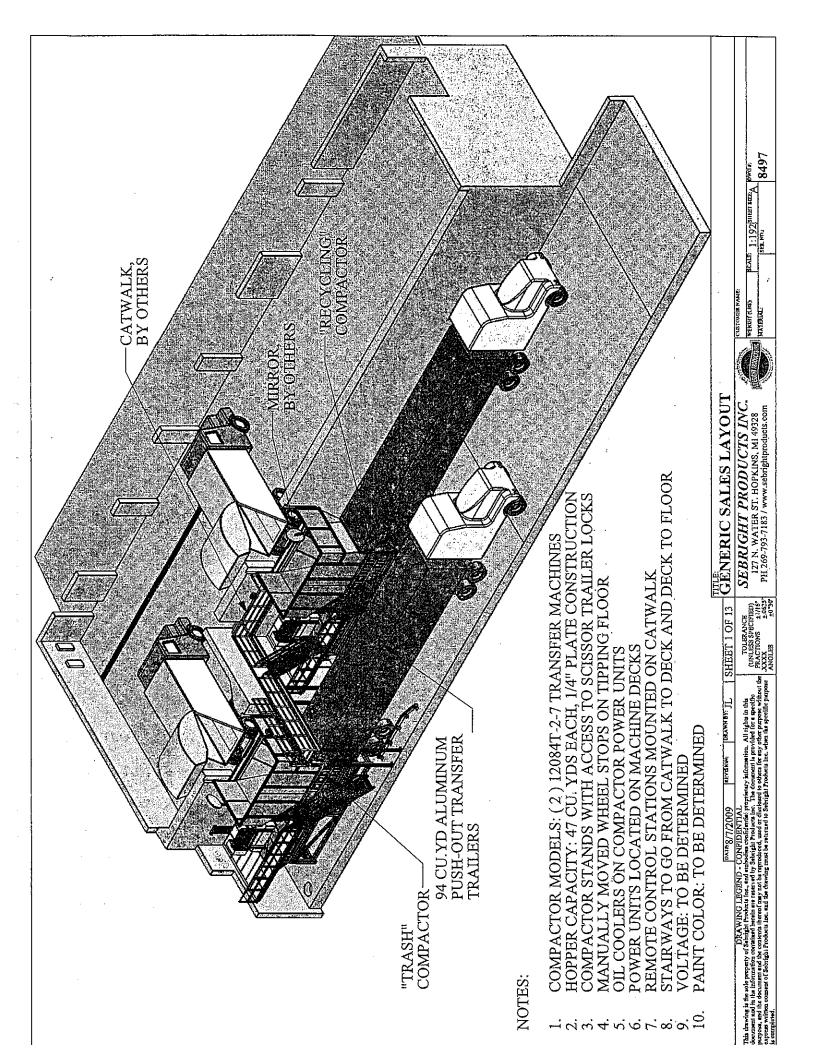
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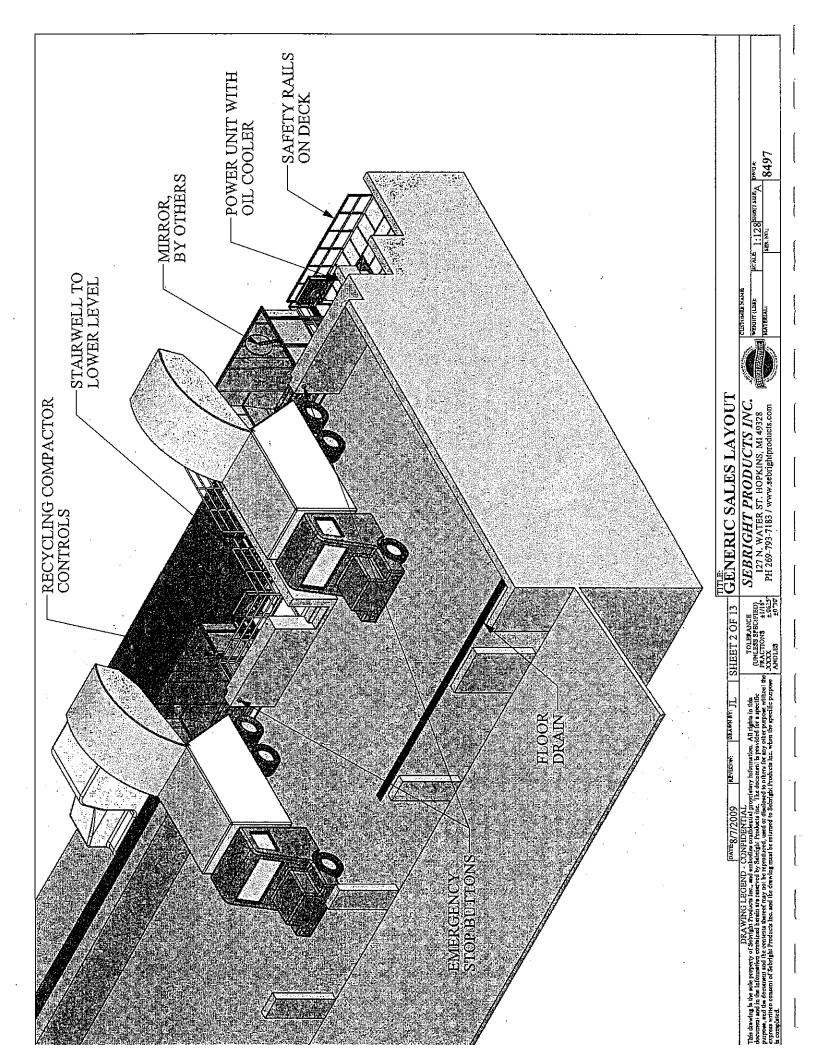




COSTOLIZA NAUE DYNAMIC TRUCK & EQUIPMENT CONSTITUTION OF STATE OF WEIGHT (LES): SEBRIGHT PRODUCTS INC. 127 N. WATER ST. HOPKINS, MI 49328 PH 269-793-7183 / www.sebrightproducts.com

0561





APPENDIX K TRANSPORTATION COST ESTIMATE

Detailed Cost Analysis

		Sector C	To and From Proposed North Side Transfer Station (7301 W Mill Rd)										
		Cross-S	Streets	Distanc	Distance (miles) Time (minutes)				Cost				
	# of Trips							20% Inflated	Labor per Trip:	Maint/Fuel per	Total Cost	Monthly	Annual
Sector	per Month ¹	East-West	North-South	One-way	Roundtrip	One-way	Roundtrip	Truck Time	\$0.78/min	Trip: \$0.19/min	per Trip	Cost	Cost ²
N-1	20	Keefe Avenue	95th Street	5.1	10.2	16	32	38.4	\$29.95	\$7.30	\$37.25	\$744.96	\$8,940
N-2	20	Lynmar Court	78th Street	4.4	8.8 .	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
N-3	20	Burleigh Street	75th Street	5.8	11.6	15	30	36	\$28.08	\$6.84	\$34.92	\$698.40	\$8,381
N-4	20	Capital Drive	56th Street	4.0	8.0	9 ?	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028
N-5	20	Hope Avenue	36th Street	5.1	10.2	11	22	26.4	\$20.59	\$5.02	\$25.61	\$512.16	\$6,146
N-6	12	Vienna Avenue	24th Street	6.4	12.8	13	26	31.2	\$24.34	\$5.93	\$30.26	\$363.17	\$4,358
N-7	20	Linwal Lane	24th Street	5.2	10.4	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
N-8	20	Custer Avenue	42nd Street	3.3	6.6	7	14	16.8	\$13.10	\$3.19	\$16.30	\$325.92	\$3,911
N-9	20	Custer Avenue	64th Street	1.8	3.6	5	- 10	12	\$9.36	\$2.28	\$11.64	\$232.80	\$2,794
N-10	20	Villard Avenue	84th Street	3.3	6.6	9	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028
N-11	20	Daphne Street	106th Street	2.5	5.0	8	16	19.2	\$14.98	\$3.65	\$18.62	\$372.48	\$4,470
N-12	20	Hemlock Street	60th Street	2.1	4.2	6	12	14.4	\$11.23	\$2.74	\$13.97	\$279.36	\$3,352
N-13	20	Fairlane Court	93rd Street	4.6	9.2	14	28	33.6	\$26.21	\$6.38	\$32.59	\$651.84	\$7,822

Assuming 1 Trip per Day

\$73,639 Approximately \$73,700

² Annual Cost rounded to the nearest dollar

Detailed Cost Analysis

		Sector Centroid		To and From Proposed South Side Transfer Station (3879 W Lincoln Av.)									
		Cross-S	Streets	Distance (miles)			Time (minute	es)	Cost				
	# of Trips	-						20% Inflated	Labor per Trip:	Maint/Fuel per	Total Cost	Monthly	Annual
Sector	per Month ¹	East-West	North-South	One-way	Roundtrip	One-way	Roundtrip	Truck Time	\$0.78/min	Trip: \$0.19/min	per Trip	Cost	Cost ²
C-1	20	Linnwood Avenue	Stowell Avenue	8.6	17.2	18	36	43.2	\$33.70	\$8.21	\$41.90	\$838.08	\$10,057
C-2	20	Auer Avenue	Pierce Street	7.6	15.2	16	32	38.4	\$29.95	\$7.30	\$37.25	\$744.96	\$8,940
C-3	20	Kewaunee Street	Marshall Street	6.6	13.2	16	32	38.4	\$29.95	\$7.30	\$37.25	\$744.96	\$8,940
C-4	20	Chambers Street	48th Street	5.3	10.6	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
C-5	20	Lisbon Avenue	49th Street	4.5	9.0	9	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028
C-6	20	Woodlawn Court	50th Street	3.3	6.6	8	16	19.2	\$14.98	\$3.65	\$18.62	\$372.48	\$4,470
C-7	20	Fairview Avenue	80th Street	4.8	9.6	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
C-8	20	Hopkins Street	15th Street	7.1	14.2	14	28	33.6	\$26.21	\$6.38	\$32.59	\$651.84	\$7,822
C-9	20	Center Street	23rd Street	6.4	· 12.8	16	32	38.4	\$29.95	\$7.30	\$37.25	\$744.96	\$8,940
S-1	20	Goldcrest Avenue	18th Street	5.8	11.6	17	34	40.8	\$31.82	\$7.75	\$39.58	\$791.52	\$9,498
S-2	20	Bardnard Avenue	14th Street	4.9	9.8	15	30	36	\$28.08	\$6.84	\$34.92	\$698.40	\$8,381
S-3	20	Saveland Avenue	Herman Street	5.0	10.0	16	32	38.4	\$29.95	\$7.30	\$37.25	\$744.96	\$8,940
S-4	20	Pryor Avenue	Fulton Street	3.8	7.6	14	28	33.6	\$26.21	\$6.38	\$32.59	\$651.84	\$7,822
S-5	20	Arthur Avenue	19th Street	1.5	3.0	5	10	12	\$9.36	\$2.28	\$11.64	\$232.80	\$2,794
S-6	20	Greenfield Avenue	29th Street	1.5	3.0	4	8	9.6	\$7.49	\$1.82	\$9.31	\$186.24	\$2,235
S-7	20	Hayes Avenue	8th Street	2.2	4.4	7	14	16.8	\$13.10	\$3.19	\$16.30	\$325.92	\$3,911
S-8	20	Morgan Avenue	13th Street	3.2	6.4	9	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028
S-9	20	Manitobu Street	39th Street	1.2	2.4	3	6	7.2	\$5.62	\$1.37	\$6.98	\$139.68	\$1,676
S-10	20	Nebraska Avenue	54th Street	.2.2	4.4	5	10	12	\$9.36	\$2.28	\$11.64	\$232.80	\$2,794
S-11	20	Ohio Avenue	68th Street	3.1	6.2	8	16	19.2	\$14.98	\$3.65	\$18.62	\$372.48	\$4,470
S-12	20	Morgan Avenue	86th Street	4.2·	8.4	9	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028·
S-13	8	Elgin Lane	14th Street	3.2	6.4	10.5	21	25.2	\$19.66	\$4.79	\$24.44	\$195.55	\$2,347

\$132,528 Approximately \$133,000

¹ Assuming 1 Trip per Day ² Annual Cost rounded to the nearest dollar

Detailed Cost Analysis

		Sector Centroid		Existing Milwaukee Facility									
		Cross-S		Distanc	e (miles)		Time (minute	es)			Cost		
	# of Trips							20% Inflated	Labor per Trip:	Maint/Fuel per	Total Cost	Monthly	Annual
Sector	per Month ¹	East-West	North-South	One-way	Roundtrip	One-way	Roundtrip	Truck Time	\$0.78/min	Trip: \$0.19/min	per Trip	Cost	Cost ²
N-1	20	Keefe Avenue	95th Street	7.7	15.4	18	36	43.2	\$33.70	\$8.21	\$41.90	\$838.08	\$10,057
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N-4	20	Capital Drive	56th Street	7.7	15.4	17	34	40.8	\$31.82	\$7.75	\$39.58	\$791.52	\$9,498
N-5	20	Hope Avenue	36th Street	8.0	16.0	15	30	36	\$28.08	\$6.84	\$34.92	\$698.40	\$8,381
N-6	12	Vienna Avenue	24th Street	6.4	12.8	14	28	33.6	\$26.21	\$6.38	\$32.59	\$391.10	\$4,693
N-7	20	Linwal Lane	24th Street	7.5	15.0	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
N-8	20	Custer Avenue	42nd Street	10.5	21.0	17	34	40.8	\$31.82	\$7.75	\$39.58	\$791.52	\$9,498
N-9	20	Custer Avenue	64th Street	11.8	23.6	20	40	48	\$37.44	\$9.12	\$46.56_	\$931.20	\$11,174
N-10	20	Villard Avenue	84th Street	8.5	17.0	20	40	48	\$37.44	\$9.12	\$46.56	\$931.20	\$11,174
N-11	20	Daphne Street	106th Street	15.5	31.0	24	48	57.6	\$44.93	\$10.94	\$55.87	\$1,117.44	\$13,409
N-12	20	Hemlock Street	60th Street	13.5	27.0	22	44	52.8	\$41.18	\$10.03	\$51.22	\$1,024.32	\$12,292
N-13	20	Fairlane Court	93rd Street	17.2	34.4	28	56	67.2	\$52.42	\$12.77	\$65.18	\$1,303.68	\$15,644
C-1	20	Linnwood Avenue	Stowell Avenue	6.5	13.0	13	26	31.2	\$24.34	\$5.93	\$30.26	\$605.28	\$7,263
C-2	20	Auer Avenue	Pierce Street	5.5	11.0	11	22	26.4	\$20.59	\$5.02	\$25.61	\$512.16	\$6,146
C-3	20	Kewaunee Street	Marshall Street	2.8	5.6	11	22	26.4	\$20.59	\$5.02	\$25.61	\$512.16	\$6,146
C-4	20	Chambers Street	48th Street	5.0	10.0	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
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C-9	20	Center Street	23rd Street	4.3	8.6	12	24	28.8	\$22.46	\$5.47	\$27.94	\$558.72	\$6,705
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S-2	20	Bardnard Avenue	14th Street	8.8	17.6	13	26	31.2	\$24.34	\$5.93	\$30.26	\$605.28	\$7,263
S-3	20	Saveland Avenue	Herman Street	8.3	16.6	13	26	31.2	\$24.34	\$5.93	\$30.26	\$605.28	\$7,263
S-4	20	Pryor Avenue	Fulton Street	6.2	12.4	11	22	26.4	\$20.59	\$5.02	\$25.61	\$512.16	\$6,146
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S-6	20	Greenfield Avenue	29th Street	2.3	4.6	7	14	16.8	\$13.10	\$3.19	\$16.30	\$325.92	\$3,911
S-7	20	Hayes Avenue	8th Street	3.1	6.2	10	20	24	\$18.72	\$4.56	\$23.28	\$465.60	\$5,587
S-8	20	Morgan Avenue	13th Street	6.2	12.4	. 9	18	21.6	\$16.85	\$4.10	\$20.95	\$419.04	\$5,028
S-9	20	Manitobu Street	39th Street	4.4	8.8	14	28	33.6	\$26.21	\$6.38	\$32.59	\$651.84	\$7,822
S-10	20	Nebraska Avenue	54th Street	5.4	10.8	15	30	36	\$28.08	\$6.84	\$34.92	\$698.40	\$8,381
S-11	20	Ohio Avenue	68th Street	6.3	12.6	17	34	40.8	\$31.82	\$7.75	\$39.58	\$791.52	\$9,498
S-12	20	Morgan Avenue	86th Street	7.4	14.8	19	38	45.6	\$35.57	\$8.66	\$44.23	\$884.64	\$10,616
S-13	8	Elgin Lane	14th Street	1.5	3.0	5	10	12	\$9.36	\$2.28	\$11.64	\$93.12	\$1,117 \$270.085

¹ Assuming 1 Trip per Day ² Annual Cost rounded to the nearest dollar

\$270,085 Approximately \$271,000

Rick Meyers, Recycling Specialist, City of Milwaukee DPW

Whole City Recycling Setout Planning

August 4, 20009

Households	summer	winter
carts	163000	163000
bi ns	27000	27000
total	190000	190000

Cart costs per unit, 95-gal size regular -single stream \$ 51.41 split - dual stream \$ 63.41

alleys

57%

Collection place

fronts

43%

Assumptions:

No change in weekly bin route service (disregard in calculations) 20 work days per month

Currently		summer winter	
Crew#	total	. 31	34
-	carts	28	31
	bins	3	3

^{*}Up the drive service for most summer and all winter routes

2009 summer setout averaging 350 HH/crew per day How many cart crews needed if routes built on 350 HH per day?

<u>scrout</u>	
once/mo.	23.3
every 3rd week	31.0
every 2nd week	46.6

2009 Twice per month summer setout is averaging 372 HH/day (Greater frequency yields fewer setting out every time)

How many cart crews needed if all routes twice per month?

HH per day	crews needed
350	46.6
375	43.5
400	40.8

Two-person garbage crews average servicing 490 HH per day* If single stream recycling with 2 person crews, 500 HH/day**:

<u>setout</u> ·	crews needed
once/mo.	16.3
every 3rd week	21.7
every 2nd week	32.6

^{*}Garbage routes designed for time to collect bulky items as well as tip carts.

If single stream recycling, 2 person crews, 500 HH/day, AND include current bin routes:

<u>setout</u>	total crews needed
o n ce/m o .	19.0
every 3rd week	25.3
every 2nd week	38.0

^{**500} is conservative because of # of HH's with multiple garbage carts; few for recycling

Summer recycling fleet: 31 (28 cart & 3 bin)

	BINS	CARTS	TOTAL
Ċ	18991	42397	61388
N	4218	58866	63084
S	3846	62187	66033
Total	27055	163450	190505
Percent	14.20%	85.80%	100%

Cart Setout	Programs				
Monthly	trucks	НН	HH/truck	HH/truck/mo	HH/day
С	1	6578	6578	6578	329
N	2	14073	· 7037	7037	352
s	1	7350	7350	7350	368
total	4	28001	7000	7000	· 350
Twice/Mo.	trucks	НН	HH/truck	HH/truck/mo	HH/day
С	1	3500	3500	7000	350
S	1	3933	3933	7866	393
total	2	7433	3717	7433	372

NON-Setou	t Program				_	
~monthly	trucks	НН	HH/truck	HH/truck/mo	HH/day	
C*	4	28270	7068	7068	353	(lot of
N*	9	44793	4977	. 4977	249	
s ·	9	50904	5656	5656	. 283	
total	22	123967	5635	5635	282	
*excluding r	outes that p	oick up bo th	bins and c	arts		,

(lot of alleys in Central)

Garbage cart collection crews, summer 2009

77 garbage trucks operating as 2-person crews

Weekly garbage cart setout program

	-	HOUSEHOLDS SERVED						
Area	# crews	#	% of total	Per crew	Per crew/day			
C	26	60577	32.11%	2330	466			
N	25	62703	33.24%	2508	502			
S	26	65355	34.65%	2514	503			
TOTAL	77	188635	100.00%	2450	490			

Garbage routes designed for time to pick up bulky items outside of carts as well as dump the carts.

APPENDIX K

Recycling Collection Analysis

		Proposed	Crews N	eeded			
	Setout Schedule	Set-Out Households Per Day ¹	Employees	Trucks	Current Number of Crews/Trucks (Carts)	Additional Employees Needed	Additional Trucks Needed
One Person Crews	1 time per month	350	23	23	31	0	0
	Every 3rd Week	350	31	31	31	0	0
· · · · · · · · · · · · · · · · · · ·	Every 2nd Week	375	44	44	31	13	13
Two Person Crews	1 time per month	500	32	16	31	1	0
	Every 3rd Week	500	44	22	31	13	0
	Every 2nd Week	500	66	33	31	35	2

Notes:

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^{1.} Proposed Setout Household's per day assumes curb-side pickup. Currently, the City provides up-the-drive service for all winter routes and most summer routes

APPENDIX L PAY AS YOU THROW LITERATURE

SERA

Boulder Office: 762 Eldorado Drive, Superior, CO 80027 Voice: 303/494-1178 FAX: 303/494-1177 emall: skumatz @ serainc.com Website: www. serainc.com; payt.org

Summary of Key Results from SERA's 2008 Solid Waste and Recycling Survey

2008 REPORT

Prepared by:

Lisa Skumatz and Juri Freeman Skumatz Economic Research Associates, Inc. 762 Eldorado Drive, Superior, CO 80027 303/494-1178 <u>skumatz@serainc.com; www.serainc.com</u> @SERA2008

Prepared for:

Communities that responded to the 2008 survey!

ORGANIZATION OF REPORT

1.0	Introduction	1
	About the Communities	
	Collection Arrangements	
	Recycling Containers	
	Single Stream	
	Billing and PAYT	
7.0	Facilities and Ownership	5
	Funding Solid Waste Programs	
	Presence of Programs and Policies	

Acknowledgements:

Thank you to Jerry Powell, Resource Recycling Magazine, and the communities that responded to the survey!!

About the Authors:

DR. LISA SKUMATZ is a "hands-on" economist with the research and consulting firm Skumatz Economic Research Associates, Inc. (SERA) (www.serainc.com). For almost 20 years, Lisa has helped communities across the US analyze practical economic and policy issues in solid waste. Her work concentrates on integrated planning, program evaluation, benchmarking, cost-effectiveness and rates for the variety of solid waste programs. She has published extensively, and is best known for her work in incentive-based rates (Pay as you Throw and "Garbage by the Pound") and for her detailed analyses of single stream recycling, source reduction, education programs, and commercial diversion options

Lisa has a strong "numbers" orientation – focusing on "what do real-world, operating programs tell us". She maintains a database of recycling in more than 1,300 communities across North America, and has analyzed programmatic features that increase diversion and cost-effectiveness in different situations. SERA maintains databases on the 100 largest communities in the US, and all PAYT communities in North America.

In 2007, Dr. Skumatz received SWANA's Distinguished Service Lifetime Achievement Award. She was previously named "Recycler of the Year – Lifetime Achievement" in 2001 by the National Recycling Coalition, and in 2007 received the same award from the Colorado Association for Recycling (CAFR). She served as a board member of NRC for 10 years and a member of SWANA and numerous other state and regional recycling associations. Lisa attended the University of Wisconsin for her undergraduate economics degree and her Ph.D. in Economics is from The Johns Hopkins University.

DAVID."JURI" FREEMAN is an environmental analyst with SERA, Inc. He has collected data on the wide variety of recycling and solid waste programs across the US -- including recycling, yard waste, source reduction, electronics, single stream recycling, education / outreach programs, and others -- to provide information for benchmarking, program potential and performance, costs, and other planning and evaluation purposes. These data have been used to identify cutting edge programs and provide key data on the factors affecting program performance. His strengths include an understanding of how the information will be used, which helps make sure he conducts appropriate follow-up on complex analytical issues. He has conducted detailed analyses for solid waste clients in Colorado, California, Wyoming, Washington, North Carolina, British Columbia, and other locations.

Dr. Skumatz has published more than 75 articles and published (non-project) reports in solid waste and recycling planning, evaluation, measurement, and rates. The majority of journal articles are in Resource Recycling.

SERA, established in 1990, has offices in Boulder and Seattle. We have conducted projects for large and small clients in 35 states, 5 Canadian provinces, and 6 foreign countries.

Summary of Key Results from SERA's 2008 Solid Waste and Recycling Survey

1.0 Introduction

SERA sent a survey to counties and cities across the US and Canada. We received more than 700 responses to our survey. The following is a high-level summary of the survey results, prepared for those communities responding to the survey.

We provide a succinct summary of the responses received, which were not necessarily random and thus. not statistical. However, they do provide some information on what is going on in communities, and whether certain policies or arrangements are generally uncommon or not. The data also provide a valid resource for case studies and for multivariate statistical analysis, which can work without strictly random samples (that is the basis of most of our studies that you may have seen in the past).

2.0 About the Communities

Of the responses we received:

- 60% responded as a city, 40% as a county, and 2% as hauler (multiple responses were allowed).
- 18% urban, 21% suburban, 25% rural, 26% rural/suburban, and 11% urban/suburban.

The distribution of population for the respondents follows:

- Average city size was 158,000
- Median was 55,000 (half larger, half smaller than this population)
- Populations ranged from 378-8.5 million.
- 23% smaller than 20,000
- 23% between 20,000 and 50,000
- 19% between 50,000 and 100,000
- 11% between 100,000 and 150,000
- 10% between 150,000 and 250,000
- 8% between 250,0`00 and 500,000
- 4% between 500,000 and 1,000,000, and 2% over 1,000,000.

Again, the fact that the responses were not random is illustrated by the distribution across states. California represented 17% of the respondents, but about 4% of census places nationwide. Others are less disproportional. Similar comparisons have not been conducted based on population.

Table 2.1 Percent of respondents by state (or province)

Table 2.1	Pct of	Pct	Addition to	Pct of	Pct		Pct of "	- Pct
		-Towns in	i dan	Survey	Towns in		Survey	Towns in
State	Responses		State		US	State	: Responses	The State of the S
AK∍	0.1%	1.3%	KS		2.4%	OH 💥	3.0%	3.9%
ALS	0.3%	1.8%	KY 📆	1.7%	1.7%	OK-	0.3%	2.6%
AR	1.7%	1.9%	LA A	0.0%	1.5%	OR: Kirr	2.0%	1.3%
AZ TEST	1.8%	0.9%	MA	3.7%	0.9%	PA PA	4.0%	5.2%
CA 1	17.0%	4.0%	MD :-	0.1%	1.4%	Ristan	0.1%	0.1%
CAN-BC	0.1%		ME 🛴	2.1%	0.1%	SC	1.7%	1.4%
CAN-ON =	0.1%		-MI ≟€	3.0%	2.3%	SD	0.3%	1.3%
CO 部計	2.7%	1.3%	MN	4.1%	6.9%	TN	1.0%	1.4%
·CT等語語	1.8%	0.4%	MO	2.3%	3.6%	歴史が入れ	5.8%	5.6%
DC安德語	0.0%	0.0%	MS 🔭	0.4%	1.1%	USVI飛彎	0.1%	
DEWS中国的	0.0%	0.3%	MT	0.4%	1.0%	が い TU	0.3%	1.1%
FL 美国金属	4.1%	3.3%	NC 💱	2.7%	2.4%	VA端於	3.0%	1.4%
-GA	1.1%	2.2%	ND 🐇	0.0%	1.4%	意識を	1.0%	3.3%
GUAM	0.3%		NE	0.3%	2.0%	WA :	3.8%	1.9%
中国的影響學家是	0.4%	0.3%	NH 🕹 🌣	1.8%	0.2%	·WI 在鲁敦的	2.4%	2.3%
IA用能够企	1.7%	3.6%	NJ S	3.6%	1.9%	WV 3 5 5 5	0.6%	1.1%
ID 鸣彩声字	0.6%	0.8%	NM 🗀	0.6%	0.9%	WY	0.4%	0.7%
正的手序数	4.1%	4.9%	NV	0.0%	0.3%	+ ***********		
in being	2.6%	2.2%	NY 📲	2.0%	3.9%	2號並設		

3.0 Collection Arrangements

We asked about collection arrangements for trash, recycling, and yard waste (where curbside programs existed. The following summarizes the responses on who collects, containers used, collection method, and whether the (private) haulers are national or not. Each table addresses the three services – trash, recycling, and yard waste.

Table 3.1 Who collects (for those with curbside service for the program)?

1		454.41	4470347		ar feeling sool		e la constant	Section 14	10.35		Multiple
	404 L D			ু ⊈ One,∺				0.000	1000		haulers
		Drop	The second second second	· hauler	THE REPORT OF A PROPERTY AND A SECOND	One	AND THE PERSON NAMED IN	One	Multiple	TO A STATE OF THE	with
	A CHARLEST TO SERVICE AND RESIDENT	つくしき もんしんしきょうかん	(District of College Visitation)	via	BANKERS AND EAST TOTAL A NEW YORK	CONTRACTOR OF THE STATE OF THE	haulers	an an all a larger and a larger a	licensed/,	CHARAGON CONTRACTOR	private
Mile Callege					via			permitted :			compe
→ Who Collects ✓		WILL OF HYS	CUIIECL	表記に dLL)的	EUHU act	Hallulise 🥞	manunise @	naulel	ilaulei	ssilauleise	AND HUUUII
Garbage	2.1%	1.9%	28.6%	19.8%	6.1%	9.6%	4.6%	1.5%	8.2%	1.9%	15.0%
Recycling	13.6%	7.6%	21.5%	25.0%	4.9%	8.5%	3.8%	1.7%	4.7%	1.4%	6.9%
Yard waste	20.5%	9.0%	31.2%	16.1%	3.0%	8.4%	3.3%	0.9%	2.6%	0.5%	3.6%

Table 3.2 What programs / container types are used? (for those with curbside service) (Excludes don't know & other)

				Chief Carrier Carrier Control of the	Wheeled					2.0		
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Container	pro-	program -		owned by 🥦				Bun∹		100	' tiple	
Type?	- gram	only	by city	the hauler	resident	residents	Crates	- dles	at curb	Bags⊋	-choice	Other
Garbage	1.1%	1.4%	20.0%	26.6%	0.9%	21.5%	0.3%	0.0%	0.3%	6.1%	19.4%	1.7%
Recycling	6.2%	5.5%	9.3%	20.0%	0.2%	2.7%	37.5%	0.3%	0.0%	4.0%	11.2%	2.7%
Yard waste	11.5%	5.6%	5.9%	18.2%	0.7%	3.6%	0.2%	2.3%	16.0%	13.2%	17.3%	3.6%

Table 3.3 Collection method?

Collection Method?	Don't know	Fully automated	- Semi automated	Manual
Curbside Garbage	3.9%	32.2%	25.2%	38.6%
Curbside Recycling	3.3%	21.3%	14.7%	47.0%
Curbside Yard waste	4.7%	16.2%	15.6%	40.5%

If the hauler was reported as "private", the respondent was asked to characterize the hauler.

Table 3.4 Type of "private" hauler providing service

Type of Hauler?	National firm or affiliate	Regional firm i	Small local	Other
Trash	42.0%	17.6%	28.4%	12.0%
Recycling	38.6%	17.7%	26.6%	17.1%

About 1/3 of the communities responding do not require households to contract for trash.

4.0 Recycling Containers

Two-thirds of households receive 1 container, a quarter get 2 containers, and 9% receive 3 containers. A number of communities stated they provided "as many as the households need / want".

The distribution of container sizes, and the volumes (computed as size times volume) are provided below. However, note, that this does NOT control for whether collection is weekly, every other week, or some other frequency.

Table 4.1 Size of containers and total volume of recycling service (not corrected for recycling collection frequency)

ed excellence	Individual containers	Total volume (N times containers not including frequency)
20 gallons or less	49%	26%
33 gallons or less	12%	5%
66 gallons or less	17%	9%
99 gallons or less	20%	39%
100 gailons or more	1%	21%

Table 4.2 Collection frequency by service

Frequency	- No collecti on				Every other week		Monthly "S	seasonally :
Garbage	0.9%	3.3%	83.0%	11.9%	0.8%	0.2%	0.0%	0.0%
Curbside recycling	12.4%	4.0%	56.5%	0.5%	21.5%	2.7%	2.3%	0.2%
Curbside yardwaste	21.3%	5.6%	39.4%	1.5%	8.0%	1.3%	3.3%	19.6%

Most communities collect a large number of materials. They are summarized below.

Table 4.3 Percent of communities that collect various recyclable materials (for those with service)

Percent that collect the	Materials List
90% or more	Aluminum, Newspaper
75%-89%	Green Glass, Brown glass, Clear glass, Cardboard, Steel/tin cans, #1 PET, #2 HDPE
50-75%	None
40-50%	Other plastics, Chipboard/paperboard
Low frequency	Oil (16%), Batteries (11%), Electronics (9%), Food (5%), Textiles (5%)

About two-thirds provide curbside recycling to complexes with up to 4 units. About 40% provide the service to small commercial establishments as well. Collection frequency statistics follow.

Table 4.4 Collection frequency by service type

Collection frequency by service type	Weekly	Twice weekly	Every other Week	Monthly	Seasonally
Trash	83.0%	11.9%	1.05	0%	0%
Curbside recycling	56.5%	0.5%	24.2%	2.3%	0.2%
Curbside Yard waste	39.4%	1.5%	9.3%	3.3%	19.6%

5.0 Single Stream

Nearly half the respondents reported they have single stream collection - clearly not a random sample from all communities to which we sent surveys. About one-third were dual stream programs. When asked about the curbside recycling program prior to switching to single stream, we found more than one-third had no program previously, more than one-third switched from dual stream programs, and about one-quarter switched from programs collecting three or more streams. The majority did not switch collection frequencies with their move to single stream, about 40% added materials, and about 10% used the opportunity to add new yard waste collection. Fewer than 7% said they subtracted glass when they switched to single stream.

We asked about changes that resulted from the switch to single stream. We found:

- Almost three-quarters of the respondents with single stream said tonnage increased somewhat or a great deal compared to the program they had before.
- Most said they weren't sure if values for materials changed.
- The majority said costs to run the program increased somewhat or stayed the same.
- Almost 75% said recycling participation is somewhat or much better after single stream
- Half said illegal dumping was the same, and another 40% didn't know
- More than half said resident satisfaction was much better now

Most said collection efficiencies were much better now.

In a separate effort, we conducted an inventory of single stream programs across the US. While an imperfect list (there are new programs all the time, and we were unable to contact every community), the results provide an indication of the prevalence of single stream recycling programs.

- We identified more than 340 single stream programs in the US, covering perhaps 12-15% of the US population:
- We were able to identify the leading states for single stream penetration, using a ranking that combines both number of single stream programs and population covered by single stream programs. The results are included in Table 5.1.

Table 5.1 Leading single stream states based on number of programs and population covered

1. California	4. Ohio	7. Arizona
2. Texas	Washington	8. Minnesota
3. Illinois	6. Pennsylvania	9. Oregon

6.0 Billing and PAYT

Trash, recycling, and yard waste are most commonly billed monthly; however, a substantial number were billed quarterly, every other month, or annually. In the sample that responded to our survey, about 30% had PAYT (which is slightly higher than our national statistics, which indicate 25% with PAYT¹). The overwhelming program is variable / subscribed can program, with more than 60% of PAYT communities reporting this program. The next most common was a bag program with a fixed fee or customer charge (about 30%). The rest were scattered among other PAYT systems, including 10% with drop-off programs (multiple responses were allowed).

7.0 Facilities and Ownership

Most communities do not have the following facilities available in the area:

- · Compost area that accepts food waste
- · Single stream MRF
- Low tech MRF
- · "Dirty" MRF
- Hard to recycle materials facility
- Construction and demolition (C&D) sorting facility
- · Construction and demolition landfill
- Landfill gas extraction infrastructure
- · Reuse area
- Waste to energy facility
- Incinerator
- MSW composting facility

The two most common ownership and operation alternatives for each of the following facilities are listed below.

5 - 6

¹ Skumatz, Lisa A., and David J. Freeman, "Pay as You Throw (PAYT) in the US: 2006 Update and Analyses", Skumatz Economic Research Associates, Inc., Superior, CO, for EPA Headquarters, Washington DC., December 2006.

- · Landfill: privately owned and operated; county owned and operated
- Compost area: city owned and operated; privately owned and operated,
- Single stream MRF: by far most commonly privately owned and operated
- Low tech MRF: by far most commonly privately owned and operated
- HHW facility: County owned and operated; city owned and operated
- C&D sorting facility: by far most commonly privately owned and operated
- · C&D landfill, privately owned and operated; county owned and operated
- · E-waste facility: privately owned and operated, county owned and operated
- · Landfill gas extraction infrastructure: privately owned and operated, county owned and operated
- Transfer station: privately owned and operated, county owned and operated (city owned / operated close behind)

8.0 Funding Solid Waste Programs

The most common methods of funding residential programs are through user fees and property taxes (somewhat less than twice as many employ user fees). Tip fee surcharges are common sources of local funding for programs, and user fees are most common for local funding of local commercial programs. At the state level, tip fee surcharges were the most common source of funds.

9.0 Presence of Programs and Policies

Finally, we asked about the presence of an array of specific programs. The responses are summarized below.

Table 9.1 Percent of communities with various programs and policies

Which of the following programs/policies do you have?	Yes	No.	Other *
Disposal bans at the landfill (local only, exclude state bans)	34.3%	52.5%	13.2%
Disposal bans at the curb (local only, exclude state bans)	35.1%	54.6%	10.3%
Advance Disposal Fees (ADFs) or deposits	9.8%	77.6%	12.5%
Every-other-week garbage collection	7.5%	85.0%	7.5%
Residential food waste collection	8.0%	84.1%	8.0%
Innovative funding mechanisms	11.3%	77.6%	11.1%
Multi Family Unit recycling programs	47.3%	43.6%	9.1%
Single stream recycling	44.0%	47.7%	8.3%
Re-use area	24.8%	63.0%	12.2%
Materials exchange	27.3%	62.5%	10.2%
E-waste programs	75.3%	16.3%	8.4%
Mandatory recycled content standards	19.0%	72.7%	8.3%
Plastic bag bans or surcharges	3.9%	89.1%	7.0%
Multi Family recycling "champion" progam	3.6%	87.8%	8.5%
Financial incentives for haulers who meet certain recycling			
goals	6.5%	87.5%	6.0%
Environmental purchasing procedures	39.3%	50.8%	9.9%
Mandatory residential recycling collection/participation	34.0%	61.9%	4.0%
Mandatory residential recycling/payment (separate fee)	10.7%	85.6%	3.7%

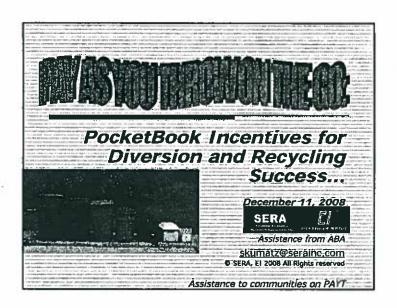
Skumatz Economic Research Associates, Inc. (SERA)

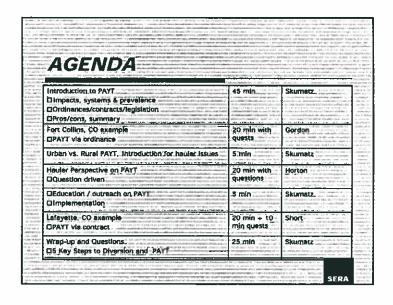
Skumatz & Freeman, "Summary of Key Results... 2008 Survey.."

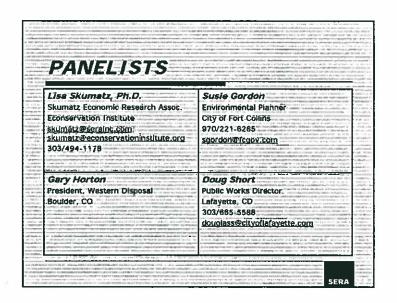
Which of the following programs/policies do you have?	Yes	No.	Other
Mandatory residential recycling/payment (fees embedded)	29.9%	65.4%	4.7%
Residential source reduction/waste reduction	33.3%	58.6%	8.1%
PAYT residential (A.K.A. variable rates, user fees, etc.)	33.9%	58.4%	7.7%

Thank you very much for your response to the survey. As this brief summary attempts to show, your responses were extremely helpful. We hope this summary is useful to you. Please feel free to contact us if you have questions or need additional information.

Watch for upcoming analyses in Resource Recycling or other studies. These studies will use multivariate statistical analyses which are valid with samples of this kind.

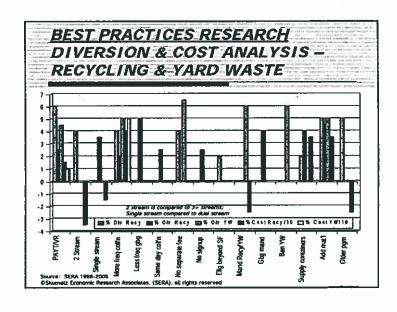


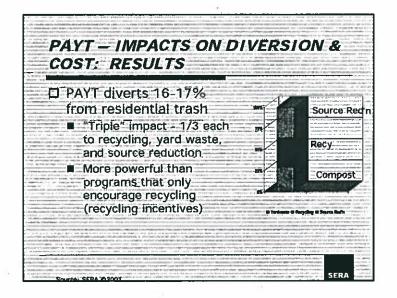


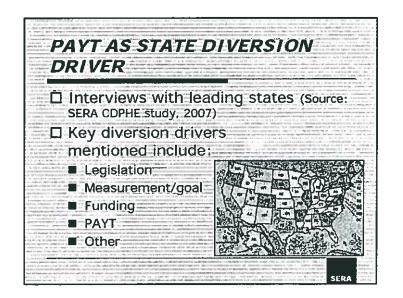


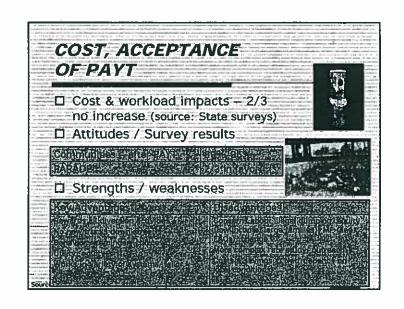
	Almost doubles diversion?
4 22	Leads to no increase in costs for 2/3 of towns?
0.4111	Significantly reduces greenhouse gas?
	Is demonstrated in thousands of towns nationwide in all types of communities?
Ò	and is preferred after the fact by more than 90% of the residents where it is in place?
7	This is Pay As You Throw (PAYT)

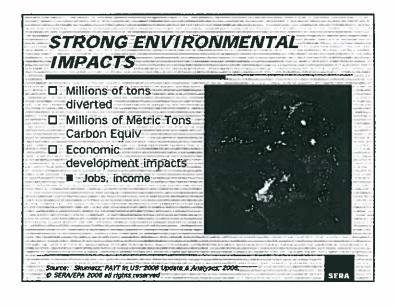
PAYT — IMPACTS ON DIVERSION &-COST ☐ Impacts — SERA estimates based on data from more than 1,000 communities ■ Controlled for community demographics ☐ PAYT is single biggest impact on diversion - curbside and drop-off recycling

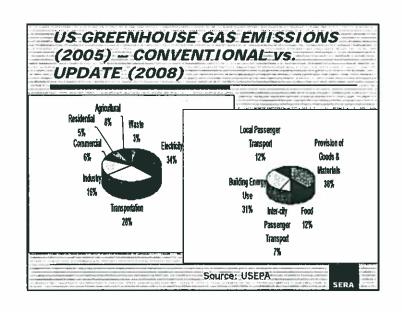


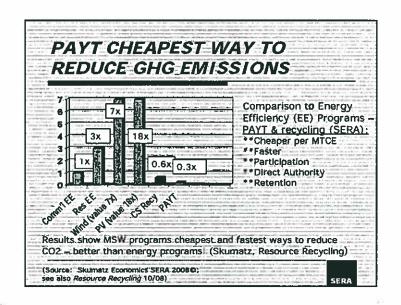


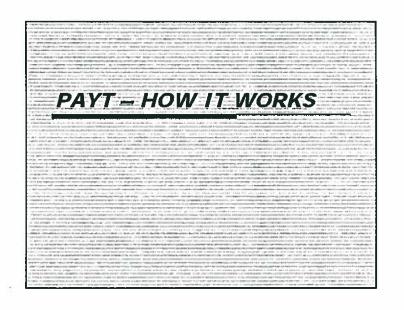


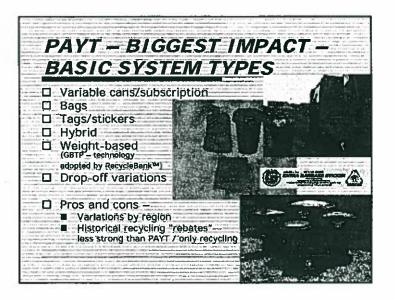


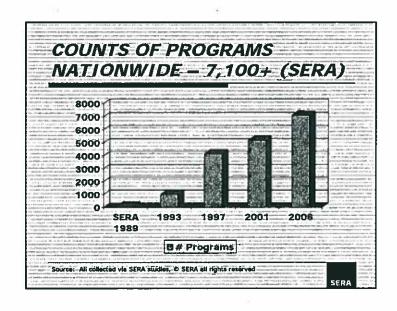






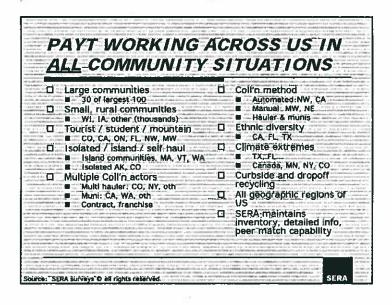




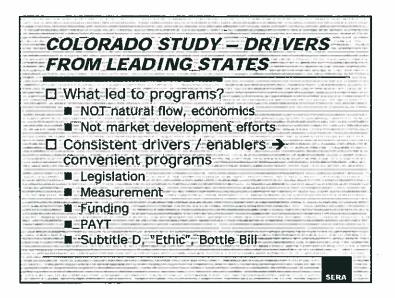


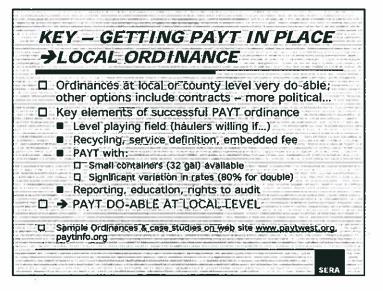


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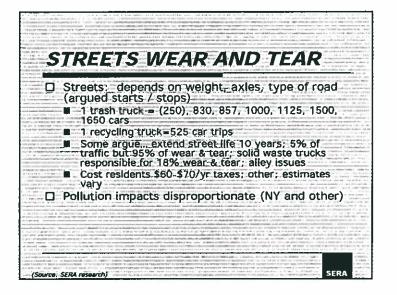
ANOTHER OPTION FOR LOCAL PAYT - CONTRACTING Request for proposals from

haulers

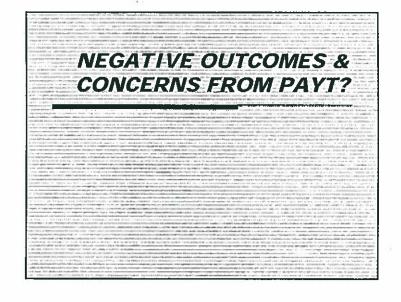
■ Notice first, wide distribution, PAYT in conditions of service in RFP

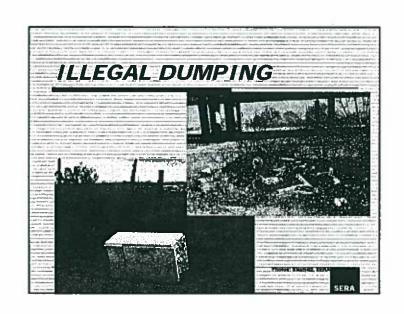
STATE PAYT LEGISLATION OPTION Varies from mandates to PAYT/VARIABLE RATES encouragement - pros LEGISLATION AT THE STATE LEVEL and cons Viewed as key for diversion Best: mandatory, mandatory IF, select □ Essential elements same as ordinance (recycling, PAYT containers size, rate differences, etc.) Detailed analysis and sample language available....likelihood in your state?

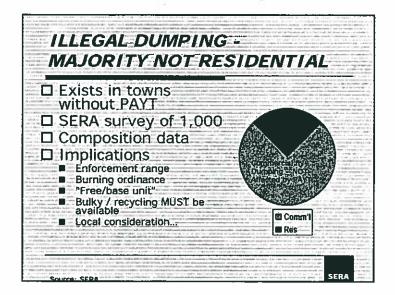
KEY - GETTING PAYT IN PLACE ORDINANCE VS. CONTRACT... **Ordinance Pros** Contract Pros (similar for muni) Fewer Hauter ("Taking") & ☐ Lower Cost / bills Citizen Complaints ("Choice") ☐ Fewer trucks, "cleaner" set Maintains competition outs, reduced wear/tear on No need for "notice" streets Quick One hauler to contact if Can specify rate "structure" problems arise. Minimal City effort (RFP, etc.) City "control" including control Retains "level playing field" for over rates/setting ☐ Can "designate" facility haulers - each implements the program and provides sarvices destinations for materials. knowing others will be. operating under same rules. Sample language available for State legislation, and County/local ordinances

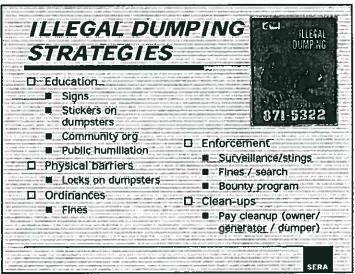


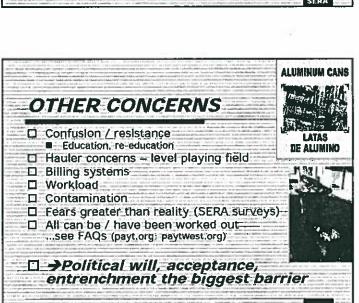
PAYT - LARGEST SINGLE IMPACT... □ Diversion - 17% decrease □ Cost -- no increase for majority □ Attitudes -- favorable, overwhelming after the fact □ Environmental -- Greenhouse gas (GHG) and job creation -- and cost-effectivenessl □ Do-able... □ → Barriers?... PAYT may not be right for community now, but almost ALWAYS worth investigating to see.











EQUITY / COVERAGE CONCERNS □ Low Income ■ PAYT workable, strategiës available Control over bill... appreciated by fixed income. Special rates (avoid identifying colors) ☐ Certification / recertification Large families Parallel to Utility - use more, pay more Options to recycle, reduce. ■ Non-PAYT_unfair_to small generators □ Compaction — weight limits. ☐ Multifamily (MF) ■ Anonymity / signal difficulty Bullding level strategies, technology solutions ■ Conclusion NOT to hold back single-family PAYT for MF

	THAN REALITY Solvable see faqs
Illegal dumping	Minimal / low, short-lived
Confusion, resistance to change	Continuing education (prior, free stickers)
Non-compliance	Minimal
Contamination	Minimai
Burning	Banned (60%, illegal, seasonal, warn once then remove, charge more)
Self-haul and by-pass	Base fee, mandatory (impacts on rates and setouts)
Revenues (esp. haulers)	Less volatile systems, work with haulers in design; pilot
Private/multiple haulers	Multiple colors, work with haulers
Local and regional	Depends on markets, LF ownership, processing, cost structure, prices SERA

IMPLEMENTATION **OPPORTUNITIES** ☐ Contracts, franchises, rates or billing system being changed

- ☐ Landfill or disposal problems
- O New or modified programs
- ☐ Existing system perceived as unfair
- ☐ Need to free up tax authority



PAYT may not be right for a community now, but almost ALWAYS worth investigating to see.



PAYT CONCERNS & TIPS







■ Suggestions from communities; & champion



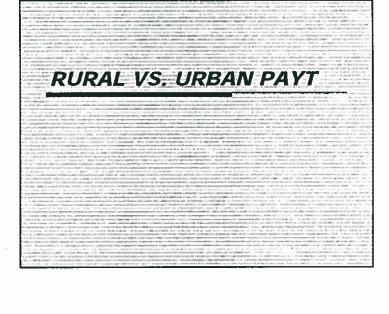
- ☐ Public process, public education. Good customer education / understanding crucial
 - Education / why, how if works, how to make it work for me, packages for move-ins

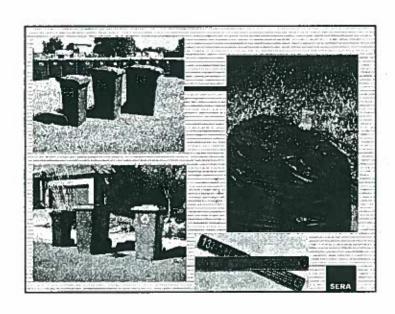
SUMMARY

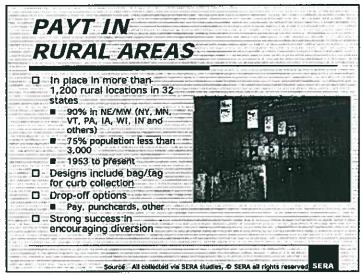
OVERALL PAYT SUMMARY

- □ Diversion
 - Low cost, speedy
 - □ Favorable attitudes
 - Environment
 - Retention
- Manageable "negatives" IF desire...
- Tested & Flexible:
 - 7100 towns, range of population, haulers & municipal, multiple types
- □ Encourages ALL types of diversion
- 50%-doubling recycling: same tonnages for YW, SR
- Work with programs and education
- ☐ DO-able at local level....NOW!

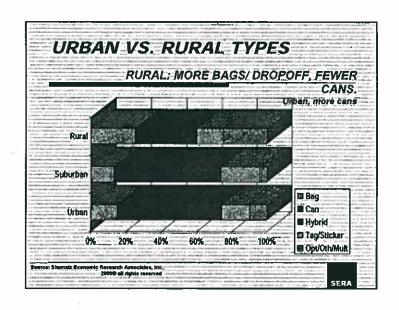


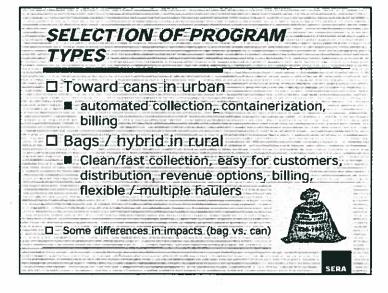


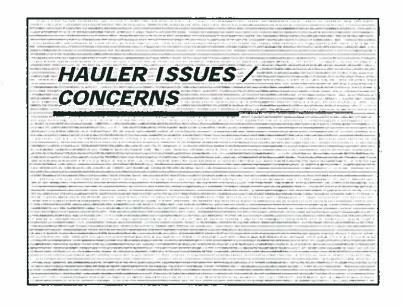


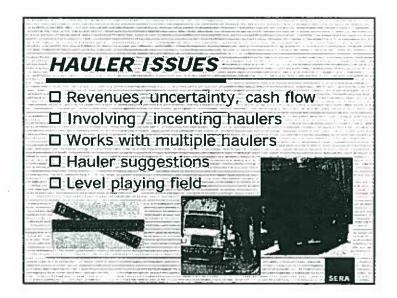


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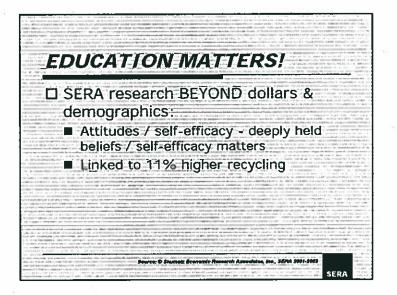


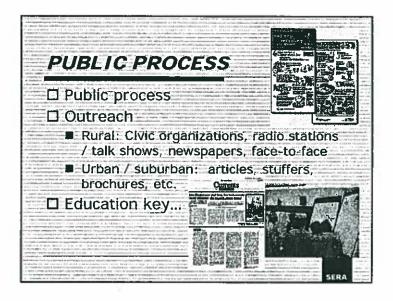


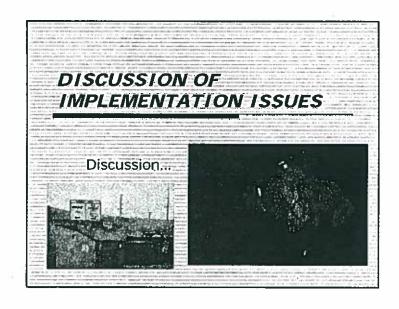


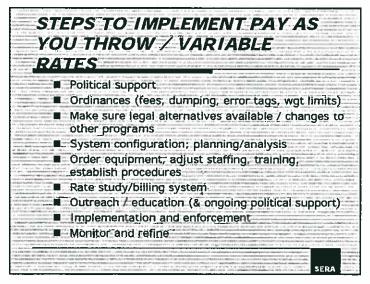
CARY-HORTON President, Western Disposal QUESTION-DRIVEN SESSION

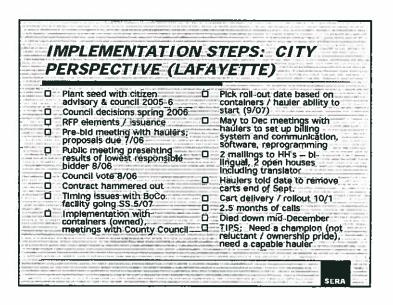
EDUCATION STUDY □ Outreach expenditures research ■ Impacts / variations (after "controlling" for other program and demographic differences) ■ Impacts from dollars spent - \$1 /hh / year addition increases diversion □ By 3 percentage point if currendy spending \$0.30/hh/yr; by 1 percentage point if currently spending \$1.40/hh/yr; add 1 percentage point for "doubling" annual expenditures. □ Most gain in "underspending" communities ■ Media suitability □ Differences for urban/ rural



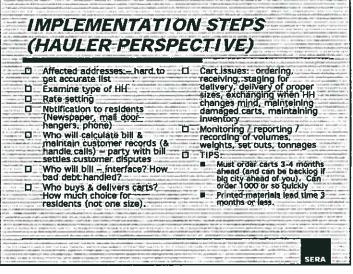


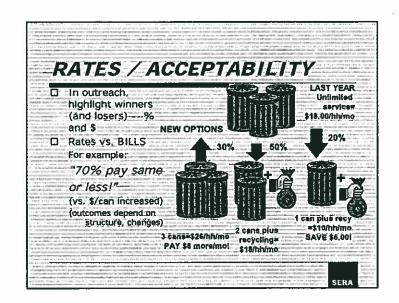






IMPLEMENTATION STEPS (HAULER PERSPECTIVE) □ Affected addresses—hard to get accurate list receiving. staging for delivery delivery of proper sizes, exchanging when HH changes mind, mainteining (Newspaper, mail door bangers phone) (Newspaper, mail door-hangers, phone) Monitoring / reporting / recording of volumes; U - Who will calculate bill & maintain customer records (& weights, set outs, tonnages handle calls) - party with bill settles customer disputes CI TIPS Must order carts 3-4 months ahead (and can be backlog if big city ahead of you). Can order 1000 or so quickly ☐ Who will bill – interface? How bad debt: handled? Who buys & delivers carts? ■ Printed materials lead time 3 months or less. residents (not one size).





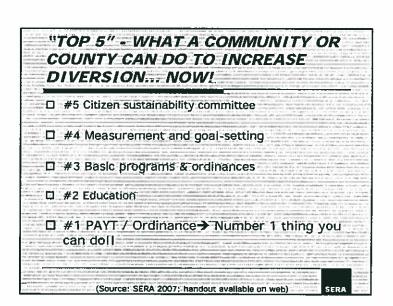
RATE DESIGN / POLICY CHOICES: EMBEDDED PROGRAM FEES & RATE DIFFERENTIALS □ Policy decision with impact on : Research on needed level of differential to incentives - Recycling vs. yard balance incentive vs. waste programs revenue risk: ■ More participation if "free"/ no # 80% compromise... additional cost / embedded: Balances large however. Making yard waste "free" discourages back yard composting, and may have inequities for large vs. small yards difference to provide Incentive vs. small difference to minimize risk of not Line iteming makes apparent recovering needed rates lower revenues. FLAT Embedding supports higher (small difference) "differentials" Isn't worth ■ →We usually recommend recycling with no separate fee; administrative headache. yard waste paid



Public Works Director, City of Lafayette, CO

The control of the co

FUNDING PROGRAMS.... □ PAYT needs no separate funding... ■ Cost of curbside recycling program paid through PAYT ■ Recycling paid by all, so more cost-effective (fixed costs across more households) ■ Business opportunity for haulers □ Infrastructure and other programs ■ SERA study of 700 US communities and counties showed funding methods were: #1 user fees, #2 tip fee surcharge.



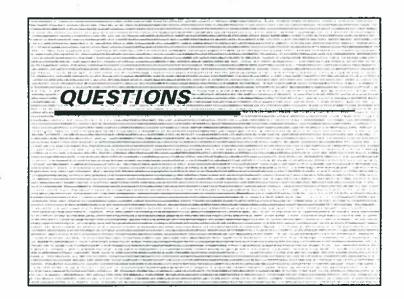
SUMMARY Strong positive impacts (tons, cost, equity, environment) with manageable

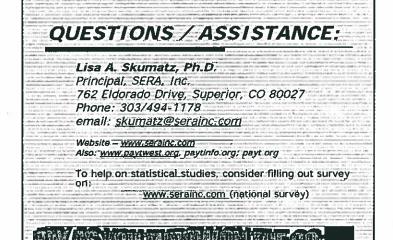
- negatives...

 ☐ Single biggest impact on recycling & diversion (50% to doubling)
 - Encourages all types of diversion / stronger than "recycling only" programs
- ☐ Tested and flexible 7,100 examples
- ☐ Do-able locally and state level—worth examining in all communities

\$EOA

SERA Shumair Economic Research support from ABA Research support from ABA





-	BIOGRAPHY - SKUMATZ
	Principal, Skumatz Economic Research Associate Hands-on research & consulting firm with client communities / counties / states all across US & Canada
	Extensive database and research on PAYT. Rea world data on program operation in all communitypes - database of 1,300 community programs and more than 7,000 PAYT programs
	world data on program operation in all commun types - database of 1,300 community programs and more than 7,000 PAYT programs National Award-winner (national lifetime
	world data on program operation in all communitypes - database of 1,300 community programs and more than 7,000 PAYT programs National Award-winner (national lifetime achievement awards from SWANA, NRC)

About Earth Tech

Earth Tech is a global provider of consulting, engineering, construction and operations services to the water/wastewater, environmental, transportation and facilities markets. Headquartered in Long Beach, CA, the company was acquired by AECOM Technology Corp. in July 2008. More information on Earth Tech can be found at www.earthtech.aecom.com.

About AECOM

AECOM is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental and energy. With more than 41,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. AECOM serves clients in more than 100 countries and had revenue of \$4.7 billion during the 12-month period ended June 30, 2008. More information on AECOM and its services can be found at www.aecom.com.

Earth Tech AECOM

300 Oceangate, Suite 700 Long Beach, California 90802 T 562.951.2000 F 562.951.2100 www.earthtech.aecom.com



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR

Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, April 6, 2009 1:30 PM Room 301-A, City Hall

Meeting convened: 1:31 P.M.

1. Introduction of Members

Members introduced themselves.

Present 5 - Cole, Daun, Dudzik, Shambarger and Schaal

Also present:

Rick Meyers, Environmental Recycling Specialist, James Carroll, Legislative Reference Bureau, Jim Michalski, Comptroller's Auditing Division

2. Presentation given by Jim Owczarski, Deputy City Clerk, relative to meeting rules, procedures and the open records laws

Deputy City Clerk Jim Owczarski appeared and discussed various aspects of the state Open Records and Open Meetings laws.

Mr. Cole asked if this body is required to use the Robert Rules of Order?

Mr. Owczarski replied in the affirmative.

3. Discussion of the purpose, responsibilities and goals of the Task Force

Mr. Cole said Common Council resolution File #081212 created this task force and directs it to do a number of things that were recommended in the recycling audit done by the City Comptroller's Office. It also directs the task force to submit its findings to the Common Council within six months and the six months began on January 16, 2009, and ends on July 16, 2009. He said, if needed, the time period to submit the findings can be extended.

Mr. Shambarger asked if there is any expectation as to the timeline for the submission of the recommendations as it relates to the 2010 Budget?

Mr. Cole replied that the resolution doesn't say anything related to that issue, but it would be up to this task force to determine if there are issues that could be considered and recommendations made that would affect the City's 2010 budget.

Mr. Daun said that the resolution lists a number of recommendations and asked which recommendations will this task force need to look at?

Mr. Cole replied that it is his understanding that this task force will need to review several of the audit recommendations, which will include the fiscal and operational impacts of a conversion to single stream recycling as well as an overview of the current recycling program. He said he will prepare a list of all the issues this task force will need to take a look at and have Ms. MacDonald forward it to all the members.

Mr. Cole said this task force could also do a review of the recycling audit.

Mr. Cole said he will have Mr. Rick Meyers, recycling specialist, appear before the task force to give an overview of the City's current recycling program.

Ald. Dudzik said the Council's main reason in creating this task force is to take a look at a single stream recycling program. He said the other recommendations listed in the resolution are to be addressed by the Department of Public Works.

Mr. Shambarger asked if the recycling enforcement is going to be considered by this task force?

Mr. Cole said he has had a number of conversations with the City Attorney's office regarding section 79 of the Milwaukee Code of Ordinances and feels that this task force should look at the enforcement process of the City's Recycling program.

Mr. Daun suggested that it may be useful, once DPW staff conduct a review of the enforcement process, for DPW to give this task force an overview of the recycling enforcement process and then the task force can determine if it needs to be dealt with further.

All the task force members confirmed that they know what a single stream recycling program is.

Mr. Cole said he will provide the task force with an overview of the City's current recycling waste hauler contract.

Mr. Shambarger asked if DPW can provide information on the staffing implications as it relates to dual stream system compare to a single stream recycling program?

- Mr. Cole replied in the affirmative.
- Mr. Daun asked if DPW could provided information on other cities recycling program?
- Mr. Meyers appeared at the table and said that there are other large cities that use a single stream recycling program.
- Ald. Dudzik asked if DPW could provide data on the volume of recyclables the city has collected per year?
- Mr. Meyers replied in the affirmative.
- Mr. Cole said that the task force members could also plan to take a tour of a single stream recycling program. He said Germantown has a single stream recycling program.
- Mr. Meyers offered to provide a virtual tour.
- Mr. Daun commented that the City of Milwaukee recycling educational brochure indicates that plastic containers with the numbers one or two are recyclable, but plastic containers that have the numbers three through seven are not and he was wondering if other Cities have that same requirement.
- Ald. Dudzik said that he was at a recycling presentation in either another City in Wisconsin or Illinois and it was stated that if there is a question as to if an item is recyclable, just put it in the recyclable bin and the City will determine if it is recyclable.
- Mr. Cole said that the question is, how can the City get the residents to recycle more, because the more recyclable collected the more money the City makes.
- Ald. Dudzik asked when does the current recycling contract expire?
- Mr. Meyers replied that the current contract expires in July 1, 2009 and there is extension of every two years thereafter.
- Ald. Dudzik said there may be a gas savings in using a single steam recycling program.
- Mr. Cole ask Mr. Meyers to bring pictures and any other information on what type of equipment the City uses in its dual-stream recycling program.
- Ald. Nik Kovac appeared and suggested that this task force consider looking at incentives or reward system for recycling. He said the City could give a refund by weight for all recyclables picked up.
- Mr. Cole asked the task force members if they would like to look at the "Pay As You Throw" program? All members replied in the affirmative.
- Ms. Schaal asked how does MPS handling its recyclables?
- Mr. Meyers replied that MPS has a private contract and it is a cost saving for MPS to do it that way.

4. Set next meeting agenda

Agenda items for future meetings:

- 1. Discussion relating to task force role
- 2. Presentation given by Dept. of Public Works, Sanitation Division staff on the City's current recycling program
- 3. Overview of the single stream recycling operation
- 4. Overview of the "Pay As You Throw" program
- 5. Report on how the City of Milwaukee recycling program compares to other Wisconsin cities
- 6. Discussion on how the weather can impact the recycling program

5. Set next meeting date(s)

Future meeting dates:

April 27, 2009

May 18, 2009

June 8, 2009

June 29, 2009, at this meeting it will be determined if an extension of time will be needed for the submission of the final recommendations to the Common Council.

All meetings will begin at 1:30 P.M.

Meeting adjourned: 2:24 P.M.

Terry J. MacDonald Staff Assistant



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR
Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, April 27, 2009

1:30 PM

Room 301-A, City Hall

Meeting convened: 1:40 P.M.

1. Roll call

Present 4 - Cole, Daun, Shambarger and Schaal

· Excused 1 - Dudzik

Also present: James Carroll, Legislative Reference Bureau and Jim Michalski, Comptroller's Auditing Division

2. Approval of the minutes of the April 6, 2009 meeting

Mr. Daun asked that the minutes be amended by rewording his comment on page three that says "Mr. Daun suggested that an educational brochure should be sent out that would provide information to city residents on what is considered recyclable and what isn't", to read as follows: "Mr. Daun commented that the City of Milwaukee recycling educational brochure indicates that plastic containers with the numbers one or two are recyclable, but plastic products that have the numbers three through seven are not and he was wondering if other cities have that same requirement."

Mr. Daun moved approval of the minutes as amended, seconded by Mr. Shambarger. There were no objections.

3. Discussion relating to the Task Force's responsibilities

Mr. Cole directed members to his hand out that was submitted prior to this meeting, that shows what this task force's responsibilities are and what the Department of Public Works' responsibilities are, as was stated in resolution file #081212 (Exhibit 1). He asked if members had any questions or comments on his hand out.

There were no questions or concerns relating to Mr. Cole's hand out.

Mr. Cole moved to take up agenda item #6 next.

4. Presentation given by Dept. of Public Works, Sanitation Division staff on the City's current recycling program

Mr. Rick Meyers, Environmental Recycling Specialist appeared and addressed the task force on this matter.

Mr. Meyers gave a PowerPoint presentation on the Department of Public Works' recycling program (Exhibit 4). He began by giving a brief history of the program. He showed a graph of the City's residential recycling tonnage collected from 1998 through 2008. He gave an overview of the current City of Milwaukee's recycling program and an overview of how the current program works using a dual stream program.

Mr. Shambarger asked if a two persons or a single person collection crew is more efficient?

Mr. Meyers replied that he doesn't know. He said the Department of Public Works (DPW) would have to do a time study to determine that.

Mr. Cole said this summer DPW will be doing a lot of data collection.

Mr. Meyers continued with his presentation by explaining the recycling processing and marketing. He said the recyclables are brought to a City-owned facility, but the processing work is contracted out to Waste Management Recycle America. He said the way the contract is structured, the City pays a set per-ton processing fee and the City receives a revenue share based on what is sold.

Mr. Cole asked Mr. Daun if he knows what the provision is if there is a negative per ton processing fee (CPI) number?

Mr. Daun replied that he doesn't know, but he will find out.

Mr. Meyers continued his presentation by explaining the dual-stream processing system. He showed two pie charts that broke down, by percentages, the materials processed by weight.

Mr. Daun asked Mr. Meyers, if he knows by experience, how efficient the current Milwaukee's materials Recovery Facility (MRF) dual-stream processing system would be compared to a single-stream processing system, as it relates to sorting and extracting paper from the other materials?

Mr. Meyers' replied that with more modern equipment a dual system could add \$10-15 per ton in processing cost.

Mr. Cole said that the capital cost of putting in single-stream processing equipment or whether the City will haul the materials or have them picked up is what this task force needs to consider.

Mr. Michalski said that during his interview with Waste Management officials at their single stream facility in Illinois, they said that a single-stream processing system does result in a higher residual (15%) and it also results in a higher volume overall.

Mr. Shambarger asked who owns the recycling equipment and building?

Mr. Meyers replied that the City owns the equipment and the facility, but the

contractor is responsible for the maintenance and up-keep of the equipment and facility and to keep the process going.

Mr. Meyers continued with his presentation and said the City's revenue data for recycling in 2004-2008 is \$7.4 million. He said in late 2008 and into 2009 the global melt-down caused commodity prices to go way down, therefore, the net revenue is down to \$6 per ton, but that will eventually go back up.

Mr. Meyers said that prior to the submittal of the final audit report in June of 2008, DPW had already implemented a lot of educational materials, activities and outreach initiatives.

Mr. Meyers said that the vision DPW has for future recycling is to guarantee a biweekly schedule, potential changeover of some bins to carts, Investigate the use of a single vs. a dual stream collection process and investigate the use of public vs. private Material Recycling Facility (MRF).

Mr. Shambarger said that given the financial situation the City is in right now, he asked if there is any survey data on if the city could do less garbage collection and more recyclable collection?

Mr. Meyers replied in the negative. He said he could take the total tons picked up and divide it by the weekly carts picked up and that overall total would say the garbage carts are half full, but that still wouldn't give an actual picture, because some carts are filled to capacity each week and need weekly pick up.

Mr. Shambarger asked if this task force will include in its study of a conversion to a single-stream collection process whether the City would haul the recyclables to the Germantown facility or would it use its own facilities?

Mr. Cole replied that this task force will need to consider what the cost would be to the City to convert to a single-stream collection process and whether it would bring the collected recyclables to the Germantown facility or would the City purchase its own equipment and use its own facility and also would it contract out the work like it is doing now.

Mr. Cole said that the City has contracted with Earth Tech consulting in the past and they had worked on the 2004 City's recycling contract request for Proposal (RFP) and has also worked on some conversion to single-stream collection process issues and he would like to have them do a more comprehensive study on the financial scope of converting to a single-stream system. He said this task force would get that information a lot quicker than if he had his own staff do it.

Mr. Meyers said that a publicly-owned facility may be in the City's best interest. He urged the task force and the City of Milwaukee to consider using a publicly-owned regional facility. He said Waukesha is currently looking at a single-stream processing conversion and has outgrown its site and Wauwatosa has recently converted to a single-stream system and is currently hauling it to the Waste Management Germantown location. He said Waukesha County, Wauwatosa and Milwaukee contracts are also all in-line with its optional extension periods. He said there has been some meeting already with those entities on a publicly owned regional facility.

Mr. Cole said he will put together a draft of the frame work for a study that would be done by Earth Tech consulting on a conversion to a single-stream recycling collection process to be review and considered by this task force at its next meeting.

Mr. Shambarger asked how many vendors are out there that could run the MRF operation?

Mr. Meyers replied that there are several adequate companies out there that could operate the MRF, but if the City had it owns facility and if there is a long enough contract it could attract more competitive bids.

5. Discussion on how the weather can impact the recycling program

Mr. Meyers said that during the winter months, there is an impact on collection of recyclables and collections can fall behind during snow and ice removal.

Mr. Cole said that the single-stream operation was used this past winter when the city fell 45 days behind due to the winter weather. He said all the recyclables were collected and put together in a garbage truck and were hauled to the Waste Management's Germantown facility. He said they were surprised that it was a very cost effective and efficient alternative.

Mr. Daun said that during the difficult weather months, maybe DPW could hire temporary workers to keep the recycling on schedule. He said to cover the cost of the temporary workers the snow and ice fee charge could be increased.

Mr. Shambarger said the snow and ice fee is set by the Common Council based on historic averages and in certain cases an increase can be done once a year by resolution.

Mr. Shambarger asked if DPW can provide him with maps of the recycling routes? (Exhibit 6)

Mr. Meyers replied in the affirmative.

6. Discussion relating to City and State recycling enforcement laws

This matter was taken out of order, after item #3.

Deputy City Attorney Linda Burke and Assistant City Attorney Jay Unora with the ordinance enforcement division appeared to address the task force members on this matter.

Atty. Burke said the recycling enforcement provisions are laid out in Chapter 79, Sections 79-43 and onward of the Milwaukee Code of ordinances (Exhibit 2) and it has nothing in it that would require the Department of Neighborhood Services (DNS) or Department of Works (DPW) to actually look for violations or do inspections. She said Section 79-47 gives details on penalties, liens and citations for failure to comply. She said the penalties are either forfeiture by citation, which would be prosecuted in municipal court or by the issuance of an order. If the order isn't complied with the order would result in a special charge and if the special charge isn't paid in a timely matter, it will then be placed on the property tax bill.

Atty. Unora said that during his 12 years working in prosecution there have been very few recycling prosecutions that came through the municipal court and those few were for either unauthorized addition or unauthorized removal of recycling material violations.

Mr. Meyers referred members to the code violation section in his PowerPoint presentation (Exhibit 3). He said the information he is providing was taken from the Comptroller's recycling audit. He said that in the last couple years the DPW has increased enforcement on commercial and residential properties greater than 4 units. He said most violations that occurred were under Section 79-29, relating to cart contamination.

Atty. Burke said when using the word fine for a special charge or citation is confusing, because a special charge is not considered a fine and a citation is considered a fine or forfeiture. She said a citation can be issued for any recycling violation instead of a notice of special charge.

Atty. Unora said that violation of Section 79-40, unauthorized removal of recyclables, is the only one listed in Mr. Meyers' chart that is not a special charge and a citation would have to be issued because it is a municipal court offense. He said DNS, DPW or a police officer can issue a citation for any recycling violation.

Mr. Cole said that there is a noticeable difference between a special charges and a citation and the DPW will make note of that.

Mr. Meyers said that 79-25 is one violation that the audit report recommended that DPW needs to improve enforcement on. He said DPW doesn't actively enforce that section because of the many issues that would be involved when going through people's garbage. He said there may be some legality concerms.

Atty. Burke said that a request for a legal opinion should be made for searching of carts on private property. She said once the garbage container is at the curb it isn't considered private property any longer.

Mr. Shambarger asked if this task force could request a City Attorney opinion on the enforcement of recyclables?

Atty. Burke replied in the affirmative.

Mr. Cole asked Ms. MacDonald to prepare a letter to the City Attorney requesting a legal opinion on the enforcement of recyclables as it relates to searching of carts on private property versus curbside.

Atty. Burke said that the opinion would contain two parts, one on the searching for recyclables on private property and the second part would be on the searching of cart at the curbside.

Mr. Daun said Ald. Kovac suggested a recycling incentive program at the last task force meeting and that if the program is implemented the person would be rewarded for the number of pounds of recyclables. He said a search of the recyclables would need to be taken for such an incentive program and that search could also be used as an enforcement tool.

Mr. Cole asked Atty. Burke, if in fact, the cart was at the curbside could a search be used for both the incentive program and as an enforcement tool?

Atty. Burke said the City could get a waiver from the people. She said one of the things Atty. Unora brought up was how would City staff know whose garbage it is? She said when prosecuting somebody for a recycling citation, she would have to know it is in fact that person's garbage.

Atty. Unora said Municipal Courts' burden of proof is to provide a clearly satisfactory and convincing evidence and if it is a situation where the evidence is from a garbage cart sitting on the curb that is something that would be pretty difficult to prosecute.

7. Discussion on how the City of Milwaukee's recycling program compares to other cities

Mr. Meyers referred members to the section of his PowerPoint presentation that shows data taken from Appendix three and five of the Comptroller audit of the City of Milwaukee Recycling Program dated June 2008 (Exhibit 5).

Mr. Meyers said the data he is providing is for recycling tons per capita in eight of the 25 largest cities in Wisconsin (data taken from Appendix three) and is for the residential recycling collection program, it does not include yard waste or other dropped off recyclables. He said Milwaukee's recyclables per capita is 86.4, which is a bit lower than the other large cities and the reason for that is the fact that Milwaukee has a high percentage of greater than four unit residential buildings and the four units and up residential buildings are serviced by the private sector and is not included in the count.

Mr. Meyers said the data he is providing is for the residential recycling in the U.S. 30 largest cities by population (Data taken from Appendix five) takes a more broader look. He said Milwaukee is the only large City that collects monthly, whereas all of the other large cities collect on a weekly basis.

8. Discussion relating to a single stream recycling operation

This item was discussed under item #4.

9. Discussion relating to a "Pay As You Throw" program

Mr. Shambarger said the La Follette School of Public Affairs, Madison, WI will have a report available on Pay as You Throw program some time after May 8, 2009. He said when he obtains a copy of the report he will have it forward onto to the task force members and could be reviewed by the task force at its next meeting.

Meeting adjourned: 3:25 P.M.

Terry J. MacDonald Staff Assistant The Recycling Task Force created by the Milwaukee Common Council states;

The Recycling Committee Tasks Are:

To conduct a comprehensive study of the fiscal and operational impacts of a conversion to single stream recycling in the City of Milwaukee;

Provide a comparison of the costs and benefits from continuing a dualstream recycling program, including the Materials Resource Facility repairs, with those from a conversion to a new single-stream program, including alternative Material Resource Facility options.

The Department of Public Works is to:

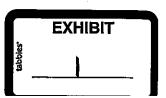
Evaluate its recycling routes to determine the amount of time reasonably required to complete each route and to ensure that each route is properly sized for the most efficient use of staff and equipment;

Consider implementing scheduled curbside set out of recycling carts in neighborhoods without alleys and analyze the feasibility of providing bi-weekly collection of recycling in neighborhoods with and without alleys;

Enhance recycling education by developing educational initiatives that are tailored to the needs of the individual neighborhoods and to make full use of the Milwaukee Recycles website;

Develop and implement a recycling enforcement policy that covers all major requirements of the Milwaukee's Code's recycling provisions for both residential and commercial properties and explore the possibility of having the Department of Neighborhood Services enforce s. 79-25, requiring the separation of recycling from refuse, during building code inspections;

Submit an annual report to the Common Council on the activities, effectiveness, cost and revenue of the recycling program, and the report shall include separate recycling rates for household recycling, yard waste recycling, and other recycling as well as other informative measures such as the amount of recycling and refuse collected per capita, per household, and by area of the City.



constructed so that they shall provide a compatible and practical arrangement on the premises and surrounding area.

- b. Large Appliances to be Enclosed. Owners or operators of business and commercial establishments storing large appliances such as refrigerators, stoves, washing machines and other similar items outside of the building structure, shall provide enclosures of the area wherein such items are stored in the same manner and as provided in par a.
- c. Definitions. For the purpose of subs. 3 and 4, the following terms therein are defined as follows:
- c-1. "Approved waste receptacles" shall mean those as provided and defined in s. 79-4.
- c-2. "Secure" shall mean to be locked or closed in such a manner so as to prevent ready access to contents thereof.
- c-3. "Shopping center" shall mean a group of commercial establishments planned and developed generally as a unit with off-street parking facilities provided on the property for patrons of said establishments.

79-4. Waste Container Regulations.

- PORTABLE CONTAINERS.
- a. Requirements. Portable containers for waste, except for containers for use in cart collection, shall be rodent resistant of substantial metal construction equipped with at least 2 handles and a tight fitting cover, shall have a capacity of not less than 20 nor more than 32 gallons and no single container when filled shall weigh more than 100 pounds. Waste not containing garbage may be stored in other approved ways as provided in this chapter, and in the rules of the commissioner.
- am. Responsibility for Providing Portable Waste Containers. In areas of the city where the use of carts for the disposal of solid waste has been approved by the common council:
- am-1. Owners of single, 2-, 3-, or 4-family dwelling units shall be provided carts by the city.
- am-2. Owners of multi-unit dwellings of 5 or more units in the same structure shall provide, at their cost, containers of a type specified by the operations division.
- as. Repair, Replacement or Sale. The operations division may:
- as-1. Repair damaged portable containers or replace them if necessary and charge the

property owner accordingly in cases where damage or loss can be determined by resident's misuse of the container.

- as-2. Sell portable containers, at cost, to those property owners or individuals who require them for the proper disposal of waste.
- as-3. Make a special assessment against the property served by the portable container if any charge for repair, replacement or sale of a container is not paid for within 30 days from receipt of billing statement.
- b. Plastic Bags, etc. Approved bags and boxes made of plastic or paper shall not be used outside of the portable containers, except for the sole purpose of storing grass clippings, leaves, branches and paper.
- c. Posting of Signs. Retail stores selling approved plastic bags intended or generally used for the storage of garbage, rubbish and trash shall have posted, in the vicinity of said bags, in a prominent and conspicuous manner, using bold lettering at least one inch in height, a placard stating as follows: "Garbage stored in plastic bags must be placed in garbage cans." This section of the code shall also be cited on the placard.
- 1.5. PORTABLE CONTAINERS; PROHIBITED USES. a. No person shall use a city-owned portable waste container or a city-owned portable recyclable material container for any purpose except the storage of waste or recyclables for curbside or alley collection by the operations division. No person shall use a city-owned portable waste container or a city-owned portable recyclable material container to transport any material for any purpose other than to transport waste or recyclables from the premises to the curb or alley for collection.
- b. No person who is the owner, occupant, manager or other responsible agent of any property from which the operations division does not collect waste or recyclables shall permit a city-owned portable waste container or a city-owned portable recyclable material container to be brought onto or remain on the property.
- 2. NONPORTABLE CONTAINERS. Owners, lessees or managing agents of multi-unit dwellings of 5 or more units in the same structure or condominium design shall provide, at their cost, containers of a type specified by the operations division where the use of portable waste containers is inappropriate. Nonportable containers shall be fully enclosed, rodent resistant and of substantial construction, and have a minimum capacity of one-half cubic yard per

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yard per dwelling unit or of sufficient capacity to hold 2 weeks of waste accumulation. All owners, lessees or managing agents providing nonportable containers as described in this subsection shall be required as a condition of collection to sign a written declaration, formulated by the city attorney, to the effect that the city shall be held harmless as against any claim, demand or cause of such action which may arise as a result of such collection in favor of any person or entity.

- 3. NONPORTABLE CONTAINERS; CONSTRUCTION. Nonportable, mechanical lift, tapered rear loading containers equipped with casters, wheels, or rollers shall be fully enclosed, rodent resistant, and of substantial construction. Containers shall be secured or modified in such a manner as to prevent accidental tipping or free-rolling.
- 4. CONDOMINIUMS. Where collection service is provided by the department to a condominium complex, the city shall provide containers of a type and quantity determined at the discretion of the operations division to the owners of such condominium units in the same structure or condominium design, regardless of the number of units in the complex.
- 79-5. Location of Containers. 1. ON PREMISES. All containers used for solid waste disposal shall be stored on the premises. Where containers are kept within any enclosure, the enclosure shall have a door of sufficient size to allow the containers to be removed by sliding or rolling forward without being lifted.
- 2. NEAR ALLEY. Containers shall be stored immediately adjacent to the alley except where a premises does not have an alley, in which case containers shall be stored in the rear yard. If the rear yard may not be utilized for this purpose, the side yard may be used providing the containers are sited as conveniently as possible for servicing, as specified by the commissioner of public works. If the property owner can prove to the satisfaction of the commissioner that the rear or side yard cannot be used, the commissioner shall approve an alternate location prior to its use.
- 3. ACCESSIBILITY. It shall be the responsibility of the owners and tenants of every premises where solid waste is collected to provide a clear and unhindered path to all containers. The path shall be a width specified

- by the commissioner and shall be free of hindrances such as, but not limited to, large debris, vehicles, locked fences, animals, ice or 3 or more inches of snow. The surface of the path must be firm and nonhazardous.
- 4. COLLECTION CHARGE. If the location of the containers is more than 125 feet from the servicing vehicle or the containers are inconveniently located, the commissioner may charge for collection.
- 5. RETURN TO STORAGE LOCATION. Owners and tenants of those premises serviced by the cart collection system, where carts are left at the alley line or curb line after servicing, shall return the carts to their proper storage location before 10 p.m. on the day they are serviced.
- 6. ADDRESSES POSTED. To facilitate collection services, the addresses of all residences and buildings shall be conspicuously posted at the front and rear or side of all properties so as to be easily seen and read, according to s. 113-2-5.
- 79-5.5. Unauthorized Removal of Contents of Waste Containers. 1. No person shall remove any material from a waste container that has been furnished by the city for the collection of solid waste. This prohibition applies to portable and nonportable containers.
- 2. This section does not apply to employes and agents of the city in the performance of their duties or to materials that are removed by the person who deposited them.
- ★79-5.7. Unauthorized Addition to Contents of Waste Containers. 1. No person, except the owners or occupants serviced by a nonportable container, may place any hazardous substance, liquid waste, litter, recyclable material or solid waste into that container, without the owners' or occupants' permission.
 - 2. This section does not apply to employes and agents of the city in performance of their duties.

79-6. Solid Waste Charge.

1. PURPOSE. The purpose of this section is to permit the city as authorized under ss. 66.0405 and 66.0627 Wis. Stats., to recover costs relating to collection of solid waste from one, 2-, 3- and 4- family dwelling units.

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- 23. RECYCLABLE MATERIAL includes lead acid batteries, major appliances, waste oil, yard waste, aluminum containers, bi-metal containers, corrugated paper or other container board, foam polystyrene packaging, glass containers, magazines, newspapers, office paper, steel containers, waste tires and rigid plastic containers, including those made of PETE, HDPE, PVC, LDPE, PP, PS and other resins or multiple resins.
- 24. SOLID WASTE has the meaning given in s. 289.01(33), Wis. Stats.
- 25. SOLID WASTE DISPOSAL FACILITY means a facility that discharges, deposits, injects, dumps or places any solid waste into or on any land or water. The term does not include a facility whose handling of solid waste is limited to the transportation, storage or treatment of solid waste.
- 26. SOLIDWASTETREATMENT FACILITY means a facility that handles solid waste by any method, technique or process that is designed to change the physical, chemical or biological character or composition of solid waste. The term includes a facility that incinerates solid waste.
- 27. SPECIAL RECYCLABLE MATERIALS means lead acid batteries, major appliances, waste oil and yard waste.
- 28. STANDARD RECYCLABLE MATERIALS means aluminum containers, bi-metal containers, corrugated paper or other container board, foam polystyrene packaging, glass containers, magazines, newspapers, office paper, steel containers, waste tires and rigid plastic containers made of PETE, HDPE, PVC, LDPE, PP, PS and other resins or multiple resins.
- 29. WASTE TIRE means a tire that is no longer suitable for its original purpose because of wear, damage or defect. The term includes an unserviceable tire as defined in s. 84-48.
- 30. YARD WASTE means yard and garden debris, leaves, grass clippings and brush, including clean woody vegetative material no greater than 6 inches in diameter. The term includes, but is not limited to, all components included in the definition specified in s. 79-1-12-i. The term does not include stumps, roots or shrubs with intact root balls.

- 79-25. Separation of Recyclable Materials Required. Except as provided in s. 79-27, occupants of single family residences, 2 to 4 unit residences, multiple-family dwellings and non-residential facilities and properties shall separate the following materials from postconsumer waste:
 - SPECIAL RECYCLABLE MATERIALS.
 - Lead acid batteries.
 - b. Major appliances.
 - c. Waste oil.
 - d. Yard waste.
- 2. STANDARD RECYCLABLE MATERIALS.
 - Aluminum containers.
 - Bi-metal containers.
- c. Corrugated paper or other container board.
 - d. Foam polystyrene packaging.
 - e. Glass containers.
 - f. Magazines.
 - g. Newspapers.
 - h. Office paper.
- Rigid plastic containers made of PETE, HDPE, PVC, LDPE, PP, PS and other resins or multiple resins.
 - j. Steel containers.
 - k. Waste tires.
- 79-27. Exemptions from Separation Requirements. The separation requirements of s. 79-25 do not apply to the following:
- 1. Occupants of single family residences, 2 to 4 unit residences, multiple-family dwellings and non-residential facilities and properties that send their postconsumer waste to a licensed solid waste processing facility that recovers the materials specified in s. 79-25 from solid waste in as pure a form as is technically feasible.
- 2. Solid waste that Is burned as a supplemental fuel at a facility if less than 30% of the heat input to the facility is derived from the solid waste burned as supplemental fuel.
- 3. A standard recyclable material for which a variance has been granted by the Wisconsin department of natural resources under s. 287.11(2m), Wis. Stats., or s. NR 544.14, Wis. Adm. Code.

SUBCHAPTER 2 RECYCLING

79-21. Purpose. The purpose of this subchapter is to promote recycling, composting and resource recovery through the administration of an effective recycling program, as provided in s. 289.11, Wis. Stats., and ch. NR 544, Wis. Adm. Code.

79-23. Definitions. In this subchapter:

- 1. BI-METAL CONTAINER means a container for carbonated or malt beverages that is made primarily of a combination of steel and aluminum.
- COMMISSIONER means the commissioner of public works or the commissioner's authorized representative.
- CONTAINER BOARD means corrugated paperboard used in the manufacture of shipping containers and related products.
- DEPARTMENT means the department of public works.
- 5. FOAM POLYSTYRENE PACKAGING means packaging made primarily from foam polystyrene that satisfies one of the following criteria:
- a. Is designed for serving food or beverages.
- b. Consists of loose particles intended to fill space and cushion the packaged article in a shipping container.
- c. Consists of rigid materials shaped to hold and cushion the packaged article in a shipping container.
- HDPE means high density polyethylene, labeled by the SPI code #2.
- 7. LDPE means low density polyethylene, labeled by the SPI code #4.
- 8. LICENSED SOLID WASTE PROCESSING FACILITY means a solid waste processing facility that is licensed by the Wisconsin department of natural resources.
- **9.** MAGAZINES means magazines and other materials printed on similar paper.
- 10. MAJOR APPLIANCE means a residential or commercial air conditioner, clothes dryer, clothes washer, dishwasher, freezer, microwave oven, oven, refrigerator, furnace, boller, dehumidifier, water heater or stove.
- 11. MULTIPLE-FAMILY DWELLING means a property containing 5 or more residential units, including those which are occupied seasonally.

- 12. NEWSPAPERS means newspapers and other materials printed on newsprint.
- 13. NON-RESIDENTIAL FACILITIES AND PROPERTIES means commercial, retail, industrial, institutional and governmental facilities and properties. The term does not include multiple-family dwellings.
- 14. OFFICE PAPER means high grade printing and writing papers from offices in non-residential facilities and properties. Printed white ledger paper and computer printout are examples of office paper generally accepted as high grade. The term does not include industrial process waste.
- 15. OTHER RESINS OR MULTIPLE RESINS means plastic resins labeled by the SPI code #7.
- 16. PERSON means any individual, corporation, partnership, association, local governmental unit as defined in s. 66.0131(1)(a), Wis. Stats., state agency or authority or federal agency.
- 17. PETE means polyethylene terephthalate, labeled by the SPI code #1.
- 18. PLASTIC CONTAINER means an individual, separate, rigid plastic bottle, can, jar or carton, except that the term does not include a blister pack that is originally used to contain a product that is the subject of a retail sale.
- 19. POSTCONSUMER WASTE means solid waste other than solid waste generated in the production of goods, hazardous waste as defined in s. 289.01(12), Wis. Stats., a hazardous substance as defined in s. 79-1-5, waste from construction and demolition of structures, scrap automobiles or high-volume industrial waste as defined in s. 289.01(17), Wis. Stats. The term includes domestic waste, garbage, tree waste and yard waste, as those terms are defined in s. 79-1-12-d, e, h and i. The term includes some components of commercial waste and rubblsh, as those terms are defined in s. 79-1-12-d and g.
- **20.** PP means polypropylene, labeled by the SPI code #5.
- 21. PS means polystyrene, labeled by the SPI code #6.
- **22.** PVC means polyvinyl chloride, labeled by the SPI code #3.

capacitor has been removed and disposed of in accordance with s. 299.45(7), Wis. Stats., if applicable.

- 79-40. Unauthorized Removal of Recyclables or Recycling Containers. 1. No person shall remove any material from a recycling cart, bin or other container that has been furnished by the city or by a private recyclable collector for the purpose of accumulating recyclable materials for collection by the city or the private collector. This prohibition applies to recycling containers located in or by residential and non-residential buildings, at self-help stations and in public places.
- 2. No person shall remove a recycling cart, bin or other container that has been furnished by the city or by a private recyclable collector.
- 3. This section does not apply to employes and agents of the city or of a private recyclable collector in the performance of their duties or to materials that are removed by the person who deposited them.
- 79-41. Administration and Confidentiality of Record. 1. The commissioner, the department and the operations division shall be responsible for administration of the provisions of this subchapter.
- 2. The commissioner is authorized to make reasonable rules for the regulation and administration of this subchapter, including charges for extraordinary, unusual or special services as may be necessary and exemptions for hardship cases, provided such rules do not contravene the specific provisions of this subchapter. Such rules shall be available at the office of the city clerk.
- 3. To the extent permitted by law, records relating to recycling activities shall be kept confidential when necessary to protect proprietary information.
- 79-43. Enforcement. For the purpose of ascertalning compliance with the provisions of this subchapter, any authorized officer, employe or representative of the commissioner, the department or the department of neighborhood services may use any lawful means to adequately enforce the requirements of this subchapter including, but not limited to, education and information programs and inspections to ascertain proper separation, preparation, collection and disposition of recyclable materials.

79-47. Penalties, Liens and Citations.

1. PENALTIES. a. A person who fails to comply with s. 79-29 shall receive a written notice with respect to the alleged violation of s.79-29. Failure to comply with s. 79-29 following such

- notification shall result in a special charge of \$20, and the second and each subsequent failure to comply with s. 79-29 within a calendar year shall result in a special charge of \$40.
- b. A person who violates s. 79-33 or 79-35 shall forfeit as follows:
- b-1. Not less than \$50 nor more than \$200 for a first or 2nd violation within a 12-month period, and the costs and disbursements of such action. Each day of violation shall be a separate offense.
- b-2. Not less than \$100 nor more than \$500 for a 3rd or subsequent violation within a 12-month period, and the costs and disbursements of such action. Each day of violation shall be a separate offense.
- c. A person who violates s. 79-37 shall forfeit as follows:
- c-1. Not less than \$500 nor more than \$1,000 for a first violation within a 12-month period, and the costs and disbursements of such action. Each day of violation shall be a separate offense.
- c-2. Not less than \$1,000 nor more than \$5,000 for a 2nd or subsequent violation within a 12-month period, and the costs and disbursements of such action. Each day of violation shall be a separate offense.
- d. A person who violates s. 79-40 shall forfeit not less than \$25 nor more than \$500 for each violation, and the costs and disbursements of such action.
- e. Any person who fails to comply with s. 79-32 shall be subject to a special charge of \$25 and shall receive a written notice with respect to the alleged violation of s. 79-32. Failure to comply following such notification shall result in a special charge of \$35, and each subsequent failure to comply within a calendar year shall result in a special charge of \$60.
- 2. LIENS. a. Whenever a person fails, omits, neglects or refuses to obey an order of a department or city officer that is made on account of noncompliance with any provision of this subchapter, pursuant to s. 66.0627, Wis. Stats., a special charge shall be made against the subject property.
- A person who fails to comply with s. 79-25 shall receive a written notice with respect to

- 79-29. Care of Separated Recyclable Materials. To the greatest extent practicable, the recyclable materials separated in accordance with s. 79-25 shall be clean and kept free of contaminants such as food or product residue, oil, grease and other non-recyclable materials, including but not limited to household hazardous waste, medical waste, agricultural chemical containers and hazardous substances as defined in s. 79-1-5. Recyclable materials shall be stored in a manner that protects them from wind, rain and other inclement weather conditions.
- 79-31. Residences, Except Multiple-Family Dwellings. Occupants of single family residences, 2 to 4 unit residences and condominium complexes shall provide for the preparation and collection of separated standard recyclable materials in accordance with the rules of the commissioner.
- **79-32. Return to Storage Location.** Owners and tenants of those properties serviced by the recycling collection system, where carts are left at the alley line or curb line after servicing, shall return the carts to their proper storage locations before 10 p.m. on the day they are serviced.
- **79-33.** Multiple-Family Dwellings. 1. Except as provided under sub. 2, owners, lessees or designated agents of multiple-family dwellings, except condominium complexes, shall do all of the following to recycle standard recyclable materials:
- a. Provide, at their own cost, adequate, separate containers for recyclable materials. Containers shall be stored on the premises in a location that is convenient for deposit and collection of recyclables.
- b. Notify in writing, at the time of leasing and at least semi-annually thereafter, all tenants and occupants of the dwellings about the recycling program.
- c. Provide for the collection of the materials separated from the solid waste by the users, tenants and occupants and for the delivery of those materials to a recycling facility by private collection.
- 2. The requirements specified in sub. 1 do not apply to the owner, lessee or designated agent of a multiple-family dwelling if the postconsumer

waste that is generated within the dwelling is treated at a licensed solid waste processing facility that recovers for recycling standard recyclable materials from solid waste in as pure a form as is technically feasible.

79-35. Non-Residential Facilities and Properties.

- 1. Except as provided under sub. 2, owners, lessees or designated agents of non-residential facilities and properties shall do all of the following to recycle standard recyclable materials:
- a. Provide adequate, separate containers for the recyclable materials.
- b. Notify in writing, at the time of leasing and at least semi-annually thereafter, all tenants and occupants of the facilities and properties about the recycling program.
- c. Provide for the collection of the materials separated from the solid waste by the users, tenants and occupants and for the delivery of those materials to a recycling facility by private collection.
- 2. The requirements specified in sub. 1 do not apply to the owner, lessee or designated agent of a non-residential facility or property if the postconsumer waste that is generated within the facility or property is treated at a licensed solid waste processing facility that recovers for recycling standard recycling materials from solid waste in as pure a form as is technically feasible.
- 79-37. Disposal of Separated Standard Recyclable Materials Prohibited. No person shall dispose of in a solid waste disposal facility or burn in a solid waste treatment facility any standard recyclable materials which have been separated for recycling, except that waste tires may be burned with energy recovery in a solid waste treatment facility.
- 79-39. Management of Special Recyclable. Materials. 1. Occupants of single family residences, 2 to 4 unit residences, multiple-family dwellings and non-residential facilities and properties shall manage lead acid batteries as provided in s. 79-2-9, and shall handle major appliances, waste oil and yard waste in accordance with this section and the rules of the commissioner.
- 2. A microwave oven may be disposed of in a solid waste disposal facility if the

the alleged violation of s. 79-25. Failure to comply with s. 79-25 following such notification shall result in a special charge of \$10, and the second and each subsequent violation within a calendar year shall result in a special charge of \$25.

- c. Special charges made under this subsection shall be due and payable 30 days after billing or if not paid within that time become a lien on the subject property as provided in s. 66.0627, Wis. Stats. The lien shall take effect on the date of the delinquency and shall include an administrative charge of \$10. The lien shall automatically be extended upon the current or next tax roll as a delinquent tax against the property and all proceedings in relation to the collection, return and sale of the property for delinquent real estate taxes shall apply to the special charge. The special charge shall not be payable in installments.
- Whenever a special charge is made against property that is either a single family residence or a 2-family residence, the department assessing the special charge may bill both the occupant of the residence and the owner of the residence, if the department knows that the occupant and the owner are not the same and if the identity of the occupant is known to the department. If the department bills the occupant, the occupant of the residence shall be solely responsible for payment of the special charge within 30 days after billing. If the special charge is not paid within that time, the owner shall become responsible for payment of the special charge on the date of the delinquency. Whenever an occupant is billed for a special charge and the payment is not made within 30 days after billing, the department shall promptly give written notice of such nonpayment to the owner of the residence. Whenever an owner becomes responsible for payment of a special charge because of the delinquency of an occupant under this paragraph, the owner may recover the amount of that special charge under sub. e and s. 200-20.5.
- e. Whenever a special charge is assessed under this subsection, a landlord may require a responsible tenant to pay the amount of the special charge under s. 200-20.5.
- CITATIONS. In addition to other applicable enforcement procedures and

pursuant to the authority of s. 66.0113, Wis. Stats., the commissioners of public works and neighborhood services or their designees may issue citations pursuant to the citation procedure as set forth in s. 50-25 to any person who violates any provision of this subchapter.

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LEGISLATIVE HISTORY CHAPTER 79

Blalance de Alacce		2 3		
Abbreviations:		·		
am = amended	ra = renumbered and		•	rn = renumbered
cr = created	rc = repealed and red	reated		rp = repealed
Section	Action	<u>File</u>	Passed	<u>Effective</u>
79-1-0	am	901347	5/14/91	5/18/91
79-1-2.5	cr	911889	3/3/92	3/20/92
79-1-2.5	rc	010404	8/2/2001	8/18/2001
79-1-11	rn to 79-1-12	912123	7/7/92	7/24/92
79-1-11	cr	912123	7/7/92	7/24/92
79-1-11-i	cr	911889	3/3/92	3/20/92
79-1-11	rc	912439	9/27/94	1/1/95
79-1-12-a	am ,	912439	9/27/94	1/1/95
79-1-12-a	am	010842	11/6/2001	11/22/2001
79-1-12-a	am	040491	11/12/2004	12/3/2004
79-1-12-a	am	060775	11/10/2006	4/1/2007
79-1-12-i	rc	010404	8/2/2001	8/18/2001
79-2-0	rp	970956	11/4/97	11/21/97
79-2-1	rn to 79-2-2	970956	11/4/97	11/21/97
79-2-1	Cr Cr	970956	11/4/97	11/21/97
79-2-1-b-0	am	000977	11/10/2000	1/1/2001
79-2-1-b-1	am	080486	9/12/2008	1/1/2009
79-2-1-b-1 79-2-1-b-2	am	000977	11/10/2000	1/1/2009
79-2-1-b-4	Cr ·	990118	5/11/99	
79-2-1-0-4 79-2-2	m to 79-2-3	970956	11/4/97	5/28/99 11/21/97
79-2-2 79-2-3	m to 79-2-3	970956	,	11/21/97
79-2-3 79-2-4			11/4/97	
7 9-2-4 7 9- 2-5	rn to 79-2-5 m to 79-2 6	970956	11/4/97	11/21/97
=		970956	11/4/97	11/21/97
79-2-6	rn to 79-2-7	970956	11/4/97	11/21/97
79-2-6	am	980963	12/18/98	1/1/99
79-2-7	rn to 79-2-8	970956	11/4/97	11/21/97
79-2-7	am	980963	12/18/98	1/1/99
79-2-8	rn to 79-2-9	970956	11/4/97	11/21/97
79-2-8	am	980963	12/18/98	1/1/99
79-2-8	am	040491	11/12/2004	12/3/2004
79-2-8	rn to 79-2-8-a	060775	11/10/2006	4/1/2007
79-2-8-b	cr	060775	11/10/2006	4/1/2007
79-2-9	cr . Za a 4a	890284	6/27/89	7/18/89
79-2-9	rn to 7 9 -2-10	970956	11/4/97	11/21/97
79-2-9	am	980963	12/18/98	1/1/99
79-2-10	cr	911889	3/3/92	3/20/92
79-2-10	rn to 79-2-11	970956	11/4/97	11/21/97
79-2-10-0	am	951346	1/23/96	2/9/96
79-2-10-d	cr	920560	7/28/92	8/14/92
79-2-10-d	rp .	951346	1/23/96	2/9/96
79-2-10-е	cr	920638	1/15/93	2/4/93
79-2-10-e	rp	951346	1/23/96	2 / 9/96
79-4-1-am-2	am	891613	12/19/89	1/13/90
79-4-1-am-2	am	010858	11/9/2001	1/1/2002
79-4-1-as	am	891613	12/19/89	1/13/90
79-4-1-as-0	am	010858	11/9/2001	1/1/2002
79-4- 1.5	cr	940741	9/27/94	10/14/94

-228k- 12/16/2008

79--(HISTORY) Solid Waste Regulations

79-4-1.5-a	am	010858	11/9/2001	1/1/2002
79 - 4-1.5-b	am	010858	11/9/2001	1/1/2002
79-4-2	am	891613	12/19/89	1/13/90
79-4-2	am	010858	11/9/2001	1/1/2002
79-4-4	cr	921364	4/8/93	4/28/93
79-4-4	am	010858	11/9/2001	1/1/2002
79-4.5				
	СГ	912123	7/7/92	7/24/92
79-4.5	rp	912439	9/27/94	1/1/95
79-5-2	am	011258	2/12/2002	3/1/2002
79-5-6	am	881465	11/18/88	12/9/88
79-5.5	cr .	890283	11/28/95	12/15/95
79-5.5	am	971300	12/16/97	1/8/98
79-5.7	cr	000322	11/8/2000	11/29/2000
79-6	m to 79-6.5	000977	11/10/2000	1/1/2001
79-6	cr	000977	11/10/2000	1/1/2001
79-6-1	am	970956	11/4/97	11/21/97
79-6-1	am	010854	11/9/2001	1/1/2002
79-6-2-a	am	001305	2/27/2001	3/16/2001
79-6-4-b	am	010854	11/9/2001	1/1/2002
79-6-4-c	·am	010854	11/9/2001	1/1/2002
79-6-5	rp	010854	11/9/2001	1/1/2002
79-6-6	rn to 79-6-5	010854	11/9/2001	
79-6-7				1/1/2002
	rc	910396	6/25/91	7/13/93
79-6-7	am	970956	11/4/97	11/21/97
79-6-7	rn to 79-6-6	010854	11/9/2001	1/1/2002
79-6-8	cr ·	970956	11/4/97	11/21/97
79-6-8	am	990118	5/11/99	5/28/99
79-6-8	rn to 79-6-7	010854	11/9/2001	1/1/2002
79-6.5-0	am	000977	11/10/2000	1/1/2001
79-6.5-0	am	060775	11/10/2006	4/1/2007
79-6.5-3	IC	060665	11/10/2006	4/1/2007
79-6.5-3-c-2	am	070737	11/9/2007	11/30/2007
79-9-2	rc	990085	6/22/99	10/8/99
79-9-2-a	am	911243	11/5/91	2/1/93
79-9-2-a	am	951346	1/23/96	2/9/96
79-9-2-c	am	950100	5/16/95	6/3/95
79-9-3	cr	990085	6/22/99	10/8/99
79-9-4	cr	990085	6/22/99	10/8/99
79-11	am	990536	10/19/99	11/5/99
79-12	rc	941051	11/29/94	12/16/94
79-12-1	am	010842	11/6/2001	11/22/2001
79-12.5	cr	010404	8/2/2001	8/18/2001
79-12.5-1	IC	050888	11/15/2005	12/9/2005
79-12.5-2	am	050735	10/18/2005	11/4/2005
79-12.5-2		050888		
79-12.5-2 79-12.5-3	rp rn to 79-12.5-2		11/15/2005	12/9/2005
79-12.5-5 79-14		050888	11/15/2005	12/9/2005
79-14 79-14.5	am	890689	7/25/89	8/15/89
•	am	891613	12/19/89	1/13/90
79-14.5	am	010858	11/9/2001	1/1/2002
79-15	am	891613		1/13/90
79-15	am	980963	12/18/98	1/1/99
79-15	am	010858	11/9/2001	1/1/2002
79-15	am	051655	5/9/2006	5/26/2006
79-16-1	rc	911889	3/3/92	3/20/92
79-16-1	am ·	912439	9/27/94	1/1/95
79-16-1	am	890283	11/28/95	12/15/95
79-16-1-a	am	971300	12/16/97	1/8/98

Solid Waste Regulations 79--(HISTORY)

79-16-1-a	am	031615	6/15/2004	7/2/2004
79-16 - 1-a	am	051298	3/23/2006	4/11/2006
79-16-1-Ь	am	971300	12/16/97	1/8/98
79-16-1-b	am	031615	6/15/2004	7/2/2004
79-16-1-c	rn to 79-16-1-d	051298	3/23/2006	4/11/2006
79-16-1-c	cr	051298	3/23/2006	4/11/2006
79-16-1-c	am	051702	7/12/2006	7/29/2006
79-16-2	am	891613	12/19/89	1/13/90
79-16 - 2	am	891826	1/16/90	2/3/90
79-16-2	am	980963	12/18/98	1/1/99
79-16-2	m to 79-16-2-a	990118	5/11/99	5/28/99
79-16-2-a	am	000977	11/10/2000	1/1/2001
79-16-2-a	rc	010233	6/19/2001	6/30/2001
79-16-2-a	am	010858	11/9/2001	1/1/2002
79-16-2-a-1-b	rn to 79-16-2-a-1-c	011258	2/12/2002	3/1/2002
79-16-2-a-1-b	cr	011258	2/12/2002	3/1/2002
79-16-2-a-1-c	rn to 79-16-2-a-1-d	011258	2/12/2002	3/1/2002
79-16-2-a-1-d	am	050143	6/14/2005	7/1/2005
79-16-2-a-1-d	am	081369	3/3/2009	3/20/2009
79-16-2-a-2	rn to 79-16-2-a-3	060640	9/26/2006	11/11/2006
79-16-2-a-2	Cr Cr	060640	9/26/2006	11/11/2006
79-16 -2- b	CL	990118	5/11/99	5/28/99
79-16-3	am	881930	3/7/89	3/25/89
79-16-3	am	890284	6/27/89	7/18/89
79-16-3	am	911889	3/3/92	3/20/92
79-16-3	am	940741	9/27/94	10/14/94
79-16-3	am	001458	2/27/2001	3/16/2001
79-17	rn to 79-19	051414	2/28/2006	3/17/2006
79-17	cr	051414	2/28/2006	3/17/2006
79-21	cr	912439	9/27/94	1/1/95
79-23	cr	912439	9/27/94	1/1/95
79-23-16	am	001458	2/27/2001	3/16/2001
79-25	cr	912439	9/27/94	1/1/95
79-27	cr	912439	9/27/94	1/1/95
79-29	cr	912439	9/27/94	1/1/95
79-31	cr	912439	9/27/94	1/1/95
79-32	cr	050883	11/11/2005	1/1/2006
79-33	cr	912439	9/27/94	1/1/95
79-35	cr	912439	9/27/94	1/1/95
79-37	cr	912439	9/27/94	1/1/95
79-39	cr	912439	9/27/94	1/1/95
79-40	cr	890283	11/28/95	12/15/95
79-40	am	971300	12/16/97	1/8/98
79-41	CL	912439	9/27/94	1/1/95
79-41-1	am	010858	11/9/2001	1/1/2002
79-43	cr	912439	9/27/94	1/1/95
79-43	am	980963	12/19/98	1/1/99
79-47	cr	912439	9/27/94	1/1/95
79-47-1-a	m to 79-47-1-b	010233	6/19/2001	6/30/2001
79-47-1-a	cr	010233	6/19/2001	6/30/2001
79-47-1-b	m to 79-47-1-c	010233	6/19/2001	6/30/2001
79-47-1-c	cr	890283	11/28/95	12/15/95
79-47-1-c	am	971300	12/16/97	1/8/98
79-47-1-c	rn to 79-47-1-d	010233	6/19/2001	6/30/2001
79-47-1-e	cr	050883	11/11/2005	1/1/2006
79-47-1-e	am	081369	3/3/2009	3/20/2009
79-47-2-a '	am	001458	2/27/2001	3/16/2001
				· •

-228m- 3/3/2009

79--(HISTORY) Solid Waste Regulations

79-47-2-c	am `	001458	2/27/2001	3/16/2001
79-47-3	am	001458	2/27/2001	3/16/2001
79-47-3 ⁻	am	051655	5/9/2006	5/26/2006
79-51	Cr	901347	5/14/91	5/18/91
79-51	тр	031604	12/21/2004	7/1/2005
7 9 -53	cr	901347	5/14/91	5/18/91
79-53	rp	031604	12/21/2004	7/1/2005
79-55	cr	901347	5/14/91	5/18/91
79-55	rp	031604	12/21/2004	7/1/2005
79-57	· cr	901347	5/14/91	5/18/91
79-57	тр	031604	12/21/2004	7/1/2005
79-59	cr	901347	5/14/91	5/18/91
79-59	гр	031604	12/21/2004	7/1/2005
79-61	cr	901347	5/14/91	5/18/91
79- 61	гр	031604	12/21/2004	7/1/2005
79-63	cr	901347	5/14/91	5/18/91
79-63	гр	031604	12/21/2004	7/1/2005
79-65-3	rc	060775	11/10/2006	4/1/2007

3/3/2009

Recycling Task Force Meeting April 27, 2009

Agenda Item 6:

Discussion relating to City and State recycling enforcement laws



Required components of an effective recycling program (NR 544.04)

- Public information and education program
- Ordinance reflecting State law
- •System for collecting recyclables from single family and 2 to 4 unit residences
- Equipment and staff to implement the recycling program
- •Require owners of multiple family dwellings and non-residential facilities and properties to provide recycling at their facilities and properties
- •A means of adequately enforcing the requirements of the effective recycling program
- A compliance assurance plan
- Submittal of an annual program report

Compliance Assurance Plan

- City of Milwaukee's CAP Created in July of 2006
- •The CAP, at a minimum, shall contain the procedure to follow when addressing at least one specific compliance issue

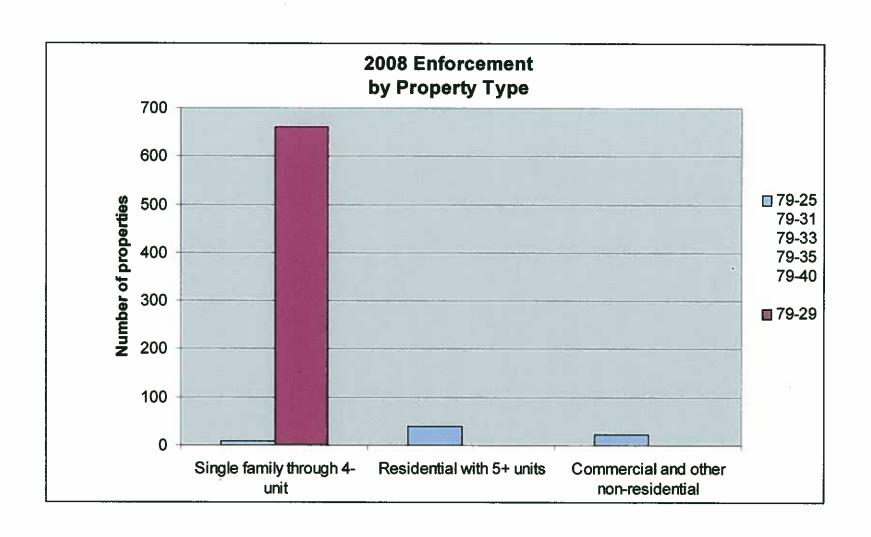
Ours: 3 scenarios

- -Violations by Businesses / >4-Unit Multifamily Dwellings / Institutions
- -Violations by Residents—Example of contamination of recycling cart
- -Violations by Residents, Single Family through 4-plex Example of Non-Participation

Recycling Violations and Penalties

Code	Violation	Violation Frequency (within 12 months)	Penalty
79-29	Improper Sorting and Storage of Recyclable Materials	1st	Written Notice
50.		2nd	\$20
		3rd or more	\$40
79-33, 79-35	Failure to provide containers for collection and provide removal of	1st & 2nd	\$50 - \$200
	recyclable materials by Multi- Family Dwellings and Non- Residential Properties	3rd or more	\$100 - \$500
79-40	Removal of Recyclables or Recycling Containers	1st or more	\$25 - \$500
79-25	Non-compliance with separation of recycling materials	1st	\$10
		2nd or more	\$25

Properties Enforced in 2008



Enforcement

- Recycling assistance integrated into enforcement process
- Compliance Summary through 2008
 - 161 properties enforced (145 attained compliant status)
 - 30 special charges issued totaling \$3,850.64
- Compliance Summary 2008 alone
 - 65 properties enforced (50 attained compliant status)
 - 23 special charges issued totaling \$3,047.38
- Cart contamination
 - 2006: 315 notices issued resulting in 141 special charges totaling \$2,775
 - 2007: 667 notices issued resulting in 379 special charges totaling \$11,215
 - 2008: 661 notices issued resulting in 353 special charges totaling \$9,915

Recycling Task Force Meeting April 27, 2009

Agenda Item 4:

Presentation by DPW Sanitation staff on the City's recycling program

Presented by Rick Meyers, Recycling Specialist







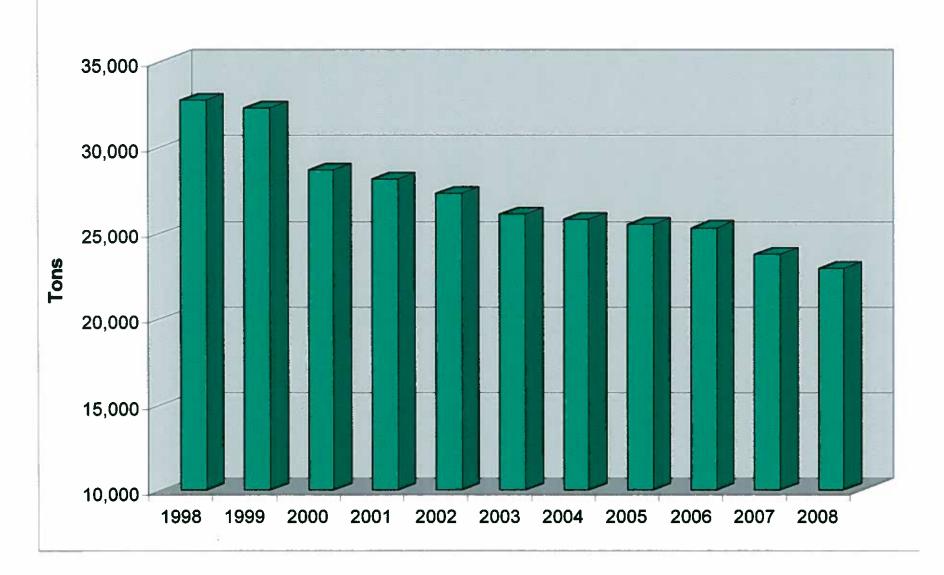
City of Milwaukee Residential Recycling

Program History:

- 1971: drop-off sites established for glass, tin-cans, and newspaper
- 1977: experiment with refuse-derived fuel plant
- 1989: curbside pilot program initiated
- 1995: city wide curbside program implemented

City of Milwaukee Residential Recycling

1998 - 2008



City of Milwaukee Residential Recycling Program Overview:

- 190,000 single family through 4-unit properties
- 34 recycling routes in winter, 31 in summer
- 85% of HH's serviced with 95-gallon carts picked up monthly (2 summer routes 2X/month)

15% of HH's serviced with 18-gallon bins picked up

weekly





Recycling Collection Details

- Dual stream program, municipal collection
- Split carts and split recycling packers
- Semi-automated, single cart system
- Single person collection crew
- High material quality with dual stream collection



Recyclables Processing & Marketing

- City owns its Materials Recovery Facility (MRF)
- Contracts out its operation & marketing of recyclables
 - July 1, 2009 entering first of up to 5 optional extension years
 - Could continue contract through June 30, 2014
 - Contract basics:
 - Per ton processing fee, annually adjusted (CPI)
 - 50% revenue share from sale of processed recyclables

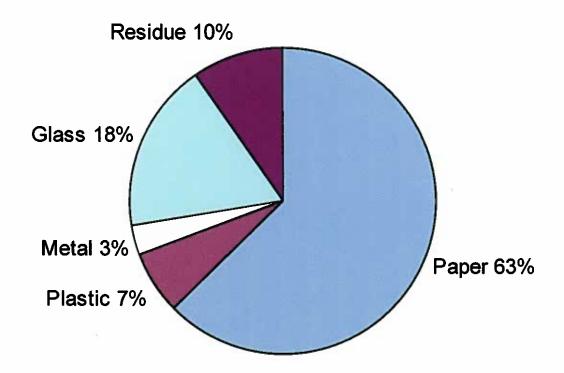
Milwaukee's Materials Recovery Facility

- Dual stream processing
 - Paper fibers
 - Commingled containers

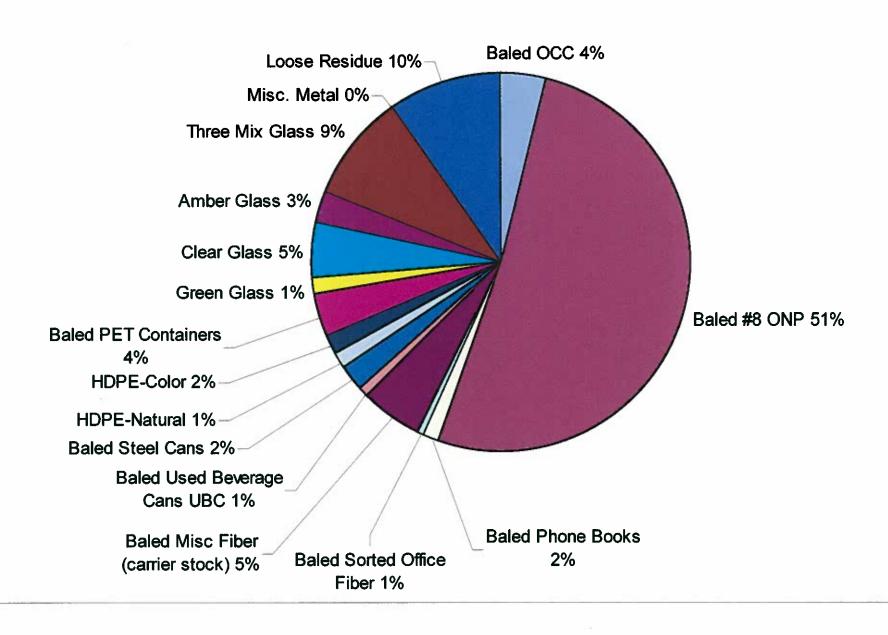




City of Milwaukee MRF Materials Processed by Weight 2007



City of Milwaukee MRF Materials Processed by Weight (2007)



Financial Data

Revenue to City: \$7.4 mil. to General Fund (2004-2008)

2008:

Net Revenue: \$376,395 (\$15.16/T)

Avoided disposal costs: \$725,896 (\$29.24/T)

Total net benefit: \$1,102,291 (\$44.40/T)

Education and Outreach

- UW Grant outreach
- EPA RCC Recycling With a Personal Touch
- Recycling DVD, 3 segments/age groups
- Recycle For Good
 - New advertisements
 - Website
 - Neighborhood campaigns
- Recycle More Wisconsin
- MRF tours & educational programs (Keep Greater Milwaukee Beautiful)

New promotional campaign launched Sept 30, 2008



LET'S MAKE MILWAUKEE CLEAN & GREEN.



Looking forward

- Guaranteed schedule, biweekly
- Potential changeover of some bins to carts
- Single or dual stream collection?
- Public vs. private MRF?

Recycling Task Force Meeting April 27, 2009

Agenda Item 7:

Discussion on how the city of Milwaukee's recycling program compares to other cities



Recycling Tons, Wisconsin RUs

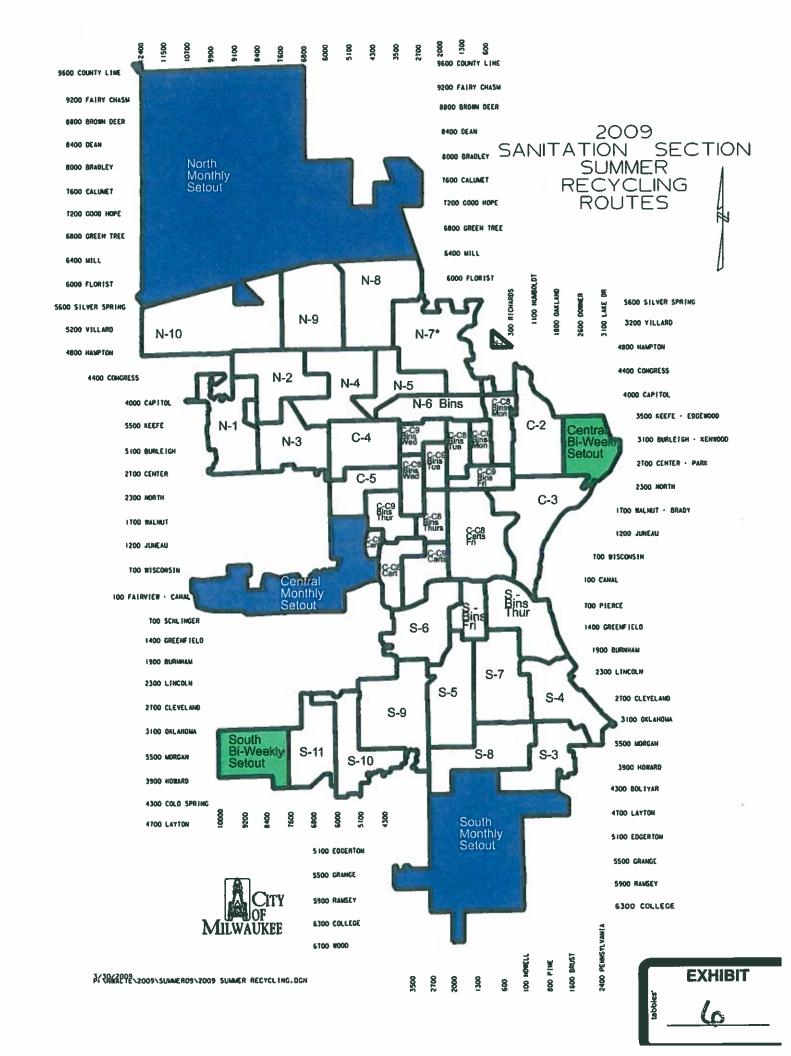
Top RUs by Population	Total Household Recyclables per Capita (lbs.)	Rank (out of 25 largest RUs)
Milwaukee	86.4	24
Waukesha, County	157.6	7
Madison	137.7	11
Outagamie, County	187	1
Green Bay	146.5	10
Eau Claire, County	123.3	17
Kenosha	123.8	16
Racine	107.3	20

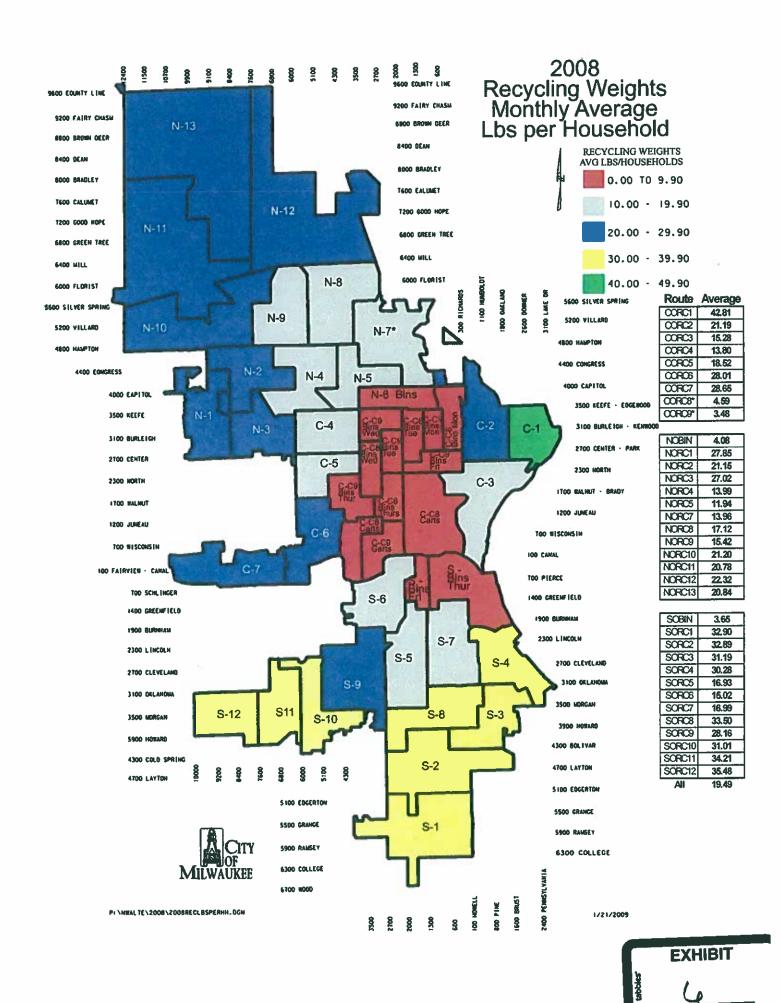
Data taken from Appendix 3 "Recycling Tons in Wisconsin 25 Largest Responsible Units", of the Audit of the City of Milwaukee Recycling Program, June 2008

Residential Recycling in the U.S.

City	Residential Recycling Rate	Frequency	How collected
Columbus	12%	Weekly	Commingled
Austin	28%	Weekly	Source-Separated
Memphis	27%	Weekly	Commingled
Baltimore	27%	Weekly	Source-Separated
MILWAUKEE	25%	Monthly	Source-Separated
Fort Worth	20.6%	Weekly	Commingled
Charlotte	11.5%	Weekly	Commingled
El Paso	2%	NA	NA
Boston	23%	Weekly	Source-Separated

Data taken from Appendix 5 "Municipal Recycling in the U.S.- 30 largest cities by population", of the Audit of the City of Milwaukee Recycling Program, June 2008







Department of Public Works Environmental Services Sanitation & Forestry "Clean & Green"

May 6, 2009

Jeffrey J. Mantes
Commissioner of Public Works

James P. Purko Director of Operations

Preston D. Cole Environmental Services Superintendent

Mr. Grant F. Langley City Attorney Zeidler Municipal Building, Rm 716

Re: Request for legal opinion relating to recycling enforcement

Dear Mr. Langley:

On April 27, 2009, the Recycling Task Force met and reviewed the recycling enforcement laws for the City of Milwaukee. During its review, members had expressed concerns relating to the legality of city staff searching garbage and recycling carts on private property, as well as, doing searches of the carts at the curbside.

As Chair of the Recycling Task Force, I would like to request a legal opinion on the legality of city staff doing searches of garbage and recycling carts on private property and at the curbside.

Thank you in advance.

Preston D. Cole, Chair Recycling Task Force

PDC/TJM/ttj

GRANT F. LANGLEYCity Attorney

RUDOLPH M. KONRAD LINDA ULISS BURKE VINCENT D. MOSCHELLA Deputy City Attorneys



July 13, 2009

Preston D. Cole, Chair Recycling Task Force Zeidler Municipal Building, Room 619

Re: Recycling Enforcement

Dear Mr. Cole:

THOMAS O. GARTNER **BRUCE D. SCHRIMPF** SUSAN D. BICKERT STUART S. MUKAMAL THDMAS J. BEAMISH **MAURITA F. HDUREN** JOHN J. HEINEN DAVID J. STANOSZ SUSAN E. LAPPEN JAN A. SMOKOWICZ PATRICIA A. FRICKER HEIDI WICK SPOERL KURT A. BEHLING **GREGG C. HAGOPIAN** ELLEN H. TANGEN **MELANIE R. SWANK** JAY A. UNORA **DDNALD L. SCHRIEFER** EDWARD M. EHRLICH **LEONARD A. TOKUS** MIRIAM R. HORWITZ **MARYNELL REGAN** G. O'SULLIVAN-CROWLEY KATHRYN Z. BLOCK **MEGAN T. CRUMP ELOISA DE LEÓN** ADAM B. STEPHENS KEVIN P. SULLIVAN BETH CONRADSON CLEARY THOMAS D. MILLER HEIDI E. GALVÁN JARELY M. RUIZ ROBIN A. PEDERSON **DANIELLE M. BERGNER** Assistant City Attorneys

By letter dated May 6, 2009, as Chair of the Recycling Task Force you requested an opinion regarding the legality of City of Milwaukee employees performing searches of garbage and recycling carts on private property and at the curbside. As discussed below, DPW and DNS employees may lawfully search garbage and recycling containers placed at the curb, containers located adjacent to the alley and accessible to the public, and containers placed for routine collection on the occupant's private property where collection occurs neither at the curb nor at the alley line. However, in many cases, there may be practical proof problems involved in prosecuting "failure to separate" or "failure to clean recyclable container" violations arising from searches in the absence of direct evidence of a violation.

To be designated as an "effective recycling program" and therefore qualify for financial assistance from the State of Wisconsin, the City's recycling program must meet certain requirements set forth in the State statutes and administrative regulations governing municipal recycling programs. Wis. Stat. § 287.11(g) requires that a municipal recycling ordinance provide for "[a]dequate enforcement." See also Wis. Admin. Code § NR 544.04(9) (requiring "[a] means of adequately enforcing" the ordinance). The DNR regulations issued pursuant to the statute require that a recycling ordinance include provisions for enforcement including "appropriate penalties,"...authorization for use of citations for ordinance violations, and "[a]dequate inspection authority to ascertain compliance with the ordinance." § NR 544.06(2)(e).

Preston D. Cole, Chair July 13, 2009 Page 2

Pursuant to these requirements, Milwaukee Code of Ordinances (MCO) § 79-43 authorizes DPW and DNS employees to "use any lawful means to adequately enforce the requirements" of the recycling ordinance including "inspections to ascertain proper separation, preparation, collection and disposition of recyclable materials." The City of Madison adopted this same language in its recycling ordinance. Madison Gen. Ord. § 10.18(7)(b)3.

Though each case is fact-specific, in general, DPW and DNS employees may not conduct a warrantless search of garbage and recycling carts located within the curtilage¹ of the home and not exposed or accessible to the public. *United States v. Redmon*, 138 F.3d 1109, 1111-1115 (7th Cir. 1998) (warrantless search of garbage placed for collection on common driveway in front of connected garages was lawful); *Ball v. State*, 57 Wis. 2d 653 (1973) (unlawful warrantless search of barrel used for burning trash where located in backyard and not placed in public view).

However, a person does not have a reasonable expectation of privacy with respect to trash left on the curb outside the curtilage of the home. California v. Greenwood, 486 U.S. 35 (1988). Accordingly, a warrantless search of garbage bags left at the curb for pick-up performed by a garbage collector at the request of the police did not violate the Fourth Amendment's proscription against unreasonable search and seizure. Id. Similarly, a person has no reasonable expectation of privacy in the contents of garbage containers located adjacent to the alley and where the containers were readily accessible and visible from the alley. United States v. Shanks, 97 F.3d 977, 979-980 (7th Cir. 1996). Further, where routine collection occurs neither at the curb nor at the alley line but within the curtilage of the home, DPW or DNS employees may search containers placed for anticipated collection. Redmon, 138 F.3d 1109, 1113-1114.

Though it is lawful for DPW and DNS staff to search garbage and recycling carts left for collection or located adjacent to the alley and readily accessible to the public, in many cases, prosecuting "failure to separate" or "failure to clean recyclable container" violations on the basis of such searches raises practical proof problems. MCO § 79-25 requires "occupants" of residential and non-residential properties to separate recyclables from waste. MCO § 79-29 requires that the separated recyclable materials be clean and free of contaminants. The penalties

¹ Though a difficult concept for courts to apply, "curtilage" is defined in the cases as "the area outside the home itself but so close to and intimately connected with the home and the activities that normally go on there that it can reasonably be considered part of the home." *United States v. Shanks*, 97 F.3d 977, 979 (7th Cir. 1996) (quoting United States v. Pace, 898 F.2d 1218, 1228 (7th Cir. 1990).

Preston D. Cole, Chair July 13, 2009 Page 3

sections of the recycling ordinance, MCO § 79-47-1-a (failure to clean) and § 79-47-2-b (failure to separate), specifically describe the violations as "a person who fails to comply..."

To effectively prosecute a violation of these sections the City must prove, to a level of clear, satisfactory, and convincing evidence, that the person cited was the actual person who violated one of these sections of the ordinance. Because the containers would be accessible to the public, it would be very difficult to prove that the cited "occupant" committed the offense and to disprove the defense that someone else threw the material in the wrong container. However, this concern is lessened where DPW or DNS employees lawfully search a container after observing a person dispose of material in violation of the ordinance.

If you have any comments or concerns or require any additional information, please do not hesitate to contact the undersigned.

Very truly yours,

GRANTELANGLEY

City Attorney

ÍÁY A. UNORA

Assistant City Attorney

THOMAS D. MILLER Assistant City Attorney

TDM:tdm

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City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, May 18, 2009

1:30 PM

Room 303, City Hall

Meeting convened: 1:36 P.M.

1. Roll call

Present 5 - Cole, Daun, Dudzik, Shambarger and Schaal

Also present: James Carroll, Legislative Reference Bureau and Jim Michalski, Comptroller's Auditing Division, Wanda Booker, Dept. of Public Works and Rick Meyers, Dept. of Public Works, Recycling Specialist and Don Stone, Dept. of Public Works, Sanitation

2. Approval of the minutes of the April 27, 2009 meeting

Mr. Daun moved approval of the minutes, seconded by Mr. Shambarger. There were no objections.

3. Discussion relating to a consultant study on a single stream recycling operation vs. dual system recycling operation

Mr. Cole said this agenda item will not be considered today. It will be rescheduled to be heard at the next Recycling Task Force meeting, scheduled for June 8, 2009, and it will be discussed in closed session. He said the City's recycling and sanitation staff and the consultant who did the study will be available at that meeting to answer questions.

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4. Discussion relating to a "Pay As You Throw" program

Mr. Shambarger said the La Follette School of Public Affairs (Madison, WI) did a policy study on the Pay-As-You-Throw program, at the request of the City of Milwaukee's Department of Admin., Budget & Management Division. The report is complete and is titled, "Impacts of Pay-As-You-Throw Municipal Solid Waste Collection." A copy of the report can be found at the following website:

http://www.lafollette.wisc.edu/publications/workshops/2009/waste.pdf

Mr. Shambarger gave brief summary of the La Follette report (Exhibit 1). He said the report is well done and is worth consideration by this task force.

Mr. Rick Meyers, Ms. Wanda Booker and Mr. Donald Stone with Department of Public Works, Sanitation Division also appeared on this matter to answer questions by Task Force members.

Mr. Meyers said that one of the main selling point of the Pay-As-You-Throw program is the incentive to residents to recycle. He said other benefits of the program are the extra recycling that is being done by its residents, a reduction of yard waste found in the carts and the waste reduction by residents by re-using or donating items instead of just leaving them at the curb. He said the program would also lower landfill costs. He said there would also be a cost saving on the carts, because the carts would come in different sizes, each size would have a different cost, and each household would subscribe to the cart size that would hold the amount of recyclables that the household produces and that would help make the pricing more equitable.

Mr. Daun asked if any of the more advanced automated collections have ever been tested to any great degree?

Ms. Booker replied that a fully automated recycling collection pilot was done in the City of Milwaukee about seven to eight years ago. She said that it doesn't work where there is on-street parking, which is on the majority of the City streets, therefore, the trucks were ineffective and the City ended up selling them.

Ald. Dudzik said there would be some increase in cost and recycling if the Pay-As-You-Throw program was implemented by the City and asked what would that increase in cost be?

Mr. Meyers replied that the La Follette report recommended that some prerequisites be done by the City before implementing a Pay-As-You-Throw program. One is that the City should increase its collection frequencies and the other is that the City needs to get its solid waste fees up to the 100% mark, so that the cost of the solid waste collection is fully recovered.

Ms. Schaal asked if there are current pilot study data available, because La Follette report data is from the 1990's?

Mr. Shambarger replied in the negative.

Mr. Daun asked if the department has any thoughts on changes in its current solid waste collections?

Ms. Booker replied that the department has made some changes over the past few years, such as combined collections and it has done away with special collections.

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Ald. Dudzik asked in the current dual-steam system how much capacity, if any, is lost?

Mr. Meyers replied that each route is complete at one time so capacity is not an issue.

Ald. Dudzik asked if the City would go to a single-stream system could the current trucks be used?

Ms. Booker replied in the affirmative.

Ms. Schaal asked how many recycling collection trucks does the City have available for use right now?

Ms. Booker replied that the City has 32-33 operational trucks at any given time and one person per truck.

5. Set next meeting agenda

Mr. Cole asked the task force members if they would like to take the tour of the Germantown recycling facilities as individuals or as a group?

All task force members replied that either way would work for them.

Mr. Cole said that the task force already has June 29, 2009, meeting date set and said if all members are still available the tour would be scheduled for that date.

Mr. Daun replied that he will be out of town on June 29, 2009, but he will take the tour on his own.

The next meeting date is set for June 8, 2009, and the only item for discussion at that meeting will be on the Earth Tech/AECOM consultant study on a single stream recycling operation vs. dual system recycling operation and it will be in closed session.

Meeting adjourned: 2:22 P.M.

Terry MacDonald Staff Assistant

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City of Milwaukee:

Impacts of Pay-As-You-Throw Municipal Solid Waste Collection

Prepared by
Catherine Hall
Gail Krumenauer
Kevin Luecke
Seth Nowak

For the
City of Milwaukee, Department of Administration,
Budget and Management Division

Workshop in Public Affairs, Domestic Issues Public Affairs 869 Spring 2009



Robert M. La Follette School of Public Affairs University of Wisconsin-Madison

EXHIBIT

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Foreword

Students in the master of public affairs program in the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison produced this report for the City of Milwaukee's Department of Administration's Budget and Management Division. The opinions and judgments presented in the report do not represent the views, official or unofficial, of the La Follette School or of the clients for whom the students prepared the report.

The authors are enrolled in the Public Affairs Workshop, Domestic Issues, the capstone course in their graduate program. The La Follette School offers a two-year graduate program leading to a master of public affairs or a master of international public affairs degree. The workshop provides practical experience applying the tools of analysis acquired during three semesters of coursework to actual issues clients face in the public, non-governmental, and private sectors. Students work in teams to produce carefully crafted policy reports that meet high professional standards within the timeframe of a single academic semester. The reports are research-based, analytical, and when appropriate, evaluative.

This report would not have been possible without the encouragement and leadership of the City of Milwaukee's dedicated employees. A University of Wisconsin—Madison Engage grant for collaborative work from the Division of Information Technology supported additional costs of this report, including travel costs of meeting with clients. The report also benefited greatly from the support of the staff of the La Follette School. Outreach Director Terry Shelton, along with Kari Reynolds, Mary Mead, and Gregory Lynch, contributed logistical and practical support. Karen Faster, La Follette Publications Director, edited the report and shouldered the task of producing the final bound document.

This report was generated primarily for the educational benefit of its student authors. The purpose of the project was to improve their analytical skills by applying them to an issue with a substantial policy or management component. This culminating experience is the ideal equivalent of the thesis for the La Follette School degrees in public affairs.

Dr. Susan Webb Yackee Assistant Professor of Public Affairs and Political Science May 2009

Acknowledgments

We thank the following people for their guidance and assistance in preparing this report: Mark Nicolini, City of Milwaukee Budget Director, for commissioning the project; Erick Shambarger, City of Milwaukee Economist, for his feedback; Rick Meyers, City of Milwaukee Recycling Specialist, for his assistance; the various municipal employees who took the time to respond to our comparative cities survey; the vendors and manufacturers who provided pricing and equipment details; Karen Faster for her editing and comments; Professor Jack Huddleston for statistical guidance; and Professor Susan Yackee for her mentoring and guidance.

Executive Summary

This report analyzes the possible implementation of a pay-as-you-throw (PAYT) user fee system for municipal solid waste (MSW) collection in the City of Milwaukee. PAYT collection systems serve more than 25 percent of the U.S. population and more than half of Wisconsin communities. These programs replace flat fees with charges based on the quantity of MSW generated per household. PAYT systems may cause residents to recognize the cost of their individual disposal habits and reduce their waste. Pay-As-You-Throw can also promote behavioral change in the form of greater recycling. Municipalities and residents find these systems to be equitable, since those who generate more waste pay more for collection services. PAYT revenue may also provide financial benefits to the city by fully compensating program costs.

Milwaukee charges each household \$150 per year for MSW and recycling services. This flat rate creates insufficient revenue for complete program cost recovery. Milwaukee wishes to pursue a PAYT user fee system that fully pays for the MSW and recycling programs, particularly as landfill rates charged for waste disposal continue to rise.

Our analysis draws upon research from the U.S. Environmental Protection Agency (EPA), academic studies, City of Milwaukee MSW and recycling data, contacts with MSW equipment suppliers, and a survey of 10 comparable U.S. cities using PAYT systems. We assess three program options for Milwaukee: the status quo, a multiple cart system with pricing based on household waste cart size, and a weight-based program that charges per pound of refuse collected. We examine each alternative based on metrics of efficiency, effectiveness, equity, and ease of implementation to determine which MSW system best suits Milwaukee.

We recommend a weight-based PAYT system for Milwaukee. The weight-based model offers the greatest efficiency and creates the greatest incentive to reduce waste. This alternative also scores highest in equity measures. In contrast, the current system and multiple carts allow greater disparities between the price per unit paid by households with low levels of MSW disposal and the prices paid by those with high levels. The weight-based system also requires less capital investment than a multiple cart system.

We also recommend a series of implementation measures to ease the transition to a PAYT system. Recycling rates rise an average of 16–17 percent in PAYT communities. Increasing the frequency of recycling collection (as recommended in the 2008 Audit of the City of Milwaukee Recycling Program) before PAYT is instituted would prepare residents and city staff before the anticipated increase in recycling. In addition, Milwaukee should conduct a pilot program to review equipment performance, implement new billing software, and gauge program acceptance. Steps to enhance responsiveness to the PAYT program include education and outreach, billing comparisons to show customer savings for MSW reductions, and collection of program feedback from pilot households.

Introduction

This report examines the City of Milwaukee's solid waste and recycling collection structure and fees. Milwaukee charges each household an annual \$150 flat fee for municipal solid waste (MSW) and recycling collection. This fee does not fully cover Milwaukee's cost for providing the services and charges each household the same rate, regardless of the amount of solid waste it generates.

More than 7,000 U.S. communities operate pay-as-you-throw (PAYT) municipal solid waste collection systems as an alternative to traditional flat rates. This report includes a comparative analysis of PAYT implementation and impacts in U.S. cities similar to Milwaukee. The analysis also examines potential impacts of reduced solid waste generation should Milwaukee implement a variable price structure. To evaluate the policy alternatives, the report considers the efficiency, effectiveness, equity, and ease of implementation in the current program, a multiple cart PAYT alternative, and a weight-based PAYT alternative.

Research Question

Which PAYT garbage collection system, that can be practically implemented, most effectively covers Milwaukee's solid waste and recycling costs while equitably charging residents for their solid waste output?

Definitions

The following definitions are used in this report:

- **Bin**: A small container used for recycling collection, typically less than 20 gallons in size.
- Cart: A wheeled receptacle used for municipal solid waste, recycling, or yard waste collection. Typical cart sizes range from 30 to 128 gallons.
- Municipal solid waste (MSW): Household garbage that is taken to a landfill or incinerator.
- Pay-as-you-throw (PAYT): Any MSW collection system that charges users a variable price based on the amount of waste they dispose of. PAYT systems are typically volume-based, but some are weight-based.
- **Recycling:** Any goods accepted by the municipal recycling program. It is illegal to dispose of recyclables in a landfill, although this is rarely enforced (Prohibitions on Land Disposal and Incineration 2008).
- **Tipping fee:** The charge, typically in dollars per ton, for unloading solid waste at a landfill.

Background

Traditional municipal solid waste programs charge households a flat fee for MSW collection and/or include garbage collection fees as part of the property tax levy. The rate per household applies uniformly regardless of the amount of waste generated. PAYT solid waste programs utilize variable rates that charge households for collection based on the amount of MSW they generate. PAYT systems fall into volume-based and weight-based categories, described in the following section (U.S. EPA 2008b).

Volume-Based PAYT Systems

These systems charge variable rates based on the volume of municipal solid waste a household generates. Volume-based PAYT systems commonly take three implementation forms:

1. **Prepaid bags:** This system uses uniquely colored or marked trash bags for solid waste collection. Residents purchase the bags from the municipality or local retail outlets, and they must place all garbage in these bags. The cost per bag is set to cover all or part of the solid waste collection service plus a small fee for retail outlets distributing the bags.

Advantages: Prepaid bag systems are relatively easy to administer, simple for customers to understand, and provide a strong incentive for customers to reduce their MSW. Prepaid bag systems are compatible with existing billing systems and may allow for the elimination of billing for MSW collection all together.

Disadvantages: Prepaid bag systems are incompatible with the automated and semi-automated MSW collection trucks used by most mid-sized and large municipalities as they require collectors to manually check the bags and load them into the truck. Prepaid bag systems also result in unsteady revenue streams for the municipality since customers may purchase large numbers of bags at one time and then none for a number of months. Noncompliant bags are generally not collected, which can lead to solid waste accumulation for households.

2. **Prepaid tags:** This system functions similarly to prepaid bag systems, except residents purchase tags or stickers to attach to their own trash bags. **Advantages:** Prepaid tag systems have the same advantages as prepaid bag systems with the additional advantage that tags are smaller than bags and easier for retailers to handle.

Disadvantages: Prepaid tags have the same disadvantages as prepaid bags.

3. **Multiple cart** sizes: This system uses different sized MSW carts and charges residents based on the size of their cart. Most municipalities using this system offer two or three cart sizes, although some offer as many as six. Many communities using multiple carts also utilize a prepaid bag or tag system for MSW items exceeding the cart size.

Advantages: Multiple cart programs are compatible with automated and semi-automated MSW collection vehicles used in many municipalities. In municipalities moving from a single cart program to a multiple cart program, customers are already familiar with how the cart and collection system works. Multiple cart programs are relatively easy to administer once the billing system is established.

Disadvantages: Multiple cart systems provide no economic incentive to customers to reduce their waste unless they can reduce it enough to move to a smaller cart size; this can be partially overcome by offering a large number of cart sizes. The purchase of a large number of carts to implement the program and billing administration can be costly for municipalities.

Weight-Based PAYT Systems

These systems weigh MSW during collection and bill residents per pound of MSW they generate.

Truck-mounted scales: Most weight-based systems utilize carts and a scale on the collection vehicle. The collection vehicle scans a bar code or radio frequency tag on the cart, weighs the cart as it is emptied, and records the cart number and weight in an on-board computer. This information is then uploaded into the billing system.
 Advantages: Weight-based systems provide the greatest incentive for residents to reduce waste, as they can see a clear cost reduction with even small reductions in waste. Weight-based systems are compatible with automated and semi-automated collection vehicles when outfitted with the appropriate equipment. The systems are simple to understand and generally perceived as the most equitable form of PAYT (Skumatz 1995).
 Disadvantages: The equipment needed to accurately weigh MSW and bill residents may be complicated and more expensive than other options (U.S. EPA 1994). Additionally, billing administration can be more complex. To date, weight-based PAYT programs in the United States have been limited

Despite disadvantages in all PAYT systems, numerous communities nationwide have found it beneficial to adopt various forms of these systems to reduce solid waste output, promote greater equity, and increase recycling by residents (Miranda and Aldy 1996; Skumatz and Freeman 2006).

to a number of pilot programs and a handful of municipalities.

PAYT Links to Recycling

Successful PAYT programs operate in conjunction with comprehensive recycling programs. This allows residents to reduce much of their waste, and therefore their MSW bill, by increasing their recycling rates. The municipality benefits to the extent that recycling lowers landfill tipping fees and potentially increases revenue from the resale of recyclables.

Milwaukee operates a residential recycling program that collects recyclables monthly from the majority of households using 95-gallon carts, although a portion of the city uses 18-gallon bins and receives weekly collection. In 2008, the Milwaukee Comptroller conducted an audit of the city's recycling program at the request of the Common Council. The audit highlighted anecdotal evidence that many households completely fill their recycling carts in less than one month (Morics 2008). This implies that residents have little opportunity to increase their recycling rates under the monthly collection schedule and, as a result, residents may encounter difficulty reducing their MSW output. The audit recommended that Milwaukee conduct feasibility studies of moving to biweekly recycling collection throughout the city (Morics 2008). Biweekly collection allows households that fill their recycling carts before collection to increase their recycling rates. Increased residential recycling presumably results in less solid waste, which in turn results in smaller MSW bills for households under a PAYT program and lower tipping fees for the city.

To implement a successful PAYT program, the city must ensure that residents are able to recycle as much of their waste as possible. Monthly recycling collection provides inadequate opportunity for residents to increase recycling rates. Implementation of a PAYT system should be accompanied with an increase in residential recycling capacity, accomplished through increased collection frequency.

Rationale for PAYT

More than 7,000 American communities operate PAYT systems, covering 25 percent of the population and 30 percent of the nation's largest cities. This has led to the diversion of 6.5 million tons of MSW per year from landfills. Wisconsin ranks among the states with the most communities using PAYT systems, with more than 500 programs (Skumatz and Freeman 2006).

PAYT offers a market-based solution that encourages behavioral changes that serve the public welfare (Folz and Giles 2002). Economists often advocate unit-pricing approaches like PAYT because of their efficiency (Van Houtven and Morris 1999). Residents frequently overuse solid waste services in a flat fee system because local tax levies or flat fees for solid waste collection remain largely invisible to consumers (Van Houtven and Morris 1999). Essentially, flat fees and property-tax-based MSW systems break the link between the act of discarding waste and the payment for collection services. Households face the same cost regardless of how much MSW they generate, with little or no incentive to produce less waste. This can lead people to generate more MSW than they would if charged a variable rate.

In contrast, PAYT systems support efficiency and effectiveness goals by assigning proportional charges to various levels of service. A properly designed unit pricing system charges households based on the amount of waste management services they use (Van Houtven and Morris 1999). Many PAYT systems reduce overall MSW, allowing cities to extend collection routes, reduce the size and increase the automation of truck fleets, and reduce the number of collection crews or crew sizes. Less MSW may also reduce landfill tipping fees and the city's transportation costs and extend landfill life (Folz and Giles 2002). Additionally, PAYT systems promote equity because they reflect individual MSW service usage and enable residents to exercise some control over their solid waste collection costs (Skumatz and Freeman 2006; Folz and Giles 2002).

PAYT systems encourage recycling and composting. According to a Duke University study, communities experience a 20–35 percent increase in the weight of materials going through their recycling and composting programs after implementing PAYT (Miranda and Aldy 1996). Milwaukee's main recycling facility operates at only half capacity, ready to process additional recycling expected under a PAYT system (R. Meyers, personal communication February 26, 2009).

Overall, PAYT provides a link between behavior and bills. Research shows that the average tonnage of waste disposed is 16–17 percent less in PAYT communities than comparable non-PAYT communities, with approximately one-third of this reduction attributable to source reduction, one-third to increased recycling, and one-third to composting. PAYT proves to be one of the most cost-effective methods to promote waste reduction (Harrison 2000).

Methodology

This section describes the methods of our investigation of PAYT programs employed in United States cities comparable to Milwaukee. This section also describes the methods, data, assumptions, and limitations in developing our quantitative analysis of the policy alternatives.

Comparable City Selection

We investigated PAYT programs in American cities that are comparable to Milwaukee to better understand the potential costs, benefits, and other impacts of implementing PAYT in Milwaukee. Identification of eligible cities began with the U.S. Environmental Protection Agency's website, which provides extensive resources on PAYT communities and programs (U.S. EPA 2008a). Initial criteria for comparable cities included populations between approximately 250,000 and 750,000, although a few cities beyond this range were included to broaden the selection, including Eau Claire, the largest municipality in Wisconsin using PAYT.

We also considered racial and ethnic composition, income and poverty data, and the ratio of owner- versus renter-occupied housing when selecting the most comparable cities. Finally, we included climate, particularly annual snowfall, because municipal snow removal equipment and labor needs overlap with that of MSW collection in Milwaukee. The additional data came from the U.S. Census Bureau's American FactFinder webpage (http://factfinder.census.gov) and the National Oceanic and Atmospheric Administration Satellite and Information Service webpage (http://cdo.ncdc.noaa.gov). From this research, we established an initial sample of 14 comparative cities.

Comparable Cities Data Collection

We collected PAYT program information specific to each city in the sample from each city's official website. We eliminated Eau Claire from the comparison because the city uses a system of multiple private haulers, each offering slight variations of PAYT that would have little in common with a Milwaukee program.

Next, in March 2009, we telephoned individuals working for each of the remaining 13 municipalities. Initial contact targets included directors of public works or solid waste or recycling management departments. If our first contacts were unable to provide specific information regarding PAYT, we asked them to direct us to a source better able to do so. Upon reaching the appropriate contact, we confirmed the details of the city's PAYT program. At this point, we eliminated Albuquerque, New Mexico, because the city's program details did not represent full PAYT implementation, and Oakland, California, due to an inability to access data from the city's private contractor. San Francisco, California, gave no response after repeated contact attempts, resulting in a final pool of 10 comparative cities. Similarities to Milwaukee among the final sample of comparable cities are depicted in Table 1. Appendix A describes the criteria used to determine each city's comparability to Milwaukee in given categories.

Table 1: Responding City Comparison

City	Population	Racial Composition	Median Household Income	Families Below Poverty Level	Owner- Occupied Housing	Climate
		45% white/ 55% non-				
Milwaukee, WI	602,782	white or mixed race	\$35,233	21%	49%	seasonal snow
	Me	ost Comparabl	e to Milwauk	ree	,	1
Fort Worth, TX	Yes	No	Yes	Yes	Yes	No
Lansing, MI	No	No	Yes	Yes	Yes	Yes
Minneapolis, MN	No	No	Yes	Yes	Yes	Yes
Sacramento, CA	Yes	Yes	No	Yes	Yes	No
Moderately Comparable to Milwaukee						
Austin, TX	Yes	No	No	Yes	Yes	No
Grand Rapids, MI	No	No	Yes	Yes	No	Yes
Portland, OR	Yes	No	No	Yes	Yes	No
Least Comparable to Milwaukee						
Plano, TX	No	No	No	No	No	No
San Jose, CA	No	Yes	No	No	No	No
Seattle, WA	Yes	No	No	No	Yes	No

Sources: Barrett (2007), National Oceanic and Atmospheric Administration Satellite and Information Service (2009), U.S. Census Bureau (2005-2007)

We asked our final contact within each city to complete a survey administered electronically using SurveyMonkey (http://www.surveymonkey.com). The survey questions were designed to obtain a more detailed understanding of PAYT implementation, effectiveness, and other issues specific to each city. When possible, we created multiple choice questions based on our research of typical PAYT programs in order to make the survey more user-friendly. We also provided opportunities for the respondent to expand on answers in narrative form. Seven contacts responded immediately. The remaining three cities were resent the survey after seven to 10 days passed without response and each city subsequently responded. In total, we received 100 percent survey response from our 10 comparative city sample. See Appendix B for the complete survey and responses.

Milwaukee MSW Generation Distribution

The City of Milwaukee does not collect household level data regarding the amount of MSW residents generate. The finest level of data available for this analysis lists the average weight of solid waste collected per route during an eight-month period in 2007 (City of Milwaukee 2007). These data allow for analysis of routes and provide an overall average MSW weight per household. However, without more specific data, the distribution of average MSW weight per household remains unknown. In other words, we cannot know exact amounts of solid waste each household generates.

The lack of household-level MSW data presents particular problems with regard to the multiple cart PAYT program alternative. Knowing household MSW output allows us to estimate the number of households that will choose each cart size and appropriately set pricing for the different sizes. The lack of data also creates problems in determining an equity index for this project. The equity index serves as a measure of price paid per unit of MSW by households. To overcome these data limitations we made certain assumptions and produced multiple scenarios about the distribution of MSW in Milwaukee (see Appendix C for full details).

Setting Prices for Each Alternative

A program's full cost recovery depends on accurate establishment of prices for MSW collection. Prices represent the total amount of money paid for collection services, whether as a flat fee, volumetric charge, bag or tag price, or a combination of these charges. Costs that need to be recovered include personnel expenses, administrative costs, capital costs, collection expenses, and tipping fees.

Of these expenses, only the tipping fee varies significantly with the amount of MSW collected. To illustrate this, consider two households. One household disposes of 1 pound of waste per week, while the other disposes of 100 pounds each week. Milwaukee's collection costs for both households are the same, but disposing of the waste from the one pound household costs much less than from the 100 pound household. However, Milwaukee's tipping fee constitutes only a fraction of the overall cost of the program.

Given this, we determined that the PAYT alternatives should have a flat base fee with a variable fee added to it. The base prices described in this section partially cover the fixed collection costs to Milwaukee, while the variable fee reflects the amount of MSW disposed as well as some of the fixed costs.

Pricing for the Status Quo was left at the 2009 rate of \$150 per year.

Pricing for Alternative I, Multiple Cart Sizes, was complex. For this alternative, we devised scenarios using the standard deviations described in Appendix C to find the maximum number of households that might change from their current 95-gallon cart to a 32- or 64-gallon cart. We set annual cart prices at \$48 for a 32-gallon cart, \$96 for a 64-gallon cart, and \$144 for a 95-gallon cart; this represents a \$4 difference per month between each cart size. The pricing differential of \$4 per month is low relative to comparative cities but large enough to remain visible on residents' bills. We placed these annual cart prices into a formula established to set the base price assuming full cost recovery. The base price plus the cart price equals the total cost for MSW collection per household.

Establishing pricing for Alternative II, the Weight-Based Program, was relatively straightforward: We placed the base price of \$50 per year into a formula specifying both full cost recovery for the program and the amount of MSW generated each year. The formula produced the price per ton of MSW that the City would charge to customers based on those factors. This price could then be converted into a price per pound that customers understand is more easily.

Sample budget and pricing tables for the status quo and each alternative are presented in Appendix D.

Comparative Cities Analysis

Our survey results from comparable cities show that Milwaukee would be a relative pioneer in choosing to implement PAYT. Few similarly sized American cities with PAYT programs exist. Moreover, we find no PAYT systems in Midwest cities with population, climate, and demographics similar to Milwaukee. Given this, we identified cities using PAYT programs with roughly the same profile as Milwaukee. Although Milwaukee remains distinct within the profile of PAYT communities, experiences with the impacts of other PAYT systems nationwide provide valuable information, as many cities resemble Milwaukee in one or more of the comparable criteria categories (see Table 1 and Appendix A).

Survey Responses

The complete survey and survey responses are provided in Appendix B.

Program Descriptions

The PAYT systems surveyed function under varying conditions. All comparable programs service residential homes. In addition, 90 percent of these municipalities collect MSW from two- to four-unit multifamily residences; 30 percent include PAYT in multifamily homes beyond five units. Approximately 44 percent of the cities have unionized municipal employees. Another 22 percent employ non-unionized municipal collectors, and one-third utilize contract labor.

Eight of the 10 survey cities operate with multiple cart systems. The remaining two cities use bag and tag systems only. Of the eight multiple cart communities, three cities use a three-cart system. Two additional cities began with three-cart systems, then later added 10–20 gallon "micro-can" sizes. Cities most comparable to Milwaukee, where at least four of the six criteria match "yes" in Table 1, include Fort Worth, Sacramento, and Minneapolis. Each uses multiple cart systems.

Many cities using multiple cart systems identified customer choice and a variety of household family sizes as reasons for their cart size offerings. Eighty percent of responding communities identified increasing recycling as a goal tied to their programs. Seventy percent also wanted to increase their municipality's diversion rates, decrease trash output, and promote equity by charging unit rates with variable pricing systems.

Most comparable cities allow MSW in excess of the cart limit for an additional fee. Three cities require prepaid bags or tags for additional waste. These items are available for purchase at grocery stores or retail outlets. Three other cities collect MSW beyond the cart limit and bill the household for additional service. One city allows bulky waste set outs beyond the cart limit one time per month.

Program Implementations

Two-thirds of the PAYT communities surveyed conducted pilot programs in their implementation process. Examples include a one-year pilot of 3,000 households in Austin and pilots with 17 neighborhoods in San Jose. Full-scale implementation varied by municipality. While Austin used a three year phase-in process for PAYT, five other communities moved directly from pilot programs to full implementation, and three cities moved directly from flat rate systems to full implementation without a phase-in period.

Almost 90 percent of the comparable cities promoted their PAYT programs to residents through education and outreach efforts. Cities used a broad range of techniques, from information included with the utility bill to public service announcements on radio and television, press releases, advertising, and news articles.

Seven cities identified a need for program change in conjunction with or subsequent to implementation. These include the introduction of smaller can sizes and changes such as switching recycling to carts from bins that are unrelated to the institution of PAYT. Six cities required administrative or billing changes for their MSW program. Necessary investments included software purchases; system adjustments for each new can size; expanded customer data, including tracking carts by serial number; and, in some cases, entire billing system overhauls. Specific cost estimates for enacting such changes were not specified by survey respondents and follow-up calls to comparable cities yielded no specific investment amounts.

Program Results

Seven of the 10 cities surveyed report decreases in MSW tonnage under their PAYT systems. Reductions varied in terms of landfilled tonnage and actual MSW collected. For example, Fort Worth reports a 12.5 percent tonnage decline and 25 percent less in MSW collections. San Jose reports average weekly household MSW rates at approximately 96 gallons prior to PAYT and averages near 32 gallons per household after program implementation. Austin reports an initial decrease in tonnage that leveled off in subsequent years. Three respondent cities indicate tonnage rates similar or higher under a PAYT system to that under flat rates. Respondents report total landfill diversion rates from 22 percent in Fort Worth to 52 percent in Sacramento and 60 percent in San Jose.

These findings reinforce research that shows households alter disposal behaviors, purchasing habits, and recycling rates to reduce output with a PAYT system (Skumatz and Freeman 2006). The research and our comparable cities survey show no noticeable illegal dumping or additional littering as a method for residents to reduce the MSW in their carts (Van Houtven and Morris 1999; Skumatz 2008). Instead, the survey shows 80 percent of cities report recycling increases that complement MSW reduction. Fort Worth indicates an average weekly household increase in recycling from 3.92 pounds in 2002 before PAYT,

to 11.59 pounds the year after PAYT implementation, and 13.54 pounds in 2008. Other cities reflect similar results, with recycling tonnage rising from 12,000 tons per year to 40,000 tons per year in Sacramento and a 23 percent increase in Portland. The two municipalities without increases have recycling rates similar to those seen before PAYT.

Some limitations of PAYT systems are apparent in the survey results. Only two-thirds of responding municipalities achieve full cost recovery under their programs. Another 11 percent report higher revenues under PAYT, but fall short of cost recovery, and two cities, or 22 percent, indicate the same revenues now as they experienced prior to PAYT. However, these shortfalls represent a program design limitation and are not PAYT specific. Fort Worth initially experienced some difficulty with full implementation due to the large number of households served. Portland also notes the revenue difficulty for municipalities due to low recycling resale rates in current recessionary economic conditions. Austin finds inefficiency with the additional prepaid bags outside carts, due to incompatibility with a semi-automated collection system. Despite pricing structures to encourage the use of a larger bin size as opposed to extra bags, some residents continue to use additional bags.

Comparative Cities Summary

Overall, the majority of comparable cities with PAYT programs use multiple cart systems. These programs work with union and non-union labor hired by the municipality or a contractor. Sixty percent of municipalities reported a need to retrain collection employees on the new system, which generally included minor actions, not significant investments. Nearly all survey cities took steps to prepare, such as resident education efforts, pilot programs, or both, before introducing PAYT to their communities. Many cities also adjusted their billing systems to accommodate variable pricing, but respondents did not specify adjustments or associated costs.

Once implemented, the comparable cities generally experienced MSW tonnage declines paired with recycling increases. Two multiple cart cities added more cart sizes in later years in the form of 10-20 gallon "micro-cans" in response to MSW reduction trends. Other cities reported only modest gains in terms of revenue and MSW reductions under PAYT, and a few results could be considered neutral. Other limitations under PAYT include insufficient pricing gaps to create incentive for cart size changes and inconveniences from manual pickup of additional bags or tagged items.

Policy Options and Analysis

This section describes the three policy alternatives evaluated in this report: the status quo solid waste collection program, PAYT using multiple solid waste cart sizes, and PAYT using weight-based solid waste collection. The alternatives are analyzed in the context of the evaluative criteria of efficiency, effectiveness, equity, and ease of administration.

Selecting Viable Alternatives

The administrative and equipment capabilities of Milwaukee and information gathered from comparable cities narrow the list of appropriate PAYT policies for analysis. Among specific PAYT options, both weight-based and volume-based systems serve as feasible options.

Within volume-based options, bag and tag PAYT programs are widespread throughout Wisconsin and the United States (U.S. EPA 1999a). These programs offer relatively simple administration and eliminate the need for a billing system (Folz and Giles 2002). However, bag and tag programs require manual collection of MSW to ensure residents' proper use, along with a distribution system through local retailers or the municipality for selling the appropriate supplies. Manual collection aligns best with smaller communities. The largest bag or tag system in Wisconsin operates in Manitowoc, with a population of approximately 34,000; Milwaukee is approximately 18 times larger in population and faces significantly different logistical challenges relative to small communities (U.S. EPA 1999b). Many communities including Milwaukee have moved to automated or semiautomated collection systems to speed MSW collection and reduce potential workers' compensation claims stemming from lifting and moving trash bags into trucks. Bag and tag systems lack compatibility with automated or semi-automated collection vehicles, like those used in Milwaukee. Milwaukee's size and semiautomated collection system eliminate bag and tag programs from further consideration in our analysis.

The remainder of this section compares the City of Milwaukee's current MSW and recycling collection program with two alternatives: a weight-based program and a multiple cart system.

Policy Criteria for Evaluation

The following policy goals guide our evaluation of the alternatives. Appendix E provides a detailed description of the development of the criteria.

Efficiency: An efficient PAYT system diverts the greatest amount of MSW, while charging the lowest possible fee for customers and using the fewest taxpayer dollars in the long run. To evaluate this, we consider capital investments relative to potential savings and new benefits of the PAYT alternatives. Full program cost recovery also serves as an efficiency metric for Milwaukee. We define cost recovery as the percentage of

program expenses paid by program income.

- Effectiveness: Guidelines for effectiveness include resident compliance with the collection program. Physical impacts, such as changes in MSW diversion and recycling rates, also measure effectiveness. A more effective program creates higher MSW diversion and recycling rates.
- Equity: Equity measures the ability of a program to charge residents based on the amount of service they consume, or, in other words, the amount of solid waste they generate. We defined an equity index to consistently measure the relative fairness of each policy alternative. This index shows the ratio of the prices paid between those that generate the most MSW and those that generate the least. An index of 1.0 indicates the most equitable system possible, where all residents pay the same price for each unit of MSW they generate. By comparison, an index of 2.0 indicates that households generating the least MSW pay twice as much per unit of MSW as those generating the most waste.
- Ease of implementation: This criterion examines the administrative requirements of the status quo and alternatives to compare the structural changes and information dissemination necessary for implementation.

We also consider political feasibility in our analysis. Because the City of Milwaukee has expressed interest in a PAYT program, we believe a full analysis of benefits and limitations under various alternatives will yield an acceptable result for the client. Therefore, feasibility discussion within each alternative occurs within the cost and administrative aspects listed in our policy goals, rather than as a stand-alone criterion for evaluation.

Status Quo: Current Milwaukee MSW and Recycling Collection Program Milwaukee's solid waste program provides weekly collection of refuse from all single-family and multi-family homes with up to four units, totaling approximately 190,000 households. Recycling collection using 95-gallon carts occurs approximately once per month for most households, although 15 percent of households have weekly recycling collection using 18-gallon bins. Households pay a \$150 annual flat fee for MSW and recycling collection, which covers approximately 91 percent of the \$35.7 million combined program budgets for 2009. Milwaukee covers remaining costs through revenue from the resale of recyclables, state recycling grants, and the local property tax levy.

Households place their solid waste in 95-gallon carts, which two-person crews empty weekly using semi-automated collection trucks. The semi-automated system requires operators to connect the cart to the truck, which then automatically empties the cart. Households may request a second cart at no additional charge if they consistently produce more than 95 gallons of MSW per week. Residents may also place up to 4 cubic yards of additional solid waste out

with the cart for collection at no charge. More than 4 cubic yards of waste or large items require special pickup at a \$50 fee. Table 2 depicts the various services and charges under the status quo.

Table 2: Description of Status Quo: Current Milwaukee MSW Collection System

Type of System	Single cart size
Size of MSW Carts	95-gallons
Charge for Single-Cart Service	\$150/year (\$12.50/month)
Charge for Additional Carts	\$0
Charge for Additional MSW (Not in Cart)	\$0 (up to 4 cubic yards/week)
Charge for Special Pickup (Large Items)	\$50/pickup
Charge for Recycling Collection	\$0 (included in MSW collection fees)

Source: R. Meyers, personal communication January 30, 2009

Most Milwaukee households also use 95-gallon carts for recycling collection. These carts have a divided interior for separation of paper recyclables from glass, metal, and plastic recyclables. No set schedule exists, but Milwaukee collects recycling approximately once per month. Approximately 28,000 households use 18-gallon bins for their recycling collection. Bin use occurs in central city areas that have a majority of rental properties and alley pick-up service rather than curbside collection. Milwaukee collects bin recyclables weekly on set days.

Recycling markets continue to experience sharp variability with the recent economic downturn. Milwaukee contracts with Waste Management Recycle America to process and market recyclables at an annually adjusted fee of more than \$40 per ton. The proceeds from the resale of recyclables are split evenly between the city and Waste Management Recycle America. In 2008, the City received resale revenue of \$58 per ton, resulting in a net income of \$18 per ton after paying the processing fee. The 2009 budget figures in Table 3 rely on projected recycling resale revenues of \$40 per ton. Due to recycling resale declines, the City expects zero net revenue after paying for processing. Should recycling resale values drop below \$40 per ton, the total cost and cost per household figures may rise for collection services. However, overall cost savings can still be achieved relative to landfilling as the landfill tipping fee is avoided.

Table 3: Status Quo: Ongoing Income, Costs, and Cost Recovery

Total Income/Revenue	+\$33,165,000
Total Expenses/Costs	-\$36,325,385
Net Income/Loss	-\$3,160,385
Percentage Cost Recovery	91.30%

Source: E. Shambarger, personal communication February 16, 2009; authors' calculations

Note: Assumes standard deviation of 12.00 pounds, municipal tipping fee of \$30/ton, and 0%

MSW reduction; see Appendix C for more details

Efficiency: Milwaukee's current system presents several opportunities to improve efficiency. The status quo provides little incentive, beyond offering recycling services without additional charge, for residents to divert more MSW. Households

pay the same flat rate regardless of their waste output. As Table 3 shows, the status quo does not achieve full cost recovery. In 2009, Milwaukee expects \$28.6 million in revenue from MSW user and special collection fees. State recycling grants and the resale of recyclables will generate an additional \$4.5 million. These revenue streams cover approximately 91 percent of the total cost for the MSW and recycling programs, leaving a \$3.1 million shortfall that must be covered by the local property tax levy.

The status quo provides efficiency benefits with respect to financial feasibility. The current MSW and recycling system requires little capital investment, limited to regular annual maintenance and adjustments for existing budgetary considerations.

The loss of value for recyclables due to economic recession and rising landfill fees are unfavorable economic trends that will make full cost recovery less attainable without increases in the flat fee. Continuing the current system rather than adopting PAYT maintains Milwaukee's reliance on property taxes to balance the MSW budget. Without change, the combination of these two trends may increase pressure on the budget.

Effectiveness: The status quo results in effective resident compliance. Milwaukee experiences no noticeable issues arising from illegal dumping (R. Meyers, personal communication February 26, 2009). However, this alternative shows less effectiveness due to a lack of incentive for households to divert MSW.

Equity: Flat fee MSW systems lack equity. Under the status quo, all Milwaukee households pay the same rate despite the amount of waste. As a result, residents who create little waste pay a higher rate per pound than residents who generate significantly more solid waste. Using the equity index described in Appendix E, City of Milwaukee households with the lowest disposal rates pay a range of 1.5 to 5.3 times as much per pound as households disposing the highest levels of MSW under the status quo. Appendix D provides detailed equity index calculations under different scenarios in the status quo.

Ease of implementation: Milwaukee's current system requires no implementation changes. Table 4 reflects the potential costs to implementing a different MSW program, but because the status quo is already in operation, there are no upfront costs to this program.

Table 4: Status Quo: Program Startup Costs

New Cart Purchases	\$0
Updated Billing System	\$0
Truck Modification	\$0
Education/Outreach	\$0
Total Startup Costs	\$0

Source: Authors' calculations

Alternative I: Multiple Cart Sizes

Introduction of additional cart sizes for MSW, with higher prices for larger carts, shifts toward a full cost recovery PAYT system by aligning user fees with the amount of MSW collected. Many possible permutations of numbers of carts, gallon capacity combinations, and fee differentials exist when designing an optimal multiple cart PAYT system. Our peer cities survey shows that eight of our 10 responding cities use a multiple cart PAYT system. Of these, three operate a three-cart model, including Fort Worth and Sacramento, two of the most comparable cities to Milwaukee demographically (See Table 1 and Appendix A). In a three-cart model, Milwaukee would maintain the current 95-gallon carts as the largest MSW size option and as the standard size for recycling at all non-bin residences. Two new cart options include 32- and 64-gallon sizes.

By analyzing average tonnage rates for 2007 summer routes, we estimate a range of multiple cart pricing options. To achieve full cost recovery, we consider several scenarios to reflect data variance and two landfill fee scenarios for Milwaukee. Depending on the variables used, each household choosing a 32-gallon cart pays in the range of \$116 to \$136 annually under the multiple cart system. A household with a 64-gallon cart pays \$164 to \$184 per year. A household with a 95-gallon cart pays \$212 to \$232. These rates consist of a base rate plus a variable rate dependent upon the cart size each household chooses (see Setting Prices on page 9 for base rate details and Appendix C for additional details). These charges are shown in Table 5.

Table 5: Description of Alternative I: Multiple Cart Size MSW Collection

Type of System	Multiple Cart
Size of MSW carts	32, 64, and 95-gallons
Base charge	\$68-\$88/year
	32-gallon: \$48/year
	64-gallon: \$96/year
Cart charge	95-gallon: \$144/year
Charge for additional carts	Same as cart charge for first cart
Charge for additional MSW (not in cart)	\$3/30-gallon bag
Charge for special pickup (large items)	\$50/pickup
Charge for recycling collection	\$0 (included in MSW collection fees)

Source: Authors' calculations

Beyond the regular cart fees, a multiple cart system commonly involves extra charges for excess waste beyond the cart size. Based on peer city responses and research, we find pricing for additional bags of MSW and special pickups to be critical. Per bag and special pickup pricing may influence the cart size a household selects, and reinforce diversion and recycling MSW behaviors. In this multiple cart model, residents pay a \$3 charge for each 30-gallon garbage bag left outside the cart. Only distinct bags, sold through local retailers, will be collected. We assume that \$1 of each bag's cost will be used to cover administrative costs as well as reimburse retailers for distributing the bags. In addition, excess waste outside the cart, up to 4 cubic yards, costs \$50 per pickup, the same as a special

pick-up request. A second cart costs each household the same amount (base fee not included) as the first cart of the same volume. As an example, a second 64-gallon cart costs \$96 per year in addition to the \$166-\$186 per year for the first 64-gallon cart. Table 6 outlines these charges.

Table 6: Alternative I: Ongoing Income, Costs, and Cost Recovery Projections

Total Income/Revenue	+\$36,386,737
Total Expenses/Costs	-\$36,386,737
Net Income/Loss	\$0
Percentage Cost Recovery	100.00%

Source: Authors' calculations

Note: Assumes standard deviation of 12.00 gallons, municipal landfill/tipping fee of \$30/ton, and 0% MSW reduction; see Appendix C for more details

Efficiency: The multiple carts alternative allows Milwaukee to introduce pricing incentives that influence household disposal behaviors. Using three set monthly rates achieves greater efficiency than the status quo. This alternative requires significant investment in new carts, however, which detracts from efficiency. Current average household MSW rates indicate that instituting a multiple cart system would result in the vast majority of households switching to 32-gallon or 64-gallon carts. This reduces efficiency of the multiple cart system, because significant cart investments will be necessary to meet actual household disposal rates. Most households generate far less than 95 gallons of MSW on a weekly basis (authors' calculations, see Appendix D).

Non-binding price estimates from cart manufacturers Schaefer Systems and Rehrig Pacific Company create the basis for cart investment estimates. Schaefer Systems provides the lower price estimate at \$35 per 32-gallon cart and \$45 per 64-gallon cart. Based on the assumption that households would select the least expensive cart option to meet their MSW needs, we estimate a need to purchase 24,759 to 67,228 of the 32-gallon carts and 107,507 to 165,239 of the 64-gallon carts (see Appendix C). Zero to 15,265 households would keep the current 95-gallon bin. This totals an estimated \$5.7 million to \$9.8 million in capital investment costs for carts alone, using the lowest estimated rates for carts. These costs are reflected in Table 7.

Table 7: Alternative I: Program Startup Costs

New Cart Purchases	\$5,700,000-\$9,800,000
Updated Billing System	\$0
Truck Modification	\$0
Education/Outreach	\$200,000
Total Startup Costs	~\$5,900,000-\$10,000,000

Source: Authors' calculations

Potential exists for modest cost recovery on carts. Milwaukee can eliminate recycling bin costs for several years by reserving the unused 95-gallon carts for this purpose. Milwaukee may also possibly sell any excess cart overstock

back to the product distributor for \$15-\$20 each (Schaefer Systems, personal communication April 3, 2009). Milwaukee could also consider a phase-in period to reduce the financial impact of cart investments in any single budget cycle or consider requiring residents to purchase smaller carts with the recognition that households would recover the cost during the first year of the program.

Effectiveness: A multiple cart system influences household disposal and MSW diversion rates more than the status quo. Multiple carts should garner effectiveness in terms of residential compliance and acceptance because the cart rate remains consistent from one collection period to the next.

Pricing drives diversion rates in this system. Austin uses a \$5 per month gap between cart sizes, which is too small to motivate residents to switch to smaller carts (see Appendix B). Pricing carts and additional MSW services requires balance between incentives and revenues to find the threshold in each community for cart rates.

Equity: Multiple cart options enhance the equity of MSW services. Variable pricing based on household waste output reflects Milwaukee's goal of equitably establishing an MSW user fee system to a greater degree than the status quo, using common guidelines found in other U.S. cities. This alternative enhances both the process and perception of equity in municipalities. The equity index for multiple carts ranges from 1.22 to 4.40. This ranks more equitably than the status quo under all household disposal scenarios.

Ease of implementation: Switching to a multiple cart system would require few changes in the physical collection process of MSW. This system would require notable changes elsewhere, however. For the multiple cart system to work effectively, Milwaukee would need to implement a bag or tag system for excess waste. This includes establishing a network of local grocers and retailers to sell the bags or tags. Billing administration requires investment for modifications as well, although changes would be minor and would primarily require data input time as opposed to actual software changes (E. Shambarger, personal communication April 13, 2009; D. Rasmussen, personal communication April 24, 2009). Billing needs to reflect extra cart charges and collection fees for up to 4 cubic yards of MSW. We anticipate a need for Milwaukee to hire one additional employee or to train a current employee to manage multiple cart billing. This cost is included in all budget scenarios depicted in Appendix D.

Alternative II: Weight-Based Program

Weight-based programs use technology to measure weekly household MSW disposal. Under this alternative, Milwaukee would contract with a company to install weight measuring scales in the lift mechanism of the current semi-automated MSW and recycling collection fleet. During collection, the truck calculates the MSW cart weight through the load cells outfitted in the lifting mechanism. Radio frequency identification transponder chips or bar code tags are attached to each customer's cart. As the lifting mechanism empties the cart, a receiver detects the cart's identification code and sends the registered weight information wirelessly to a computer in the truck. The computer decodes the identification number into a street address and records the average weight of several readings taken during the collection process (McLellan 1994). The data would be transmitted to Milwaukee's MSW billing system. Overall, this process adds less than 10 seconds to the collection (Luken and Smith 1994).

Unlike the multiple cart system, few examples of weight-based PAYT systems exist. In place of comparable cities data, we rely primarily on research and discussions with equipment vendors to evaluate this alternative. We find that Seattle and Minneapolis are among the most comparable communities with published results of weight-based pilot projects.

Seattle conducted the first weight-based pilot program in two phases during 1989 and 1990, with financing from a U.S. Environmental Protection Agency grant. The second phase of Seattle's pilot used semi-automated trucks, like those found in Milwaukee, and electronic identification tags comparable to technology available today. Weights recorded during collection were included in mock billing given to residents as a supplement to their regular, non-pilot MSW fees. Post-project analysis suggests that households accepted the system change and reduced their MSW rates by an average of 15 percent. This is significant because Seattle already operated under an established multiple cart PAYT system. The published case study identifies weight-based PAYT in Seattle's long-term MSW plans. However, more than a decade later, Seattle still uses multiple carts (Skumatz 1995; L. Skumatz, personal communication April 13, 2009).

Minneapolis conducted a pilot test for weight-based systems in the spring and summer of 1993. They installed weight-reading load cells in the lift mechanisms of their semi-automatic MSW collection trucks and recorded household information with electronic identification software. Minneapolis reported good accuracy and scale reliability in a post-pilot report, but ultimately decided against weight-based PAYT due to the short-term nature of their pilot and concerns about an unfamiliar system creating dissatisfaction for customers (Skumatz 1995).

Loadman On-Board Scales, a company based in Texas, specializes in weight-based equipment for MSW collection and recycling trucks. Their representatives contributed cost and accuracy information used in our considerations. Although the technology continues to develop, details for the weight-based alternative

require some speculation beyond our research and interviews. The basic features of the weight-based PAYT alternative are described in Table 8.

Table 8: Description of Alternative II: Weight-Based MSW Collection

Type of System	Weight-based
Size of MSW Carts	95 gallons
Base Charge	\$50/year
Charge per Pound of MSW	7.7–11.1 cents
Charge for Additional Carts	Charged at same rate per pound
Charge for Additional MSW (Not in Cart)	Charged at same rate per pound
Charge for Special Pickup (Large Items)	\$50/pickup
Charge for Recycling Collection	\$0 (included in MSW collection fees)

Source: Authors' calculations

In contrast with the current flat fee system, this alternative would include full cost recovery as a requirement when MSW collection charges are established. This results in income and revenue exactly equaling expenses and costs as shown in Table 9.

Table 9: Alternative II: Ongoing Income, Costs, and Cost Recovery

Total Income/Revenue	+\$36,448,089
Total Expenses/Costs	-\$36,448,089
Net Income/Loss	\$0
Percentage Cost Recovery	100.00%

Source: Authors' calculations

Note: Assumes standard deviation of 12.00 pounds, municipal tipping fee of \$30/ton, and 0% MSW reduction; see Appendix C for more details

Efficiency: Weight-based PAYT offers the highest incentive for efficiency by tying charges to the amount of household MSW. Charging by the pound provides clear incentives for residents to divert the greatest amount of MSW. We project full cost recovery as a result (see Table 9). Moreover, Milwaukee pays fees to the landfill by the ton. A weight-based system creates consistency between the unit of measure the City charges to residents and pays to the landfill.

Converting to a weight-based program would require capital investments in the loading equipment and software. This would include \$14,500 to retrofit each of Milwaukee's 173 rear-loading MSW and recycling fleet. An additional \$570,000–\$950,000 investment would cover electronic tag installation on Milwaukee's carts (D. Hoven, personal communication April 23, 2009). This totals \$3 million to \$3.5 million for fleet retrofitting, cart tags, and software investments. If Milwaukee refrained from retrofitting its 49 recycling trucks, capital investments would drop to \$2.2 million to \$2.6 million. However, retrofitting the recycling trucks might prove beneficial in the event that Milwaukee needed to deploy MSW trucks for other purposes.

This truck system also requires approximately \$36,000 in expenditures to make Milwaukee's billing system compatible with the weight-based equipment (D. Hoven, personal communication April 23, 2009; K. Klawitter, personal communication, April 24, 2009). In addition, two additional municipal staff positions may be required. These include one billing administrator for the weight-based system and a municipal technician for equipment service and maintenance. The price scenarios in Appendix C include two new employees, paid \$40,000 each annually and the associated fringe costs. Alternatively, Milwaukee may invest in training current employees to manage these functions. For the weight-based system, capital and additional staff investments total significantly less than the multiple cart alternative, although future maintenance costs remain unclear.

Effectiveness: Weight-based systems create little visible change in the physical process of collection services from residents' perspective. The primary concern arises in the need for Milwaukee to explain cost changes, the purpose behind them, and the new billing method to which residents must adapt. Otherwise, problems may surface with resident compliance. Residents may find a different monthly MSW bill unacceptable, compared to a consistent rate under the status quo or multiple cart system. With the proper outreach and education, opportunities under weight-based systems are extensive for diversion and recycling behavioral change. Milwaukee can charge a set rate per pound to achieve greater program cost recovery than under the status quo.

One concern with this alternative is that residents may subvert the weight system by, for example, disposing of MSW in a neighbor's cart. Research frequently examines this concern and consistently finds no evidence of this occurring (Folz and Giles 2002; Morris and Van Houtven 1999; Harrison 2000). Other concerns include "migrating" carts that do not remain with their assigned households. This may be best solved by stenciling the assigned address on each cart, although this complicates reuse of carts at other addresses. Electronic tagging can also tie each cart to a specific household, allowing Milwaukee to pinpoint carts that have been separated from their households. While using electronic tags without stenciling does not allow residents to know if they have their own carts, residents could label their own carts at their own expense.

Equity: In terms of paying for service use, weight-based PAYT programs promote the greatest equity of any alternative, outscoring the status quo and multiple cart system in all but one scenario. The equity index for Milwaukee in the weight-based model ranges from 1.09 to 1.80. In theory, weight-based systems could achieve an ideal 1.0 equity rating, where all households pay the same rate per pound of MSW. However, our pricing operates with a \$50 annual base fee, which makes a 1.0 equity rating unattainable.

Ease of implementation: A weight-based MSW collection system would function nearly identically to the current system in use in Milwaukee. In fact, residents would likely only notice changes in their bills. Under this alternative,

semi-automated trucks would collect MSW from 95-gallon carts. Loadman On-Board Scales sends technicians to install the weighing equipment between the city MSW truck bodies and the lifting mechanism. The trucks weigh the waste as it is emptied into the truck, and the weight is logged in the billing system. Because all MSW can be weighed, no additional fee would be charged for extra carts or for additional MSW outside the cart. Extra MSW would be placed into the household cart, weighed during a second emptying cycle, and included in the total weight billed for that week. Households that regularly generate excess MSW beyond 95-gallons would receive another RFID-tagged cart to save the manual labor of loading extra bags for a second weigh cycle. Single, odd-shaped items that do not fit in the cart, but are not considered laborious special pick-up items, may be collected free of charge once per month. These items constitute only a negligible percentage of MSW collection. Table 8 depicts the various services and charges under the weight-based alternative.

Equipment effectiveness relative to performance certification requirements is a concern with weight-based PAYT. A suburban Minnesota pilot encountered difficulties meeting state-mandated weight accuracy standards with its truck scales. When charging residents per pound of refuse, the scale needs to reflect the same accuracy as the fee structure. Streets on hills or sharply crowned roads may compromise some scale types when tilting more than 3 degrees (Luken and Smith 1994). Loadman On-Board Scales guarantees scale accuracy within a 1.5 percent margin of error. For a home disposing of 30 pounds of MSW per week, this means the scales and recording equipment will register a weight between 29.55 pounds and 30.45 pounds (K. Klawitter, personal communication April 3, 2009). The manufacturer claims that the scales maintain accuracy on uneven surfaces and guarantees the return of equipment failing to meet performance standards (K. Klawitter, personal communication April 3, 2009 and April 24, 2009).

Loadman runs full testing with Bayne MSW collection vehicles, including the TaskMaster and TaskMaster Hi-Lift models used in Milwaukee. With this partnership and equipment familiarity, Milwaukee may avoid some of the implementation challenges other pilot programs faced in the 1990s. Currently, the equipment meets Wisconsin Department of Agriculture, Trade, and Consumer Protection guidelines for commercial maintenance accuracy. The agency's initial equipment test uses more restrictive weight tolerances though, which may require the passage of legislation to allow the equipment's use in Milwaukee. Overriding the initial tolerance does not detract from the regular truck scale performance requirements. The legislative action does, however, create an additional political acceptability consideration for the weight-based alternative.

Weight-based systems also involve greater administrative complexity than the status quo or multiple carts. Weekly variability in billing rates per household requires more attention than a flat rate or established cart rate during the three-month billing accrual period. Milwaukee may choose to adapt the current billing system, similar to the way water meter reading occurs, to accommodate weight-

based billing (D. Rasmussen, personal communication April 24, 2009). This can be accomplished through the Loadman company's software writing capabilities for a onetime fee (K. Klawitter, personal communication April 24, 2009). Rehrig Pacific Company could also replace the current billing software with a web-based system for a \$36,000 annual fee (D. Hoven, personal communication April 23, 2009). Table 10 reflects this and other costs for the weight-based alternative.

Due to the relatively unprecedented use of weight-based PAYT systems, education and outreach efforts to explain the purpose and goals of this system could make implementation easier and enhance the program's effectiveness. Adoption of a weight-based system also would require corresponding changes to Milwaukee's recycling systems, such as increased collection frequency or larger bins, to handle expected increases in recycling volume (Skumatz and Freeman 2006).

Initial startup expenses are lower for this alternative than for the multiple cart alternative. An estimate of program startup costs is provided in Table 10.

Table 10: Alternative II: Program Startup Costs

New Cart Purchases	\$0
RFID Tags for Existing Carts	~\$570,000 - \$950,000
Updated Billing System	~\$36,000
Truck Modification	~\$2,500,000
Education/Outreach	\$200,000
Total Startup Costs	~\$3,306,000 - \$3,686,000

Source: Authors' calculations

Recommendation and Conclusion

Based on analysis of research, comparable cities, City of Milwaukee data, and various alternatives, we recommend the weight-based PAYT system. The weight-based system creates the greatest efficiency and effectiveness with the least equity disparity among our alternatives. While less empirical information exists about the use of weight-based systems relative to other PAYT programs, Milwaukee benefits financially from substantially lower capital investment in weight-based equipment. The weight-based system presents implementation concerns to the extent that it requires more investment in maintenance, in the form of a municipal employee and potential equipment repairs. However, our calculations project that intermittent maintenance, staffing, and billing under a weight-based system require substantially less investment, even over a 10-year time horizon, than the additional millions of dollars in upfront costs necessary to implement a multiple cart system.

To ease the implementation process, we recommend that Milwaukee conduct a one-year pilot program that encompasses approximately 10 percent of the city's collection routes. Pilot programs for various aspects of MSW collection have been used in Milwaukee in the past (R. Meyers, personal communication February 26, 2009). A comprehensive pilot program could verify efficiency and effectiveness of the equipment and billing systems prior to full-scale implementation. Additionally, a one-year pilot would ensure that the equipment functions properly under all weather conditions. The lack of weight-based models and historical PAYT funding opportunities through the U.S. EPA may create possibilities for federal funding to support such a program (See Appendix B, Question 11). In addition, scale manufacturers have an economic incentive to provide equipment on favorable terms or at reduced prices to the extent that successful demonstration may open up new markets for them. Throughout the pilot process, detailed data tracking for waste collected per household will help to inform effectiveness of weight-based PAYT and contribute to Milwaukee's knowledge of MSW and recycling trends in the current flat rate system.

The new and generally unfamiliar weight-based program requires extensive education and outreach to residents to explain the transition to PAYT. These efforts could include information dissemination through billing statements, media outlets, advertisements on buses, and online resources. During the pilot period, Milwaukee might wish to institute a "dual billing" system to show residents their current flat fee monthly rates in comparison to the rates they would pay under a weight-based system. Milwaukee might consider sharing data with residents to show how their amount of garbage compares with other households on their route. Evidence from utility companies shows that social factors, such as neighbor comparisons, can add effectiveness to rolling out new programs. Some systems use graphics included with municipal service bills to demonstrate collection rates compared to the average and to those who throw away the lowest weight of solid waste (Ceniceros 2008; Kaufman 2009).

In conjunction with broad and effective communication enhancing political support for PAYT, some administrative changes can boost public acceptance. Communities attribute actions such as visibly removing the trash fee from the tax levy before imposing PAYT as being key to their success. Other communities attribute their success to receiving input from haulers when designing the PAYT program or using a pilot program or a phase-in approach for the PAYT program (Skumatz 2008).

Implementation of a weight-based Pay-as-You-Throw system will allow Milwaukee to enhance the efficiency and cost effectiveness of its municipal solid waste collection. While the lack of a weight-based operation in the United States creates some concerns, this alternative promotes the greatest equity and requires the least upfront capital investment of the PAYT alternatives. This alternative also meets Milwaukee's needs while making the greatest use of existing equipment and carts. Experts identify weight-based PAYT as the ideal system to reduce MSW generation, increase recycling, and create a sense of personal responsibility for households with respect to their waste. Implementing weight-based PAYT provides a genuine opportunity for Milwaukee to lead comparable cities and the rest of the United States in municipal solid waste service design and delivery.

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Appendix A: Comparative City Selection Criteria

We administered a survey to a sample of 10 U.S. cities with PAYT programs. Within the final sample of responding cities, we denoted in Table 1 whether these cities were sufficiently comparable to Milwaukee based on specific criteria, including population, racial composition, median household income, families below poverty level, type of housing occupancy, and climate. Table 11 depicts the data on which we based our comparisons.

Table 11: Comparative Cities Data

City	Population	Racial . Composition	Median Household Income	Families Below Poverty Level	Owner- Occupied Housing	Climate
		45% white/ 55% non-				
Milwaukee, W!	6 02,782	white or mixed race	\$ 35 ,2 33	21%	49%	Seasonal snowfall
Austin, TX	725,306	64/36	\$48,227	13%	47%	No
Fort Worth, TX	635,612	62/38	\$44,804	14%	59%	No
Grand Rapids, MI	193,671	67/33	\$38,792	17%	62%	Yes
Lansing, MI	115,366	67/33	\$35,990	20%	59%	Yes
Minneapolis, MN	362,513	68/32	\$44,478	16%	54%	Yes
Plano, TX	255,591	76/24	\$79,687	4%	67%	No
Portland, OR	541,550	79/21	\$45,512	11%	57%	No -
Sacramento, CA	446,721	50/50	\$4 8, 584	12%	52%	No
San Jose, CA	8 98,901	49/51	\$76,354	7%	62%	No
Seattle, WA	565,809	71/30	\$56,319	7%	51%	No

Sources: Barrett (2007), National Oceanic and Atmospheric Administration Satellite and Information Service (2009), U.S. Census Bureau (2005-2007)

Cities in Table 1 received a ranking of "Yes" in each respective category if the following standards were met relative to Milwaukee:

- Population: Within 200,000 residents
- Racial Composition: Within 10 percent of white and 10 percent of nonwhite or mixed race residents
- Median Household Income: Within \$10,000 per household
- Families Below Poverty Level: Within 10 percent of families
- Owner-Occupied Housing: Within 10 percent of owner-occupied housing units
- Climate: Experiences regular seasonal snowfall

Cities that did not match the preceding standard received a "No" in the corresponding category.

Appendix B: Comparative City PAYT Survey Results

To better understand the potential costs, benefits, and impacts of pay-as-you-throw programs, we surveyed 10 U.S. cities that use them: Austin, TX; Fort Worth, TX; Grand Rapids, MI; Lansing, MI; Minneapolis, MN; Plano, TX; Portland, OR; Sacramento, CA; San Jose, CA; and Seattle, WA. They are comparable to Milwaukee in size, population, demographics, and climate. We asked a contact within each city's government to complete a survey using SurveyMonkey (http://www.surveymonkey.com). We designed the questions to obtain more detailed understanding of PAYT implementation, effectiveness, and other issues specific to each city. When possible, we created multiple choice questions based on our research of typical PAYT programs. We also provided opportunities for respondents to expand on some answers in narrative form. This appendix provides the full comparative survey and results.

Each respondent answered every question. The results below indicate the frequency that respondents chose an answer as well as the actual number of times the answer was chosen. The results also include verbatim text that were typed by respondents into "Other" or "Comments" text boxes as well as answers to open-ended questions.

Question 1: What type of Pay-As-You-Throw system is being utilized by your municipality?

Answer Options	Frequency	Count
Prepaid bags	0.0%	0
Prepaid tags	0.0%	0
Multiple cart sizes	80.0%	8
Other (please specify)	20.0%	2

Other:

- Prepaid bags and multiple cart sizes
- All above options are being used.

Question 2: What cart sizes are used in your system? Check all that apply.

Answer Options	Frequency	Count
10 gallon	12.5%	1
15 gallon	12.5%	1
30/32/35 gallon	87.5%	7
45 gallon	0.0%	0
60/65 gallon	87.5%	7
90/95 gallon	100.0%	8
Other (please specify):	37.5%	3

Other:

- 32, 64 & 96 gallon carts
- 20 gallon
- 20 gallon mini-cans. This size is not supplied by franchised haulers and must be purchased by the residential customer

Question 3: Why were these particular cart sizes chosen?

Answer Options	Count
Open ended question	7

Answers:

- Pilot study indicated need for 95 gallon for once/week collection. 60-68 gallon chosen as incentive for reducing waste. 32 gallons tested but we had problems with collection arm in servicing this size.
- 32 gal was std industry garbage can size. We pretty much worked off of multiples or fractions of that, although the Mini-can that was available is 20 gallon and the micro-can size available is 10 gallon
- Standard 32 gallon increments, Manufacturer Availability
- Based on historical volumes.
- Standard sizes used by cities in Bay Area (CA); also sufficient movement between sizes including the "mini" size of 22 gallons - also all still can receive automated collection
- To provide standardized choice along with two frequencies of service (monthly and weekly) to meet a variety of residential needs. Roll carts supplied by the hauler result in a slightly higher cost than containers supplied by the customer.
- It was a good range of sizes to accommodate all sizes of families.

Question 4: Why was the specific number of cart offerings chosen (two cart sizes vs. three sizes...)?

Answer Options	Count
Open ended question	7

- Started with 32 gal, 64, 96 for customer choice. Then added mini (20 gal) and micro (10 gal) as folks recycled more
- 32 gallon carts for single person households 64 gallon carts for small families and 96 gallon carts for large families
- To offer a wider range of savings to fit the customers' needs.
- Because we have found that there is a variety of needs throughout the community due to different family & household sizes, cultural practices, frequency of service, and other factors; and we wish to avoid the practice of extra set-outs when possible. Please note that recycling & yard debris containers are standardized to ONE size (65 gallon roll carts) and all are provided by the hauler.
- We have a variety of family sizes in Austin.

Question 5: Are residents allowed to place out solid waste that does not fit in their cart?

Answer Options	Frequency	Count
Yes, and there is no additional charge	12.5%	1
Yes, but waste must be in prepaid bags or have a prepaid tag on it	25.0%	2
Yes, and residents are billed separately for additional waste	37.5%	3
No, residents must take additional waste to the dump or hold it for later pickup	0.0%	0
No, residents must call for special pickup	0.0%	0
Other (please describe)	25.0%	2

Other:

- No. Residents have the option of placing items that cannot fit into the cart for once monthly bulky waste collection or taking the items to the transfer stations (limited to 2x per month). We do collect items outside of cart the week after holidays.
- Additional solid waste bags can be placed outside of the cart but each bag must have a \$4.00 sticker which can be purchased at area grocery stores.
 There is an \$8.00 per bag charge for each unstickered bag

Question 6: Why was this specific type of program selected over other Pay As You Throw programs or alternative options? Check all that apply.

Answer Options	Frequency	Count
Compatibility with existing collection equipment	60.0%	6
Ease of implementation	50.0%	5
Accurately charges users for their solid waste output	80.0%	8
Politically feasible	60.0%	6
Other (please specify)	30.0%	3

Other:

- We originally used prepaid stickers for "extra garbage" beyond the cart, but that proved to be a huge hassle.
- Encourage recycling/diversion
- Garbage collection & recycling service is not required for SFR homes unless they are a rental property (all rental property owners & managers are required to provide garbage & recycling to tenants).

Question 7: What were the goals of the municipality in changing to a Pay As You Throw program? Check all that apply.

Answer Options	Frequency	Count
Recovering a higher cost ratio for services provided	20.0%	2
Increasing the solid waste diversion rate	70.0%	7
Decreasing trash output	70.0%	7
Promoting equity for residents by charging per unit rather than a flat fee	70.0%	7
Increasing recycling rates	80.0%	8
Other (please specify)	0.0%	0

Question 8: Approximately how many households are served by the program?

	Answer Options	Count
. [Open ended question	10

Answers:

14,750; 55,000; 68,000; 105,000; 130,000; 150,000; 150,000; 175,000; 195,000; 202,000

Question 9: What types of homes are served by the program? Check all that apply.

Answer Options	Frequency	Count
Single family homes	100.0%	10
Multifamily homes, 2-4 units	90.0%	9
Multifamily homes, 5+ units	30.0%	3
Other (please specify)	20.0%	2

Other:

- Multifamily complexes (regardless of the number of units) currently have an option to choose individual carts or common bins.
- Multi-family includes moorages, group homes, trailer parks, congregate care & retirement facilities, etc.

Question 10: What year was the Pay As You Throw program implemented in?

Answer Options	Count
Open ended question	10

Answers:

■ 1968; 1973; 1989; 1993; 1995; 1996; 1997; 1998; 2000; 2003

Question 11: Were pilot programs conducted before full implementation of the program?

Answer Options	Frequency	Count
No	33.3%	3
Yes (describe the size and scope of the pilot program)	66.7%	6

- 8,000 homes with 32 and 68 gallon containers
- Several thousand homes
- There was a pilot cart program but it was not PAYT. Areas were selected based on varying demographics but all waste was collected with no additional cost.
- From July 1991 thru July 1992 the Solid Waste Department conducted a one year PAYT pilot with 3000 households which tested all elements of the new approach, including different cart sizes and variable rates.

The program began as part of a federal study to determine the feasibility of cost-per-unit collection systems as opposed to flat rate unlimited services in regard to their potential for limiting trash generation.

Question 12: Was the program rolled out to all participants at one time, or was it phased in?

Answer Options	Frequency	Count
All participants at one time	88.9%	8
Phased in (please describe)	11.1%	1

Answers:

- City Council approved a three year, phased in conversion, of the entire city to begin in 1993. Service implementation began with Phase I in Aug 1993, Phase II in June 1994, Phase III-A in Nov 1995, and Phase III-B in June 1996.
- City Council adopted variable rates in July 1997, and all customers citywide were converted to PAYT in 1997.

Question 13: Was there an education or outreach program targeted at citizens alerting them to the changes in solid waste collection and costs?

Answer Options	Frequency	Count
No	11.1%	1
Yes (describe education/outreach programs)	88.9%	8

- Articles in citywide newsletter, press release, website
- Direct mail, print and electronic media advertising
- News articles, water bill inserts, mass mailing
- Bill stuffers and mailers.
- A comprehensive public outreach campaign aimed at single-family households explained the new variable rates being introduced, the new categories of recyclables being added to the services provided, and the benefits of participating. All materials were produced in three languages (English, Spanish, and Vietnamese). The campaign was guided by the information received during a series of focus groups in the three languages, baseline and follow-up telephone surveys, and shopping mall intercept surveys. More than 250 community meetings were held in 1993, and a block leader program and school education program were organized. See EPA case study at
 - http://www.epa.gov/epawaste/conserve/tools/payt/tools/ssanjose.htm
- At the time of implementation, we were bringing several complementary programs on-line. We were adding materials to our curbside recycling program, and expanding our yard trimmings program. Educating the public about PAYT was a comprehensive, multi-media approach to information which included paid advertisement and inserts about program guidelines in the Austin American Statesman, 14 billboards around town

with program guidelines, utility bill inserts about the new extra garbage stickers, radio advertisements and press releases about the message "Recycle or PAYT, it's your choice", direct communication with neighborhoods and new neighborhoods as they were added to the program, door hangers with program guidelines, and bi-monthly newsletters to neighborhood associations, and presentations at neighborhood meetings. To keep awareness of the new program high, messages using the tagline "Recycling Right" and "Take the bin to the curb" were also run during the early stages of the implementation.

- Mailings and school students and advertisements.
- Media releases and mailings

Question 14: Have there been any significant changes to the program since its original implementation?

Answer Options	Frequency	Count
No	30.0%	3
Yes (please describe)	70.0%	7

- Introduced mini can and micro can after initial rollout
- Changed from bi-weekly to weekly.
- No longer offer 128 gallon cart, now offer 22 gallon cart
- Residential solid waste collection has been a franchised service historically in Portland. With the mandate that recycling be available to all residents, there have been multiple changes to the Portland Recycles! program with pilot programs and ongoing training & educational outreach to residents and businesses.
- Garbage collection rates and extra garbage fees have gone up over the years, but recycling is still included in the base rate at no extra charge. Garbage collection is now fully automated. We have just over the last several months switched from the bin system for recycling to a 90 gallon cart based single stream recycling program. We accept more materials in the recycling program and materials can all be co-mingled in the recycling cart
- The addition of various sized carts was implemented in 1997. 21/32/65/95 gallon carts.
- Added the refuse cart program (various sizes). Added appliance stickers and bulk sticker items.

Question 15: Were major changes to the **solid** waste billing or administration program required with implementation of the PAYT program?

Answer Options	Frequency	Count
No	40.0%	4
Yes (please describe)	60.0%	6

Answers:

- Each time we added a size of can, we needed to modify the billing system
- Varying pay rates had to be set up, cart tracking by serial number, new customer service tracking program implemented. The PAYT started at the same time the City of Fort Worth took control of customer service for solid waste collections; this was previously a function of the collections contractor.
- Setup billing system and expand data on customer base.
- Software required to bill residents appropriately
- Our rates are adjusted annually through review by independent economists, and the most recent (2008) change to the recycling program (mandating hauler-provided roll carts for recycling & yard debris collection) resulted in a significant increase in residential rates and tipping fees (commercial rates are determined by the hauler & business customer in a non-franchised system).
- Prior to implementing variable billing rates, the City of Austin had to update its entire billing system.

Question 16: Did implementation of the PAYT program require retraining of solid waste collectors?

Answer Options	Frequency	Count
Yes	60.0%	6
No	40.0%	4

Comments:

- A little bit when we introduced semi-automated carts
- All services are contracted
- City collects single family residential and some commercial customers.
- Likely to some degree but still mainly just emptying carts regardless of what's in them.

Question 17: Which statement best describes the status of solid waste collectors in your municipality?

Answer Options	Frequency	Count
Unionized municipal employees	44.4%	4
Non-unionized municipal employees	22.2%	2
Unionized contract employees	22.2%	2
Non-unionized contract employees	11.1%	1

Comments:

- Private franchised haulers
- They have the option to join the Municipal Employees Union which offers membership to all municipal, federal, state and county employees. Membership dues are deducted from employee paychecks.
- Private haulers are permitted to acquire as many customers as they would like, no franchise agreements and these are almost all non-union employees that the municipality competes against. There are also no requirements on the days that areas are served. As a result there are many trucks in many areas on different days. We are working toward improving that as we write.

Question 18: Per capita solid waste (garbage) tonnage collected has...

Answer Options	Frequency	Count
Increased	10.0%	1
stayed the same	20.0%	2
Decreased	70.0%	7

Please describe magnitude of change:

- Have relatively few residents that have elected to participate with smaller container and lower fee. 68 GAL CARTS - 3,612; 95 GAL CARTS -65,349
- Overall recycling rate across all waste streams has gone from 24% to 48.4%. Increase is even greater for single family sector - now reaching near 60% recycling. This is due to introduction of curbside yard waste and curbside recycling collection as well as PAYT
- Based on the information available the total tonnage was reduced by about 12.5% & garbage collected was reduced by about 25%
- disposal has deceased with recycling increasing significantly, from 12,000 tons per year to over 40,000 tpy
- Prior to PAYT and the cart-based recycling program, residents set out an average of three 32-gallon garbage carts per week. Now approx. 80% have one, 32-gallon garbage carts.
- Unclear at this time not enough data. Overall our recycling rates have increased from mid 40 percentile in mid-90s to 63% in 2007.
- Solid Waste Services tracks performance measures by residential customer account, or household, not per capita. Our per household garbage tonnage

- decreased since the beginning of the program, and then has leveled off and stayed consistent since.
- For the city crews, we are not aware of the private sector experience. They own the landfill, we pay to tip there.

Question 19: Per capita recycling tonnage collected has...

Answer Options	Frequency	Count
Increased	80.0%	8
Stayed the same	20.0%	2
Decreased	0.0%	0

Please describe magnitude of change:

- .0194% increase
- City -wide all waste streams we are at 48+% recycling as of 2007
- 02-03 3.92 pounds per household per week 03-04 11.59 pounds per household per week Last year 13.54 pounds per household per week
- Increased from 12,000 tpy in 2000 to 36,000 tpy in 2004 to a little over 40,000 tpy in 2008.
- The volume of recyclables and yard trimmings being collected more than doubled the levels recorded prior to the cart-based recycling program and PAYT.
- Solid Waste Services tracks performance measures by residential customer account, or household, not per capita. Before PAYT implementation, tonnage was low but increasing. Since implementation, levels have been static

Question 20: Solid waste (garbage) diversion rates have...

Answer Options	Frequency	Count
Increased	77.8%	7
Stayed the same	22.2%	2
Decreased	0.0%	0

Please describe the magnitude of change:

- Residential diversion increased from 39.8% to 41.1%. This number includes yard trimmings composting, HHW recycling and reuse, electronic recycling and appliance recycling.
- up to 48+%
- 02-03 diversion rate was 5.48% 03-04 diversion rate was 19.3% The last couple of years we are running between 22 & 23%
- Currently at approximately 52%
- Diverted 60% in 2006 and 44% in 1995 according to the CIWMB (http://www.ciwmb.ca.gov/LGTools/mars/JurDrSta.asp?VW=In)
- Solid Waste Services defines diversion rate as the amount of yard trimmings and recyclables diverted as a percentage of the total amount of garbage, recyclables, and yard trimmings generated and collected through weekly curbside pickups. Through the PAYT program and enhancements

to the curbside recycling program, the diversion rate went up and has, with minor fluctuations, remained constant over the last twelve years or so.

Question 21: Has there been any noticeable increase in littering **o**r illegal dumping since implementing the PAYT program?

Answer Options	Frequency	Count
Yes	0.0%	0
No	100.0%	10

Comments:

- Littering/illegal dumping is a chronic low-level problem, but has not gone up w/ PAYT
- We opened citizen drop off stations along with the start of the PAYT program and have actually had a decrease in illegal dumping.
- In the beginning we did have instances where extra bags came from neighbors, but that leveled off.

Question 22: How has PAYT impacted solid waste revenues? Check all that apply.

Answer Options	Frequency	Count
The program is at full cost recovery	66.7%	6
The program is at less than full cost recovery and revenues are higher under PAYT than previously	11.1%	1
The program is at less than full cost recovery and revenues are the same under PAYT as previously	22.2%	2
The program is at less than full cost recovery and revenues are lower under PAYT than previously	0.0%	0

Comments:

- We have a profit sharing contract for our recycle processing and the revenue generated depends on the market. The last two quarters have seen drastic drops in commodity prices and our share of the revenue.
- Recycling is subsidized by payment per ton by the processer.
- Check back later
- We are an enterprise fund and through the rates that we charge our customers, we generate excess money that goes to the general fund. Also, with PAYT we realize more money through charging for larger carts, extra carts and collection of extra garbage.
- Just barely coming out even.
- The refuse program is supplemented by a refuse millage

Question 23: Please describe any unanticipated problems or difficulties with the Pay As You Throw program.

Answer Options	Count
Open ended question	9

Answers:

- None (x4)
- Contamination in recycling is high. Full implementation at one time was difficult due to the number of households.
- The cost savings are not difficult for the customer to see.
- Sustained economic downturn has affected recycling markets recycling subsidizes residential garbage rates in Portland, and this loss of income has negatively impacted haulers. Given that the changes to our recycling program were implemented less than a year ago, it's hard to quantify how the changes have impacted our recovery rates, etc simply not enough data AND too many variables.
- Manual collection of extra garbage bags creates inefficiencies with a system designed to tip garbage carts with automated trucks. Also, there are households that regularly generate larger volumes of extra garbage, and its more desirable to all parties concerned, if they properly size their garbage carts, ie, go to a larger sized garbage cart. Although it goes against the philosophy of PAYT, its cheaper for these customers to upgrade to a larger sized cart, and more efficient for our collection. There are also administrative costs to tracking and billing for extra garbage.
- We have to drive every street looking for the bags, there is no subscription requirement!! More fuel, more time, more cost!

Question 24: Please describe any other major issues, benefits, or relevant points associated with the program.

Answer Options	Count
Open ended question	7

- The citizens get it. It is logical and is perceived as equitable. We are applying PAYT to our curbside yard waste/food waste composting collection with 13 gal, 32 gal and 96 gal options.
- Increased diversion has resulted in decreased disposal, and therefore stabilized disposal rates.
- There is some concern (and some anecdotal evidence) that, in order to save money, people will choose a smaller sized garbage bin and put their garbage into the larger recyclables cart. Some people do seem to do this but it's not the majority of people and tagging carts for contamination rather than just picking them up.
- The City of Portland currently provides commercial food generators with food composting we hope to site a local composting facility to offer this service to residents in the next 18 months to 2 years.

- We found that if you allow for extra garbage, you must have a large enough rate gap between garbage cart sizes to incentivize recycling.
- We hope with the upcoming conversion to single stream recycling, from sort separated at curb, that we begin to see volume of trash being landfilled decline.
- None

Appendix C: Constructing a Distribution of MSW Production

Milwaukee does not collect data on the amount of municipal solid waste each household in the city produces. The best data available show the average amount of MSW per collection route during an eight-month period in 2007 (City of Milwaukee 2007). This data can provide route-level information, but specific household data cannot be derived from it because the standard deviation of the data is unknown. The standard deviation describes how tightly all of the observations in a data set cluster around the mean (average) of the data. For example, if the mean of a data set is 40.00 and the standard deviation is 2, the majority of the data points fall between 38.00 and 42.00.

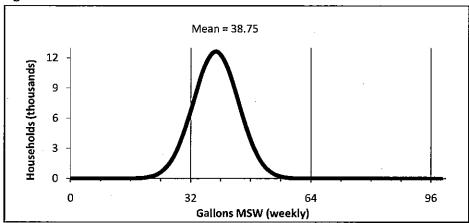
If the standard deviation and mean of a data set are known, the distribution of data points can be known. In this case, the mean of the MSW is known, but the standard deviation for Milwaukee's data is unknown. Therefore, the distribution of MSW generation by household cannot be generated from empirical records. The only relevant information that can be drawn from the available data is that the average household disposed of 43.16 pounds of MSW per week during this period. We converted this figure to an average weekly volume of 38.75 gallons using a standard conversion of 225 pounds per cubic yard of MSW.

The distribution of household MSW determines the pricing structure for a multiple cart PAYT system by determining the number of households that may subscribe to each cart size. To develop reasonable estimates of the unknown distribution of households, standard deviations from 1.00 to 38.00 (just less than the mean of 38.75 gallons per household) were considered. This range produced wide variation in the number of households potentially using each cart size. Using a more plausible range of standard deviations from 6.00 to 18.00 also produced widely varying estimates of the number of households using each cart size.

However, when these estimates were placed into the pricing formula, the range of prices for each cart size was fairly narrow and stable. In fact, the range of prices varied by only a few dollars for each cart size, even when the distribution of carts changed considerably. Given this, we examined the status quo and each alternative using theoretical distributions with standard deviations of 6.00, 12.00, and 18.00. The standard deviations were measured in either pounds or gallons depending on what was relevant for each alternative.

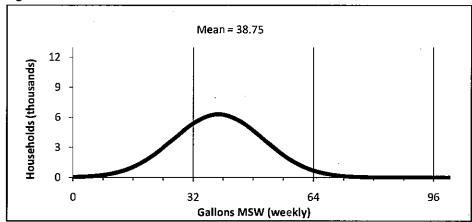
Figures 1, 2, and 3 graphically depict these standard deviations.

Figure 1: Normal MSW Distribution with Standard Deviation of 6.00



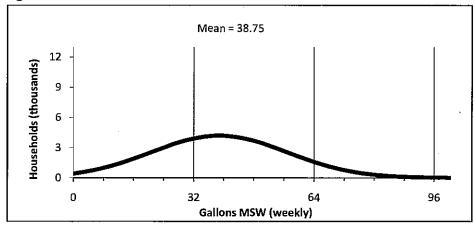
Source: Authors' calculations

Figure 2: Normal MSW Distribution with Standard Deviation of 12.0



Source: Authors' calculations

Figure 3: Normal MSW Distribution with Standard Deviation of 18.0



Source: Authors' calculations

Appendix D: Alternative Budget and Pricing Development

This section describes the method used to establish budgets and an equity index for the status quo and both alternatives. Because we did not know the standard deviation for household MSW distribution, we outlined scenarios using hypothetical standard deviations of 6.00, 12.00, and 18.00. We also hypothesized scenarios using a tipping fee of \$30 per ton, the approximate rate Milwaukee pays in 2009 to unload waste at the dump, and \$35 per ton, which the client asked us to include. Finally, we projected scenarios using current levels of MSW generated by the city, a 10 percent reduction in total waste, and a 20 percent reduction in total waste. These waste reduction figures fall within the reasonable range of waste reduction reported by the comparative cities we surveyed and literature on cities moving to PAYT systems from flat-rate MSW collection.

These considerations resulted in six status quo scenarios, where no waste reduction was analyzed; 18 Alternative I scenarios; and 18 Alternative II scenarios. For each alternative, only one budget scenario is presented in this appendix, demonstrating a standard deviation of 6.00, a tipping fee of \$30, and zero reduction in MSW.

We started with a budget for the status quo which was based on the 2009 Milwaukee Solid Waste Budget (City of Milwaukee). This base budget was used for all of the pricing and equity index scenarios, with changes that are described below for each alternative.

Tables 12, 14, and 16 show the prices and the equity index for each scenario of each alternative. These tables show the standard deviation, the tipping fee, the waste collection charge, the equity index, and the cost recovery percentage for each scenario. The tables also present the total annual price that would be paid by the median Milwaukee household under each scenario.

Status Quo Summary: Current MSW and Recycling Program

Six scenarios were constructed for the status quo. These used standard deviations of 6.00, 12.00, and 18.00, each with a landfill tipping fee of \$30 or \$35 per ton. Because no municipal solid waste reduction is assumed under the status quo, the scenarios do not reflect any reduction in MSW.

Under the status quo, the median household (in fact all households) pays \$150 per year for its MSW and recycling collection. This results in a program cost recovery of 88 to 91 percent depending on the tipping fee that is used. Table 12 displays these summary results as well as the equity index for each scenario.

Table 12: Status Quo Scenarios

Scenario	Std. Dev.	Tipping Fee	0% MSW Reduction Median Charge	% Cost Recovery
SQ1	6.00	\$30	\$150	91.3%
			Equity Index: 1.23	
S Q2	6.00	\$35	\$150	88.7%
			Equity Index: 1.23	
SQ3	12.00	\$30	\$150	91.3%
			Equity Index: 2.11	
SQ4	12.00	\$35	\$150	88.7%
			Equity Index: 2.11	
SQ5	18.00	\$30	\$150	91.3%
			Equity Index: 3.30	
SQ6	18.00	\$35	\$150	88.7%
			Equity Index: 3.30	

Source: Authors' calculations

A sample status quo budget scenario is presented in Table 13. A number of assumptions are contained in this budget:

- It is assumed that the long-run resale value of recyclables is \$80 per ton (R. Meyers, personal communication, March 24, 2009). Of this amount, Milwaukee receives \$40 in gross revenue. This amount is used in all budget scenarios.
- The state recycling grant is assumed to be the same as the FY2008 grant.
- "Overhead" excludes fringe benefits and depreciation expenses.
- Standard deviations of 6.00, 12.00, and 18.00 were used in calculating the equity index. The standard deviations were not relevant for price determination in the status quo.
- The tipping fee was set at \$30 and \$35 per ton as the client requested.

Table 13: Status Quo Sample Budget Scenario

		filwaukee Sys te m E st im at Deviation = 6, MSW Tipping		
INCOME/REVENUES	-	*		· · · · · · · · · · · · · · · · · · ·
MSW Program				*
Number of Households	190,000	x Base Price	\$150	\$28,500,00
Extra Collection				
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,00
Total MSW Income/Revenue				\$28,625,00
Recycling Collection				
Tons Collected	26,000	x Resale value per ton	\$40	\$1,040,00
Recycling state grants				\$3,500,00
Total Recycling Income/Revenue	?		<u> </u>	\$4,540,00
Total Income/Revenue	<u></u>			\$33,16 S, 00
				, , ,
	-			
EXPENSES/COSTS				
EXPENSES/COSTS MSW Program				
	- 			\$11,334,14
MSW Program			\$9,507,027	\$11,334,14
MSW Program Labor			\$9,507,027 \$327,019	\$11,334,14
MSW Program Labor ODWs Salaries (77 routes)				\$11,334,14
MSW Program Labor ODWs Salaries (77 routes) OT (driver only)			\$327,019	\$11,334,14
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs			\$327,019 \$208,934	\$11,334,14
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers			\$327,019 \$208,934 \$493,630	\$11,334,14
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors			\$327,019 \$208,934 \$493,630	
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit			\$327,019 \$208,934 \$493,630	\$4,646,99
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks			\$327,019 \$208,934 \$493,630 \$797,532	\$4,646,99
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$797,532 \$1,902,096	\$4,646,99 \$3,779,57
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$797,532 \$1,902,096 \$1,877,481	\$4,646,99 \$3,779,57 \$5,700,00
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$797,532 \$1,902,096 \$1,877,481	\$4,646,99 \$3,779,57 \$5,700,00 \$475,000
MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage Other operating expenses	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$797,532 \$1,902,096 \$1,877,481	\$4,646,99 \$3,779,57 \$5,700,00

EXPENSES/COSTS continued				
Recycling Program				
Labor				\$2,306,51
ODWs Salaries (34 routes)			\$2,098,954	4 2,000,01
ОТ			\$144,398	
Supervisors			\$265,884	
Recycling Manager			\$63,160	
Fringe Benefit				\$945,67
Trucks				\$1,471,88
Maint/Repair/Fuel			\$839,664	
Depreciation			\$632,218	
Tonnage	26,000	x Processing fee per ton	\$40	\$1,040,00
Other operating expenses			٠	\$250,00
Containers				\$400,00
Overhead (13.38%)				\$647,08
Recycling Total				\$7,061,14
Total Expenses/Costs				\$3 6,3 2 5, 3 8
COST RECOVERY				
Total Income/Revenue				\$33,165,00
Total Expenses/Costs				\$36,325,38
Net Income/Loss				-\$3,160,38
Percentage Cost Recovery				9 1.3 9
EQUITY MEASURE				
Resident	Charge			Price/poun
10th Percentile Household	\$150	÷ Annual MSW Pounds	1,735	\$0.08
Median Household	\$150	÷ Annual MSW Pounds	2,158	\$0.07
90th Percentile Household	\$150	÷ Annual MSW Pounds	2,543	\$0.05
Equity Index	1.47	Ratio of low-volume price	to high-volume	price

Alternative I Summary: Multiple Cart Sizes

Alternative I required the construction of 18 scenarios. As in the status quo, the standard deviation was 6.00, 12.00, and 18.00, each with a landfill tipping fee of \$30 and \$35. We assumed that some level of MSW reduction will occur when customers are charged based on their MSW output. We constructed scenarios to reflect 10 percent or 20 percent total reductions in MSW in addition to the other variables.

Under Alternative I, the median household produces 38.75 gallons of MSW per week with no MSW reduction, 34.84 gallons with a 10 percent reduction, and 31 gallons with a 20 percent reduction. We assume that under all of these scenarios the median household will use a 64-gallon cart. In this case, the median household will pay between \$164 and \$184 per year for MSW and recycling collection depending on the variables. Table 14 displays these summary results as well as the equity index for each scenario.

Table 14: Alternative I: Multiple Carts Scenarios

Scenario	Std. Dev.	Tipping Fee	0% MSW Reduction Median Charge	10% MSW Reduction Median Charge	20% MSW Reduction Median Charge
MC1	6.00	\$30	\$171	\$168	\$164
			Equity Index: 1.08	Equity Index: 1.07	Equity Index: 1.06
MC2	6.00	\$35	\$177	\$173	\$169
			Equity Index: 1.09	Equity Index: 1.08	Equity Index: 1.07
M C 3	12.00	\$30	\$178	\$174	\$171
·			Equity Index: 1.69	Equity Index: 1.68	Equity Index: 1.67
MC4	12.00	\$35	\$184	\$180	\$176
<u> </u>			Equity Index: 1.71	Equity Index: 1.70	Equity Index: 1.68
MC5	18.00	\$30	\$178	\$175	\$171
			Equity Index: 2.88	Equity Index: 2.86	Equity Index: 2.84
MC6	18.00	\$35	\$184	\$180	\$176
			Equity Index: 2.91	Equity Index: 2.89	Equity Index: 2.87

Source: Authors' calculations

A sample multiple cart budget scenario is presented in Table 15. A number of assumptions are contained in this budget:

- This alternative will require one new employee for billing, technical support and maintenance of the weighing system. This employee is budgeted at \$40,000 annually, plus the associated fringe costs.
- Full price recovery was specified for the alternative.
- Cart charges were set at \$48 per year for a 32-gallon cart, \$96 per year for a 64-gallon cart, and \$144 per year for a 95-gallon cart. Once these prices were established, a base charge could be set.

Table 15: Alternative I Sample Budget Scenario

Alternative I: Multiple Cart System Estimated Budget Scenario 1: Standard Deviation = 6, MSW Tipping Fee = \$30, MSW Reduction = 0%

INCOME/REVENUES				
•				
MSW Program				
Number of Households	190,000	x Base Price	\$75	\$14,290,07
Cart Charge				
Number 32g Households	24,759	x Annual Charge	\$48	\$1,188,43
Number 64g Households	165,239	x Annual Charge	\$96	\$15,862,94
Number 95g Households	2	x Annual Charge	\$144	\$28
Number additional carts	0	x Annual Charge	\$0	\$(
Extra Collection				
Additional 30g Bags	190,000	x Charge per bag	\$2	\$380,000
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,000
Total MSW Income/Revenue				\$31,846,73
Recycling Collection				
Tons Collected	26,000	x Resale value per ton	\$40	\$1,040,000
Recycling state grants			<u> </u>	\$3,500,000
Total Recycling Income/Revenue	,			\$4,540,00
Total Income/Revenue		· ·		\$36,386,737
Total Income/Revenue				\$36,386,737
				\$36,386,737
Total Income/Revenue EXPENSES/COSTS				\$36,386,737
				\$36,386,73
EXPENSES/COSTS				
EXPENSES/COSTS MSW Program			\$9,507,027	\$36,386,737
EXPENSES/COSTS MSW Program Labor			\$9,507,027 \$327,019	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes)				
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only)			\$327,019	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs			\$327,019 \$208,934	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers			\$327,019 \$208,934 \$493,630	\$11,374,14
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors			\$327,019 \$208,934 \$493,630	\$11,374,141 \$4,662,998
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit			\$327,019 \$208,934 \$493,630	\$11,374,141 \$4,662,998
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks			\$327,019 \$208,934 \$493,630 \$837,532	
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096	\$11,374,14 \$11,374,14 \$4,662,998 \$3,779,57
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,142 \$4,662,998 \$3,779,577
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,145 \$4,662,998 \$3,779,577 \$5,700,000 \$475,000
EXPENSES/COSTS MSW Program Labor ODWs Salaries (77 routes) OT (driver only) Field Clerks/Cart Techs San Workers Supervisors Fringe Benefit Trucks Maint/Repair/Fuel Depreciation Tonnage Other operating expenses	190,000	x Tipping fee per ton	\$327,019 \$208,934 \$493,630 \$837,532 \$1,902,096 \$1,877,481	\$11,374,142 \$4,662,998 \$3,779,577

Continued on following page

EXPENSES/COSTS continued		-		
Recycling Program				_
Labor				\$2,306,512
ODWs Salaries (34 routes)			\$2,098,954	72,300,312
от			\$144,398	
Supervisors			\$265,884	
Recycling Manager			\$63,160	
Fringe Benefit				\$945,670
Trucks				\$1,471,882
Maint/Repair/Fuel			\$839,664	, , ,
Depreciation			\$632,218	
Tonnage	26,000	x Processing fee per ton	\$40	\$1,040,000
Other operating expenses				\$250,000
Containers				\$400,000
Overhead (13.38%)		<u> </u>		\$647,080
Recycling Total				\$7,061,144
Total Expenses/Costs				\$ 36, 38 6,7 37
COST RECOVERY				
Total Income/Revenue				\$36,386,737
Total Expenses/Costs				\$36,386,737
Net Income/Loss				\$0
Percentage Cost Recovery				100.0%
EQUITY MEASURE	·			·
Resident	Charge		·	Price/gallon
10th Percentile Household	\$123	÷ Annual MSW Gallons	1,553	\$0.079
Median Household	\$171	÷ Annual MSW Gallons	1,937	\$0.088
90th Percentile Household	\$171	÷ Annual MSW Gallons	2,322	\$0.074
Equity Index	1.08	Ratio of low-volume price t	o high-volume	

Alternative II Summary: Weight-Based Program

Alternative II included the same 18 scenarios used in Alternative I.

Under Alternative II, the median household produces 43.16 pounds of MSW per week with no MSW reduction, 39.29 pounds with a 10 percent reduction, and 35.41 pounds with a 20 percent reduction. Given this, the median household will pay between \$169 and \$182 per year for MSW and recycling collection depending on the variables chosen. It is notable that this range is nearly identical to the range paid by the median household under Alternative I. Table 16 displays these summary results as well as the equity index for each scenario.

Table 16: Alternative II: Weight-Based Scenarios

			0% MSW	10% MSW	20% MSW
	Std.	Tipping	Reduction	Reduction	Reduction
Scenario	Dev.	Fee	Median Charge	Median Charge	Median Charge
W1	6.00	\$30	\$176	\$172	\$169
			Equity Index: 1.11	Equity Index: 1.10	Equity Index: 1.10
W2	6.00	\$35	\$182	\$178	\$174
			Equity Index: 1.11	Equity Index: 1.10	Equity Index: 1.09
W3	12.00	\$3 0	\$177	\$172	\$169
			Equity Index: 1.25	Equity Index: 1.24	Equity Index: 1.22
W4	12.00	\$35	\$182	\$178	\$174
			Equity Index: 1.24	Equity Index: 1.23	Equity Index: 1.21
W5	18.00	\$30	\$177	\$172	\$169
			Equity Index: 1.47	Equity Index: 1.44	Equity Index: 1.41
W6	18.00	\$35	\$182	\$178	\$174
			Equity Index: 1.45	Equity Index: 1.43	Equity Index: 1.40

Source: Authors' calculations

A sample weight-based budget scenario is presented in Table 17. A number of assumptions are contained in this budget:

- This alternative will require two new employees for billing and technical support and maintenance of the weighing system. These employees are budgeted at \$40,000 each annually, plus the associated fringe costs.
- Full price recovery was specified for the alternative.
- All customers pay a base fee of \$50 per year, regardless of their actual MSW output. The base fee covers fixed costs borne by Milwaukee regardless of the amount of MSW generated by households for collection. Based on this base charge, the total amount of MSW generated and the expenses that had to be recovered, a charge per pound of MSW was established.

Table 17: Alternative II Sample Budget Scenario

		ht-Based System Estimat		
Scenario 1: Standard De	eviation =	6, M5W Tipping Fee = \$30), MSW Reduction	= 0%
INCOME/REVENUES			<u> </u>	· · ·
MSW Program	-			
Collection Charge	190,000	x Base Price	\$50	\$9,500,000
Weight Charge	190,000	x Charge per ton	\$117	\$22,283,089
Extra Collection				7 22,203,003
Large Pickups (>4 Yards ³)	2,500	x Charge per pickup	\$50	\$125,000
Total MSW Income/Revenue		ana Ba har brawah		\$31,908,089
Recycling Collection	,,,			<u> </u>
Tons Collected	26,000	x Resale value per ton	\$40	\$1,040,000
Recycling state grants	· · ·			\$3,500,000
Total Recycling Income/Revenue	1			\$4,540,000
Total Income/Revenue				\$3 6,44 8,0 8 9
EXPENSES/COSTS	-		.	
M5W Program				
Labor	<u> </u>	···		\$11,414,141
ODWs Salaries (77 routes)			\$9,507,027	7 - m./ · / - · / m.
OT (driver only)			\$327,019	
Field Clerks/Cart Techs			\$208,934	
San Workers			\$493,630	
Supervisors			\$877,532	
Fringe Benefit			· . ·	\$4,678,998
Trucks				\$3,779,577
Maint/Repair/Fuel			\$1,902,096	,
Depreciation			\$1,877,481	
Tonnage	190,000	x Tipping fee per ton	\$30	\$5,700,000
	,			- 40,700,0

Continued on following page

Overhead (13.38%)

Other operating expenses

Containers

MSW Total

\$475,000

\$645,000

\$2,694,229

\$29,386,945

\$3,779,607

EXPENSES/COSTS continued				
Recycling Program				
Labor				\$2,306,512
ODWs Salaries (34 routes)	i		\$2,098,954	<i>4-,</i>
ОТ	•		\$144,398	
Supervisors		•	\$265,884	
Recycling Manager			\$63,160	
Fringe Benefit				\$945,670
Trucks				\$1,471,882
Maint/Repair/Fuel			\$839,664	
Depreciation			\$632,218	
Tonnage ,	26,000	x Processing fee per ton	\$40	\$1,040,000
Other operating expenses				\$250,000
Containers				\$400,000
Overhead (13.38%)				\$647,080
Recycling Total				\$7,061,144
Total Expenses/Costs				\$36,448,089
COST RECOVERY				
Total income/Revenue	1			\$36,448, 0 89
Total Expenses/Costs				\$36,448,089
Net Income/Loss				\$0
Percentage Cost Recovery				100.0%
EQUITY MEASURE				
Resident	Charge			Price/pound
10th Percentile Household		÷ Annual MSW Pounds	1,773	\$0. 0 87
Median Household	\$177	÷ Annual MSW Pounds	2,158	\$0.082
90th Percentile Household	\$199	÷ Annual MSW Pounds	2,543	\$0.078
Equity Index	1.11	Ratio of low-volume price t	to high-volume	price

Appendix E: Development of Policy Analysis Criteria

We evaluated each policy option according to four criteria: efficiency, effectiveness, equity, and ease of implementation. These are summarized in the "Policy Criteria" section of this report. Our measurement and data collection methods for each are described here.

Efficiency

We measure efficiency through the percentage program cost recovery under each alternative. We calculate program using the following formula:

% Cost Recovery = Program Income and Revenue / Program Expenses and Costs

We used the spreadsheet template to total the income and expenses under a range of assumptions for six scenarios for each policy option. Additionally, each alternative scenario was run with 0 percent, 10 percent, and 20 percent MSW reductions, creating up to 18 scenarios for each alternative. Assumptions included the possibility of no reduction in the number of tons of MSW and, therefore, no expense reduction due to reduced tipping fees. To calculate the pricing structure needed for each scenario, we first determined the income needed to obtain full cost recovery. For PAYT options, this was weighted by the distribution of MSW per household given the base fees in each case.

In addition, we evaluate efficiency by the additional budget expenses each alternative requires. We calculated costs of new PAYT system inputs, public outreach and education expenses, and additional staffing expenses from the alternatives. We conducted telephone interviews with vendors and potential contractors, reviewed our comparable cities survey results and telephone contacts, and relied on estimates given by City of Milwaukee staff. Due to lack of detailed response, we must estimate some budget items such as education and outreach for the multiple cart and weight-based alternatives.

Effectiveness

Effectiveness is quantifiable by MSW tonnage reduction resulting from residents' disposal behavior under each alternative. Data in this category come from research studies and our comparable city survey responses. We also make relative comparisons of effectiveness regarding household acceptance of and compliance with the programs.

The spreadsheet calculations were based on the approach and assumptions about pricing and distributions of waste per household described in the methodology section (see page 7 and Appendix C).

We based these estimated tonnage inputs on three sources. First, the ranges of variation in tonnage found over time in Milwaukee prior to consideration of PAYT provided a magnitude of changes due to all non-PAYT factors.

Varying percentage reductions in solid waste from comparably sized PAYT municipalities act as a second benchmark. We also took into account averages from government and industry sources showing diversion rates and other impacts during the years following the introduction of PAYT. As most reductions in MSW following the introduction of PAYT came in the first year or two and then leveled off, our quantitative evaluations covered an entire single year and should be considered the long-run average.

City of Milwaukee staff provided recycling revenues and landfill fees per ton for the current budget cycle. These are not modified to account for long-term forecasts of variations in recycling prices in our analysis.

Equity

We defined an equity index to consistently measure the relative fairness of each policy alternative. The index shows the ratio of the prices paid between those that generate the most MSW and those that generate the least. Specifically, the index compares the price paid per pound or gallon of MSW by the individual household 10 percent from the bottom and 10 percent from the top of the MSW distribution range. This approach provides a single number to compare the equity of different systems and different scenarios. A score of 2.0 on the index indicates those generating the least MSW pay twice as much as those generating the most. An index of 1.0 indicates residents pay the same amount for MSW collection per unit, which we consider to be the most equitable system possible. In our calculations, we found 1.08 as the most equitable score in our alternatives, occurring under the weight-based system. The status quo scores the highest equity disparity at 4.8. This means that under one possible status quo scenario, households with the lowest amount of MSW pay nearly five times the rate per pound of households generating the most waste.

Ease of Implementation

Assessment of ease of implementation was a relative comparison between alternatives and considered issues such as education and billing changes. We also considered availability of new equipment and maintenance services, and whether the alternative requires substantial re-training of collection workers. We obtained this information from interviews with City of Milwaukee employees, our comparable cities survey results, and telephone contacts with vendors. We also used research on published PAYT information.

MacDonald, Terry

From:

Shambarger, Erick

Sent:

Friday, May 29, 2009 4:09 PM

To:

MacDonald, Terry

Subject:

FW: Pay as You Throw Report

Hi, Terry. It sounds like July 15th would work for a Pay As You Throw communication file, based on the LaFollette student availability.

----Original Message----

From: Yackee, Susan [mailto:syackee@lafollette.wisc.edu]

Sent: Friday, May 29, 2009 3:40 PM

To: Shambarger, Erick

Subject: Re: Pay as You Throw Report

Hi Erick,

Two key members of the team can present on July 15th but not June 24th. A third member may also be available on July 15th. Might this work? Please let me know. Best, Susan

On 5/29/09 2:47 PM, "Shambarger, Erick" < Eshamb@milwaukee.gov> wrote:

Great. The likely dates would be June 24th or July 15th. I'll then need to get a Council member to introduce the file.

From: Yackee, Susan [mailto:syackee@lafollette.wisc.edu]

Sent: Friday, May 29, 2009 11:00 AM

To: Shambarger, Erick

Subject: RE: Pay as You Throw Report

Hi Erick,

At least two of the team members are still around Madison and would be thrilled to present their findings before the Council. Both are traveling some over the next two months, and one may be leaving Madison as of August 1st. Let me know when you have some possible dates. Best, Susan

Susan Webb Yackee, Ph.D.

Assistant Professor of Public Affairs and Political Science The University of Wisconsin at Madison syackee@lafollette.wisc.edu

From: Shambarger, Erick [mailto:Eshamb@milwaukee.gov]

Sent: Thursday, May 28, 2009 3:32 PM

To: Yackee, Susan Cc: Russell, Mary

Subject: Pay as You Throw Report

		v			
		•	,		
				·	

Hi Dr. Yackee,

We are interested in following-up on the fine work your students did on the Pay As You Throw project for the City. The Mayor asked that we inform the City Council on this issue and he thought having the students give their presentation to the Council was a good idea. Please let me know if any of the students from that group are still in town this summer and would be willing to come to Milwaukee to present their findings.

Erick Shambarger City of Milwaukee 414-286-8556

			•	
,				
•				
•				
				•
•				



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR
Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, June 8, 2009 1:30 PM Room 301-A, City Hall

Meeting convened: 1:38 P.M.

Present 5 - Cole, Daun, Dudzik, Shambarger and Schaal

1. Roll call

Also present: James Carroll, Legislative Reference Bureau, Wanda Booker, Dept. of Public Works, Sanitation Manager and Rick Meyers, Dept. of Public Works, Recycling Specialist

2. Approval of the minutes of the May 18, 2009 meeting

Ald. Dudzik moved approval of the minutes, Mr. Shambarger seconded. There were no objections.

3. Discussion relating to a consultant study on a single stream recycling operation vs. dual system recycling operation

Mr. Donald F. Pirrung, P.E., Senior Engineer and Consultant for Earth Tech/AECOM appeared on this matter.

Mr. Daun moved that the RECYCLING TASK FORCE convene into closed session, pursuant to s. 19.85(1)(e), Wis. Stats., for the purpose of formulating competitive bargaining strategies in respect to item #3: discussion relating to a consultant study on a single stream recycling operation vs. dual system recycling operation.

Roll call taken at 1:40 P.M.:

Present: 5 - Mr. Cole, Ms. Schaal, Mr. Daun, Ald. Dudzik and Mr. Shambarger Excused: 0

Also present: James Carroll, Legislative Reference Bureau, Wanda Booker, Dept. of Public Works, Sanitation Manager and Rick Meyers, Dept. of Public Works, Recycling Specialist

Roll call taken at 2:33 P.M.:

Present: 4 - Mr. Cole, Ms. Schaal, Mr. Daun and Ald. Dudzik

Excused: 1 - Mr. Shambarger

Mr. Daun moved that the committee reconvene in open session.

Roll call taken at 2:50 P.M.

Present: 4 - Mr. Cole, Ms. Schaal, Mr. Daun and Ald. Dudzik

Excused: 1 - Mr. Shambarger

4. Set next meeting date and agenda

Mr. Cole said Ms. MacDonald talked to Ald. Dudzik regarding extending the deadline for the submission of recommendations by this task force to the Common Council for six months.

Mr. Cole said that the tour of the recycling facilities will take place on June 29, 2009 from 1:00 P.M. to 5:00 P.M.

Mr. Daun referred to the letter from Mr. Perry Lindquist with Waukesha County regarding a joint recycling study (Exhibit 1) that Mr. Shambarger sent to all the task force members by e-mail and asked Mr. Cole if Mr. Lindquist will be invite to appeared before this task force?

Mr. Cole replied in the affirmative.

Mr. Cole said the next two meeting dates will be July 27, 2009 and August 17, 2009 at 1:30 P.M.

Meeting adjourned: 3:00 P.M.

Terry J. MacDonald Staff Assistant

City of Milwaukee



PARKS AND LAND USE

Via e-mail

Date: June 5, 2009

To: Eric Shambarger

Mayor's Office City of Milwaukee

From: Perry Lindquist

Dept. of Parks and Land Use

Waukesha County

RE: Joint Recycling Study

Dear Mr. Shambarger,

Waukesha County completed a recycling system study in September 2007, which strongly recommended that we switch to a single stream recycling system. It is my understanding that the Milwaukee Recycling Task Force, of which you are a member, is also considering this type of recycling system. I would appreciate the opportunity to present the results of our study to your Task Force. I believe they will find the information valuable, especially as it relates to the economics of a single stream system based on the tonnage processed. The study demonstrated a much better return on investment if we pursued additional community partnerships.

During and after the completion of the 2007 study, we have been gathering input from the 25 participating communities in Waukesha County, as well as from staff of the Milwaukee Public Works Department. Our participating communities are asking that we make a decision soon on the future direction of our recycling program so that proper planning can be completed, including a revision to private collection contracts in each community. However, to make this decision, additional analysis is needed on new community partnerships, transportation issues and the potential location offered by the City of Wauwatosa for a regional recycling facility. We encourage the City of Milwaukee to join us in studying these issues, and any others that may be involved. We would appreciate a commitment to such a joint study by August 1.

I could explain the above noted issues in more detail at a future Task Force meeting if there is interest. If so, please contact me directly at 262-548-7867 to make arrangements. Thank you for your consideration of my request.

cc: Rick Meyers, Milwaukee Public Works Dept. Bill Kappel, Wauwatosa Public Works Dept. From: Shambarger, Erick

Sent: Monday, June 08, 2009 8:54 AM

To: MacDonald, Terry

Subject: Recycling Task Force

Hi Terry,

I received the following email from Mr. Lindquist. He had originally made contact with Ann Beier, who referred him to me. Please circulate this through the Task Force under the appropriate procedure.

From: Lindquist, Perry [mailto:PLindquist@waukeshacounty.gov]

Sent: Monday, June 08, 2009 8:43 AM

To: Shambarger, Erick

Cc: Bill Kappel (bkappel@wauwatosa.net); Meyers, Rick

Subject: Joint Recycling Study

Mr. Shambarger,

Attached is a memo regarding a request to join Waukesha County in a joint recycling study. Please confirm that you received this in time for today's Task Force meeting. Thank you.

Perry

Perry Lindquist
Land Resources Manager
Waukesha County Dept. of Parks & Land Use
515 W. Moreland Blvd.
Room 260 - Administration Center
Waukesha WI 53188
262-548-7867
www.waukeshacounty.gov/landandparks



PARKS AND LAND USE

Via e-mail

Date: June 5, 2009

To: Eric Shambarger

Mayor's Office City of Milwaukee

From: Perry Lindquist

Dept. of Parks and Land Use

Waukesha County

RE: Joint Recycling Study

Dear Mr. Shambarger,

Waukesha County completed a recycling system study in September 2007, which strongly recommended that we switch to a single stream recycling system. It is my understanding that the Milwaukee Recycling Task Force, of which you are a member, is also considering this type of recycling system. I would appreciate the opportunity to present the results of our study to your Task Force. I believe they will find the information valuable, especially as it relates to the economics of a single stream system based on the tonnage processed. The study demonstrated a much better return on investment if we pursued additional community partnerships.

During and after the completion of the 2007 study, we have been gathering input from the 25 participating communities in Waukesha County, as well as from staff of the Milwaukee Public Works Department. Our participating communities are asking that we make a decision soon on the future direction of our recycling program so that proper planning can be completed, including a revision to private collection contracts in each community. However, to make this decision, additional analysis is needed on new community partnerships, transportation issues and the potential location offered by the City of Wauwatosa for a regional recycling facility. We encourage the City of Milwaukee to join us in studying these issues, and any others that may be involved. We would appreciate a commitment to such a joint study by August 1.

I could explain the above noted issues in more detail at a future Task Force meeting if there is interest. If so, please contact me directly at 262-548-7867 to make arrangements. Thank you for your consideration of my request.

cc: Rick Meyers, Milwaukee Public Works Dept. Bill Kappel, Wauwatosa Public Works Dept.

OFFICE OF THE CITY CLERK Milwaukee, Wisconsin

June 12, 2009

You are hereby notified that the Recycling Task Force will attend Tours of the Milwaukee Recycling Facility (1313 W. Mount Vernon Ave) and Waste Management Regional Recycling Facility (W132 N10487 Grant Dr., Germantown, WI) on June 29, 2009 from 1:00 $P.M.-5:00\ P.M.$

A majority of the Recycling Task Force members may be present for the tours. However, no formal action will be taken relating to the tours or any other matters pending before the Recycling Task Force.

Respectfully,

Ronald D. Leonhardt City Clerk

JRO:RDL:dkf

c.c. Press

Posting

Ronald Leonhardt

From: lschaal@sbcglobal.net

Sent: Tuesday, July 21, 2009 6:00 PM

To: MacDonald, Terry

Subject: Tracking trash - MIT News Office

http://web.mit.edu/newsoffice/2009/trash-0715.html

Hi Terri,

Can you send this to the members of the Recycling Task Force Please?

Interesting article out of MIT.

Thanks,

UrbanRe Vitalization Group LLC 3260 N Humboldt Blvd Milwaukee WI 53212 414-231-3291 414-364-5422(cell) www.urbanrevitalizationgroupllc.com info@urevitalize.org

Lisa Schaal President

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Tracking trash

Project aims to raise awareness of how garbage impacts the environment

July 15, 2009

What if we knew exactly where our trash was going and how much energy it took to make it disappear? Would it make us think twice about buying bottled water or "disposable" razors?

A team of MIT researchers today announced a major project called Trash Track, which aims to get people thinking about what they throw away. Trash Track relies on the development of special electronic tags that will track different types of waste on their journey through the disposal systems of New York and Seattle. The project will monitor the patterns and costs of urban disposal and create awareness of the impact of trash on our environment - revealing the last journey of our everyday objects.

"Trash is one of today's most pressing issues - both directly and as a reflection of our attitudes and behaviors," says Professor Carlo Ratti, head of the MIT SENSEable City lab. "Our project aims to reveal the disposal process of our everyday objects, as well as to highlight potential inefficiencies in today's recycling and sanitation systems. The project could be considered the urban equivalent of nuclear medicine - when a tracer is injected and followed through the human body.

"The study of what we could call the 'removal chain' is becoming as important as that of the supply chain," the lab's associate director, Assaf Biderman, explains. "Trash Track aims to make the removal chain more transparent. We hope that the project will promote behavioral change and encourage people to make more sustainable decisions about what they consume and how it affects the world around them."

Trash Track will enlist volunteers in two target cities - New York and Seattle - who will allow pieces of their trash to be electronically tagged with special wireless location markers, or "trash tags." Thousands of these markers, attached to a waste sample representative of the city's overall consumption, will calculate their location through triangulation and report it to a central server, where the data will be analyzed and processed in real time. The public will be able to view the migration patterns of the trash online, as well as in an exhibit at the Architectural League in New York City and in the Seattle Public Library, starting in September 2009.

Trash Track was initially inspired by the Green NYC Initiative, the goal of



Photo / E Roon Kang at SENSEable City Lab

2nd Prototype of the trash tag. **Enlarge image**



Photo / Musstanser Tinauli at SENSEable City Lab

First test deployment of a coffee cup in Seattle. **Enlarge image**



Photo / E Roon Kang at SENSEable City Lab

Visualization mock-up (simulated). **Enlarge image**

TOOLS

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CONTACT

Patti Richards

which is to increase the rate of waste recycling in New York to almost 100 percent by 2030. Currently, only about 30 percent of the city's waste is diverted from landfills for recycling. "We hope that Trash Track will also point the way to a possible urban future: that of a system where, thanks to the pervasive usage of smart tags, 100 percent recycling could become a reality," says project leader, Musstanser Tinauli.

"Carlo Ratti and his team have come up with a visionary project to help people take ownership of their pollution," says Roger Highfield, editor of New Scientist magazine, which will be helping to deploy a third batch of tags in London, U.K. "It's all too easy to throw something in the garbage and wash your hands of it if you don't know what effect you are directly having on the environment."

With this project, the MIT SENSEable City Laboratory seeks to couple hightech, rapidly evolving technology with an everyday human activity: trash disposal. Trash Track builds on some of the lab's previous projects - including Real Time Rome and the New York Talk Exchange - gathering, assessing and analyzing real-time data to improve urban functionality.

The Trash Track team at the SENSEable City Lab is composed of Carlo Ratti, Assaf Biderman, Rex Britter, Stephen Miles, Musstanser Tinauli, E. Roon Kang, Alan Anderson, Avid Boustani, Natalia Duque Ciceri, Lorenzo Davolli, Jennifer Dunnam, Samantha Earl, Lewis Girod, Srabjit Kaur, Armin Linke, Eugenio Morello, Sarah Neilson, Giovanni de Niederhausern, Jill Passano, Renato Rinaldi, Francisca Rojas, Louis Sirota and Malima Wolf.

MIT News Office

Phone: 617-253-2700

E-mail: prichards@mit.edu

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City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR

Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, July 27, 2009 1:30 PM Room 301-A, City Hall

Meeting convened: 1:32 P.M.

1. Roll call

Present 5 - Cole, Daun, Dudzik, Shambarger and Schaal

Also present: James Carroll, Legislative Reference Bureau, Jim Michalski, Comptroller's Auditing Division, Wanda Booker, Dept. of Public Works and Rick Meyers, Dept. of Public Works

2. Approval of the minutes of the June 8, 2009 meeting

Ald. Dudzik moved approval of the minutes, Mr. Daun seconded. There were no objections.

3. Presentation give by Mr. Perry Lindquist, Waukesha, County, Dept. of Parks and Land Use relating to a Waukesha County Recycling System Study

Mr. Cole introduced Mr. Perry Lindquist, Land Resources Manager with Waukesha County.

Mr. Lindquist gave a PowerPoint presentation titled: Waukesha County Recycling, Looking Ahead (Exhibit 1). The presentation consisted of Background on Waukesha County's recycling program; Waukesha County's MRF - Options for the future (2007 study findings/recommendations) and on the similarities between Waukesha County and the City of Milwaukee's recycling programs.

Mr. Daun asked what Mr. Lindquist thinks the timeframe would be to design a recycling facility?

Mr. Lindquist replied that realistically it could take until the year 2012 to get something up and running.

Mr. Shambarger asked how did Mr. Lindquist decide on the Wauwatosa site as a potential site for the consolidation?

Mr. Lindquist replied that the Wauwatosa site that is available seems like a good site because it was conveniently located, but once the study takes place the researchers may find another site that may work better.

Mr. Daun asked if Mr. Lindquist has an idea what the cost of the study would be?

Mr. Lindquist replied in the negative.

Mr. Shambarger asked Mr. Lindquist if he knows what the distances are from the Waukesha's current site to the site located in Wauwatosa and to the Germantown facility?

Mr. Lindquist replied in the negative.

Mr. Cole asked Mr. Lindquist what are the problems that Waukesha has with hauling to a privately run recycling facility?

Mr. Lindquist replied that the cost for Waukesha to a haul to a private facility would be high. He said if a partnership doesn't happen between Waukesha, Milwaukee, etc. Waukesha would probably have to go with hauling to a private recycling facility.

Mr. Meyers appeared and asked Mr. Lindquist if the existing Waukesha recycling facility would become a transport facility?

Mr. Cole thanked Mr. Lindquist for coming and said that it isn't in the purview of this task force to approve entering into a partnership contract. He said it may be a recommendation by this task force to the City of Milwaukee Common Council.

Roll call taken at 2:45 P.M.

Present 4 - Cole, Daun, Shambarger and Schaal

Excused 1 - Dudzik

4. Discussion relating to the Milwaukee and Waste Management Regional Recycling facilities

Mr. Cole asked the task force members if there are any questions or comments regarding the recycling facilities tours.

There were none.

5. Discussion relating to the scope of work for the consultant study on a single stream recycling operation vs. dual system recycling operation

Mr. Cole called Mr. Donald F. Pirrung, P.E., Senior Engineer and Consultant for Earth Tech/AECOM to come to the table to give an overview of the scope work for a recycling study.

Mr. Pirrung handed out an overview of the scope of work that he prepared for a City of Milwaukee Recycling Facility Study (Exhibit 2).

Mr. Pirrung explained each of the following recycling alternatives: A. Evaluate Dual Stream Recycling at City's Milwaukee Recycling Facility (MRF); B. Evaluate Single Stream Recycling at the City's MRF; C. Evaluate Two City Transfer Stations with direct hauling to Germantown and No City-owned processing facility and D. Evaluation regional MRF in Wauwatosa to Serve Waukesha County, City of Wauwatosa and City of Milwaukee.

Mr. Pirrung said the study would also review the impacts that implementing the measures to reduce landfill tonnage will have on a residential recycling program.

And, lastly, Mr. Pirung explained the time schedule of a study.

Mr. Cole said that if there is no substantive changes or objections, he and the Comptroller's Office will pursue entering into a service order agreement with Earth Tech/AECOM to begin doing a City of Milwaukee Recycling Facility Study. There were no changes offered. There were no objections by task force members.

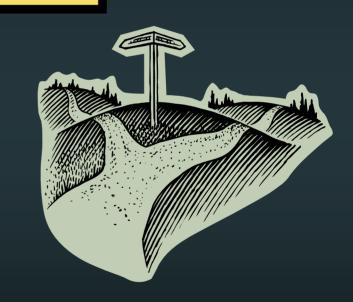
Meeting adjourned: 2:51 P.M.

Terry J. MacDonald Staff Assistant

Waukesha County Recycling

Looking Ahead

Perry Lindquist, Land Resources Manager Waukesha County Dept. of Parks & Land Use



July 27, 2009 Milwaukee Recycling Task Force

Presentation Outline

- Background on county recycling program
- County MRF Options for the future
 - 2007 study findings/recommendations
- Similarities to City of Milwaukee
 - How can we work together/next steps

Background on County Program

- Waukesha County is "Responsible Unit" for 25 communities (since 1990)
 - Pool state grants (\$1 million/yr)
 - Coordinate education program
 - Pay for blue recycle bins
 - MRF investment/risk, oversight, maintenance
- County-owned/privately operated MRF
 - Dual-stream system (paper & containers separate)
 - Average 23,000 tons/year of recyclables
 - Last expansion in 1995

Participating Municipalities

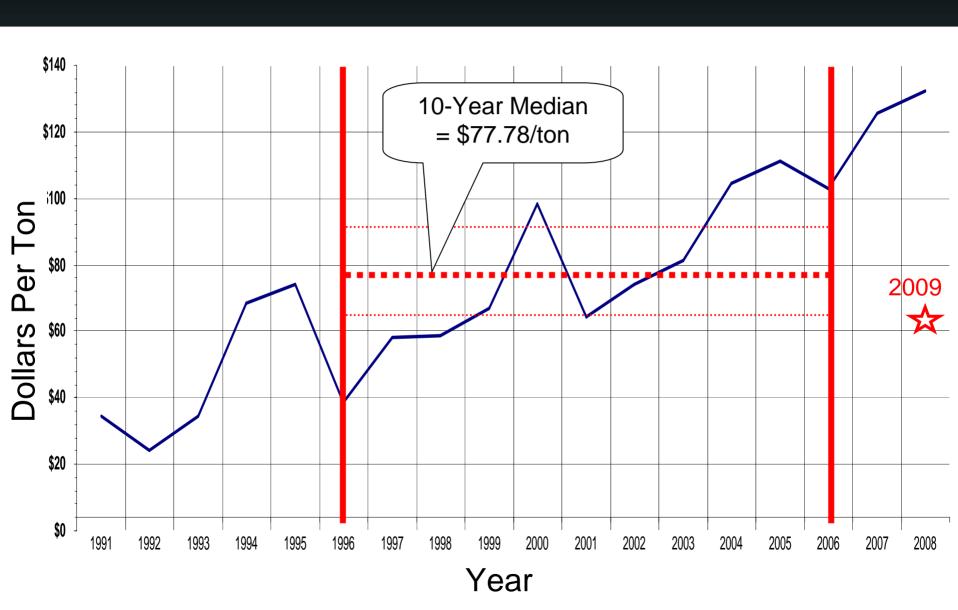


Background on County Program (continued)

- 25 Participating Communities must:
 - Collect dual stream recyclables
 - 88,000 households (pop. 270,000)
 - \$12 million/yr. in private contracts (\$3.5 mil. recycle)
 - Deliver recyclables to county MRF
 - Report program costs to county/annual grants

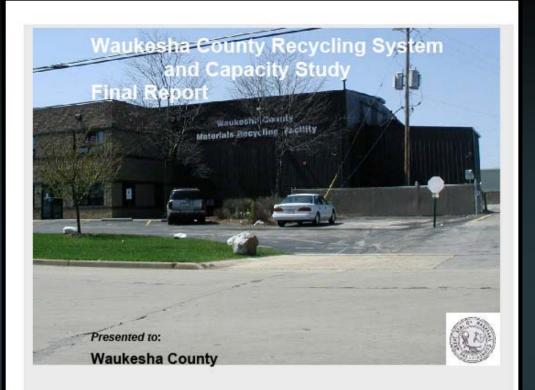
Total Revenue Per Ton Shipped

Waukesha Co. MRF 1991-2008



County MRF: "Enterprise Fund"

- Self-sustaining no tax levy or processing fees to communities (up front County loan paid off)
- Revenues: material sales (50%), state grants & operator processing fees (up to \$6.50/ton)
- Current fund balance = \$11 million:
 - Good markets and competitive operating contracts
 - Distributions to communities of \$6.2 million in the last 9 years + \$1 million for 2010 (proposed)
 - 2012 Projected Fund Balance: \$11-13 million
 - Assume continued state grants of \$1 million/yr., material sales of \$700K./yr. and community dividends of \$1 million/yr.
 - Use to pay for future MRF investments



Prepared by:

RRT Design & Construction





GERSHMAN, BRICKNER & BRATTON, INC.

2007 Study

Waukesha County Recycling System

Study: Existing Dual Stream MRF Capacity

 Can handle future dual stream program for the <u>short term</u>

However, some major issues need to be

addressed:

- Sort line
- Tipping floor
- Bale storage



Plastic Containers Overwhelming Sort System





Tipping Floor Space is Limited

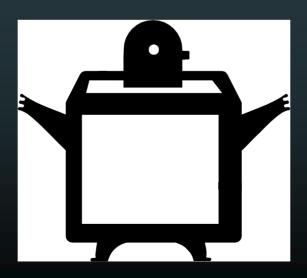


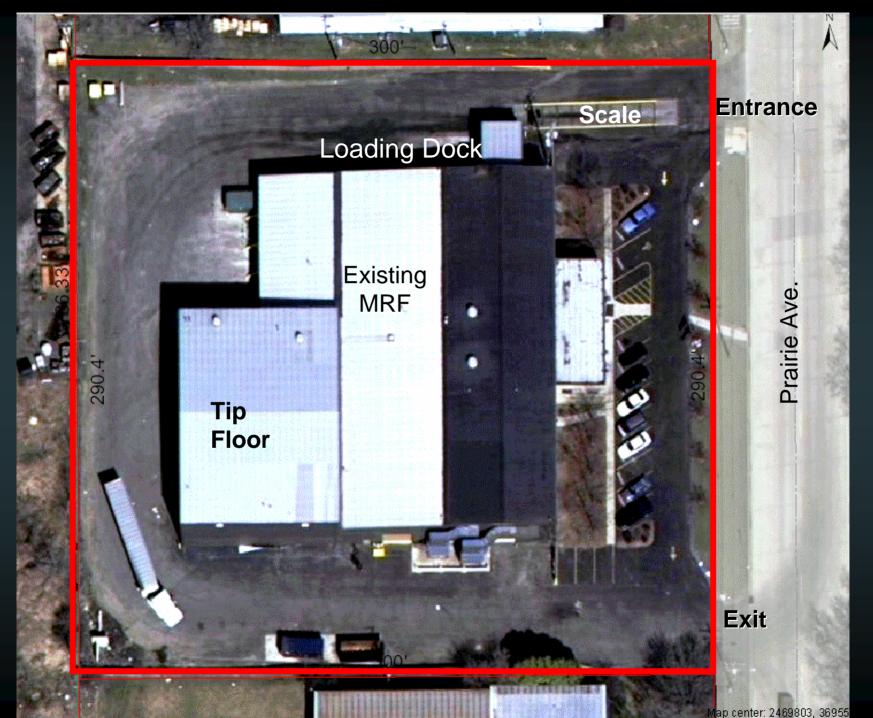
Bale Storage is Inadequate



Study: Existing Dual Stream MRF Capacity (cont.)

- Must expand MRF or build new in future
- <u>Cannot</u> expand MRF on current 2-acre site, because...



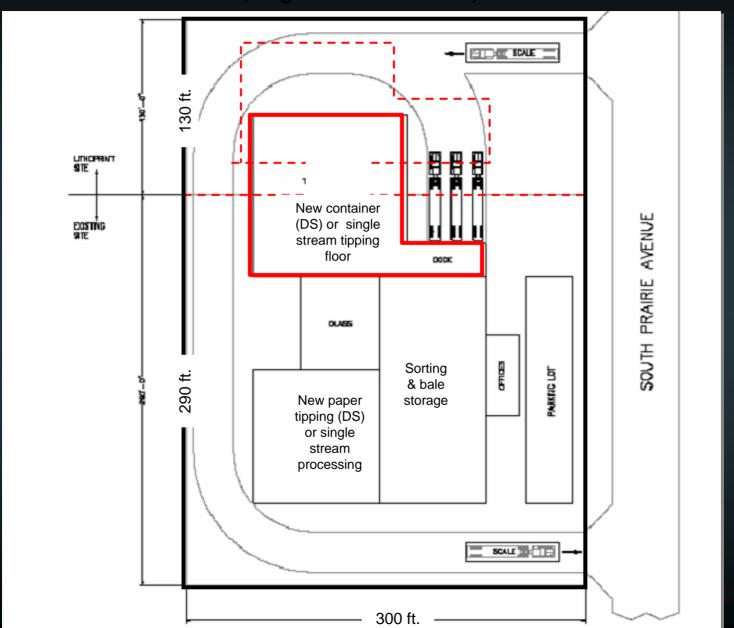


Possible MRF Expansion

- If 1 acre site to the north purchased, limited expansion is possible
 - Tipping/storage areas/new equipment
 - Could also convert to single stream
- Industry trends & community pressures to switch to Single Stream will influence future decisions

Concept Drawing – North Expansion

(single or dual stream)



Possible MRF Expansion (cont.)

- Estimated costs:
 - Dual stream: \$6.5 million + property/business
 - Single stream: \$7.0 million + property/business
- However, the expanded site could <u>not</u> handle a very large increase in tonnage

Recyclables Collection

Dual Stream vs. Single Stream





Existing program (blue bin)

(manual/paper & containers separated)

Industry trend (cart)

(automated/all recyclables mixed)

SS Pros (Collection) vs. Cons (MRF Impacts)

Single Stream Collection Cost Savings

Single Stream MRF Impacts

Collection Trends/Pressures

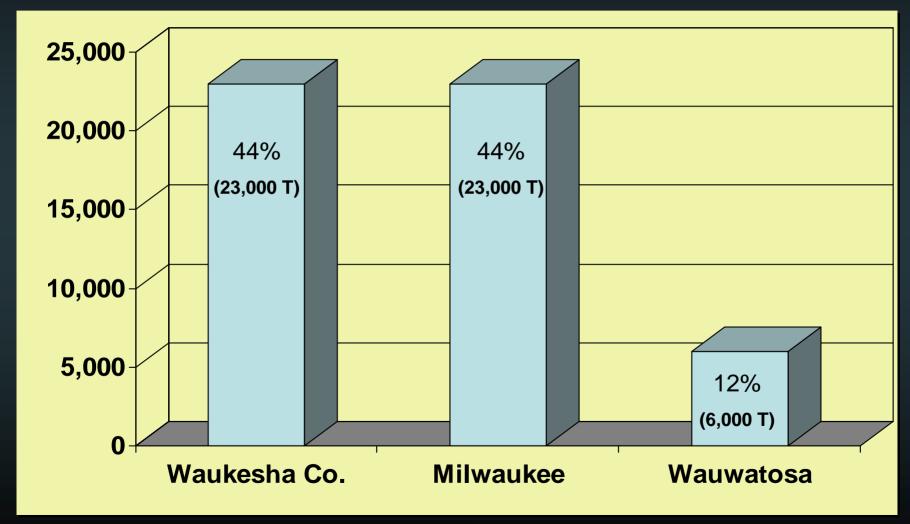
- Private haulers are pushing for Single Stream collection to save money
 - Trend is playing out nationwide
 - >100 SS MRFs (25% in 2008)
 - Locally, only 1 of 3 private haulers (Veolia) still offers dual stream collection
 - Waste Mgt. and Johns already switched to SS
 - 3 participating communities without hauling contracts already switched to SS (problem)
- More communities want to switch to SS

Scenarios for Future Projections:

- Tonnage
 - Participating county municipalities (25)
 - Adding non-participating communities (12)
 - Adding Milwaukee & Wauwatosa
- Single vs. Dual Stream



Annual Tons Recycled (52,000 Tons)*



^{*}Rounded from 2008 data (no other communities included with City of Milwaukee data)

Key Study Findings & Recommendations

- 1. Switching to Single Stream is <u>strongly</u> recommended
 - Pros far outweigh the cons
 - Could save partic. communities >\$700,000/year in collection & disposal costs
 - 10% or \$12.36/HH/Year savings (minus cart \$)
 - Needs all new MRF equipment/more space
- Recycling tons increase considerably with a Single Stream system – assumed + 25%
 - In-county data shows 45% increase/capita

Key Study Findings & Recommendations (continued)

- 3. Doubling tonnage greatly improves the economics of a Single Stream MRF
 - 2 shifts = much faster return on investment
 - New site needed to double tonnage
- 4. National MRF data shows:
 - SS paper/fiber is equally marketable
 - Increased residue from SS depends on public education (projected increase from 3% to 10%)

Single Stream Options

(2007 Costs & 2010 Projected Tonnage)

1. Expand/Convert Current MRF:

- Participating Municipalities only (30,565 tons)
- Acquire/relocate Lithoprint
- Estimated bldg. costs = \$7 million + Lithoprint costs
- Projected annual net revenues = \$0.12 million

2. Build New Regional MRF (publicly-owned/privately operated):

- Add tonnage for <u>2 shifts</u> (76,066 tons NP/Tosa/Milw)
- Estimated building costs = \$8.25 million + land
- Projected annual net revenues = \$1.7 million

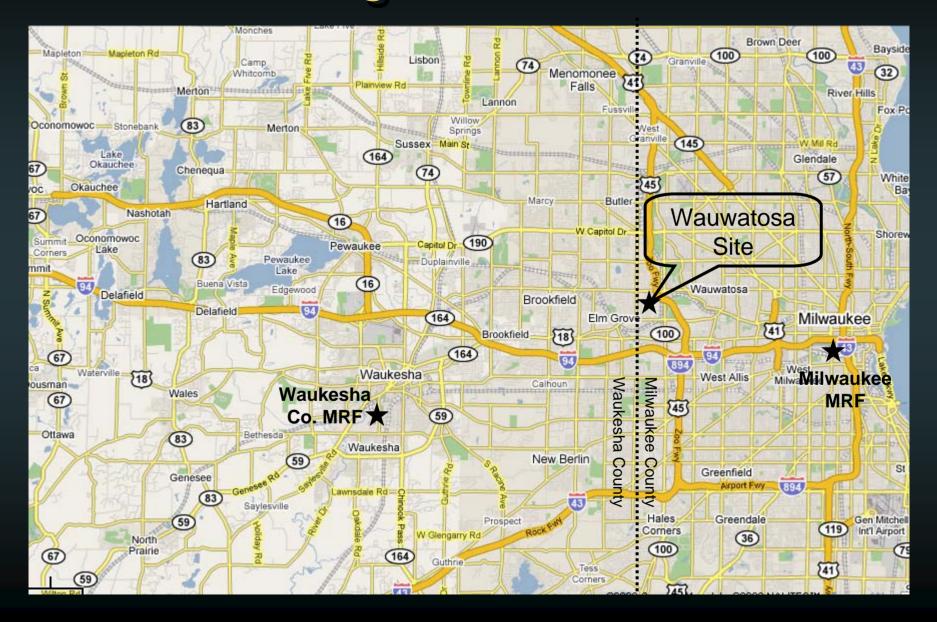
3. Send recyclables to privately-owned MRF

Costs unknown (RFP process)

County Response to Private MRF Option

- Existing County MRF is already privatized
 - Public ownership of the facility (40% nationally)
 - Private operation & marketing/good competition
- Public/private partnership has been very successful
- Privately-owned MRF does not ensure longterm competition/price stability for communities
- Having a publicly-owned/privately operated MRF in SE helps keep costs down for <u>all</u> communities

Possible Regional MRF Location



Single Stream Economic Summary

(Revenues & expenses to be prorated to participating communities)

- Projected 2010 NET revenues from a Regional Single Stream MRF are 14.5 times larger than converting county MRF to single stream
 - \$1.7 million (regional/76,066 T) vs. \$0.12 million (county/30,565 T)
 - 6 times larger for Waukesha Co./Milwaukee (44%)
- Payoff of capital costs (\$8.25 million) for a new Regional Single Stream MRF = <u>5 years</u>
- Payoff of capital costs (\$7 million) for converting county MRF to single stream = <u>58+ years</u>

Summary Look at the SS System

- Collection: Savings in collection costs and landfill disposal costs (reduced trash)
 - \$700,000 per year for partic. municipalities

- MRF: It's all about the tons!
 - 2.5 times tonnage = 10 times faster return on investment

Similarities: Waukesha Co. & City of Milwaukee

- Publicly-owned dual stream MRFs
- Tonnage processed (23,000/yr.)
- Aging facilities facing costly updates
- Pressures to improve program efficiencies
- Pressures to switch to Single Stream:
 - Reduce collection & landfill disposal costs
 - + Increase recycling rate
- Concerns about future price stability
- 14-year history of coordinating education efforts

Why Work Together? (Regional Single Stream MRF)

- 1. Lower costs/ton capital and O & M
- 2. Better return on investments/reduced risk
- 3. Long-term price stability
- 4. Good example of regional cooperation
- Both MRFs already publicly-owned and privately operated
 - no threat to private sector

Next Steps, Issues & Timelines

- Commit to joint study (ASAP):
 - Milwaukee, Waukesha Co. & Wauwatosa
- Establish scope of study/write RFP (fall 2009):
 - Refine & update economic analysis
 - I.D. financial options (sharing costs & revenues)
 - Technical investigation of Tosa site
 - Transportation issues
 - Concept plan/budget
 - Institutional options (ownership, contracting, etc.)
 - Collection or other issues?
- Release RFP & hire consultant early 2010
- Complete study by end of 2010

Questions?

Perry Lindquist, Land Resources Manager
Waukesha County - Dept. of Parks and Land Use
Room 260 Administration Center
515 W. Moreland Blvd., Waukesha WI 53188
plindquist@waukeshacounty.gov
262-548-7867

SS Pros (Collection) vs. Cons (MRF Impacts)

Single Stream Collection Cost Savings	Single Stream MRF Impacts
Automation decreases personnel costs (workers comp claims, etc.)	Increases MRF labor and capital costs
Large cart allows Every Other Week collection of recyclables	Increases residue level at MRF (non-recyclables)
• Flexibility: Can use compaction vehicles to reduce capital & trips to the MRF, more households per route – faster collection	Potential for decreased quality of processed recyclables (glass/paper)
Higher rates of recycling & reduced landfill disposal costs – easier for the general public to implement (no sorting)	 Higher recyclable volumes to process Increased net cost per ton processing

All of these factors were built into the economic analysis

City of Milwaukee Recycling Facility Study Prepared by: Donald F. Pirrung, P.E. AECOM July 27, 2009

A. Recycling Alternatives

4 S. O. F.

♦ Alternate A: Evaluate Dual Stream Recycling at City's MRF

- Estimate Equipment and Installation Costs
- Evaluate Collection of Recyclables
- Estimate Equipment (Trucks, Carts), Facility Repair, Maintenance, Labor and Fuel Costs for Three Options
 - Monthly Collection as Currently Practices
 - Three-Week Collection
 - Two Week Collection
- Address Costs, Pros/Cons

◆ Alternate B: Evaluate Single Stream Recycling at the City's MRF

- Evaluate Using Same Approach as Alternative A

♦ Alternate C: Evaluate Two City Transfer Stations with Direct Haul to Germantown and No City-Owned Processing Facility

- Consider use City's MRF as Transfer Station
- Consider Using Existing Lincoln Avenue Transfer Station for Recyclables Receiving and Transfer
- Develop Costs Including Capital, Operation and Maintenance for a New Transfer Station serving the North Side
- Address Costs, Implementation Aspects, Pro/Cons

♦ Alternate D: Evaluation Regional MRF in Wauwatosa to Serve Waukesha County, City of Wauwatosa and City of Milwaukee

- Use Waukesha County 2007 Report for Cost Information
- Address Costs, Implementation Aspects, Pros/Cons

B. Other Considerations

- Discuss impacts that implementing measures to reduce landfill tonnage will have on residential recycling program:
 - "Pay as you throw" Program
 - Offsets Higher Solid Waste Fees
 - Encourages Recycling
 - Reduces Solid Waste Tonnage
- Summarize Results of Alternatives

C. Schedule

City Notice to Proceed
 Submit Draft Report to City
 Meet with City
 Submit Final Report to City
 August 14, 2009

 August 21, 2009

 August 28, 2009



Proposed Matrix of Consultant Scope of Work Related to the City's Residential Recycling Program
14-Jul-09

<u> </u>			P	rocessin	
	system	schedule	Current Site (City's MRF on Mt. Vernon Ave)	Transfer Stations (haul to 3rd party)	Publicly Owned Regional Facility (Wauwatosa)
	am	monthly			
	Dual Stream	3 weeks			·
	Du	2 weeks			
	Steam	monthly			
	Single Ste	3 weeks			
	Sin	2 weeks			

^{*}Each box is to include analysis of that particular scenario's related capital, labor, and transportation costs.

From: Daun, Michael

Sent: Thursday, August 06, 2009 10:23 AM

To: MacDonald, Terry

Cc: 'Steve Brachman'; Daun, Michael Subject: FW: MRF of the Month

Terry,

I received the attached from Steve Brachman, who currently works at the UW (and formeerly City of Milwaukee). Would you please forward to the members of the Recycling Task Force? It's an interesting piece on what some Wisconsin counties have done with a regional Recycling facility. thx.

Mike Daun

Michael Daun Deputy Comptroller City of Milwaukee 414-286-2302 mdaun@milwaukee.gov

From: Steve Brachman [mailto:steve.brachman@ces.uwex.edu]

Sent: Wednesday, August 05, 2009 4:27 PM

To: Resick, Jim H.

Cc: Daun, Michael; Murphy, Michael (Alderman); Morics, Wally

Subject: Re: MRF of the Month

Our pleasure and great work, Jim! The tri-counties is the WI model for integrated solid waste management and collaboration, particularly important since we have so few others doing it! Wouldn't it be swell if Milwaukee and Waukesha could do the same??? I bet there is big money to be saved...

On 8/5/09 4:04 PM, "Resick, Jim H." < ResickJH@co.outagamie.wi.us > wrote:

Steve, Joe and Mary,

Hey, the OC and its partner counties (Brown and Winnebago) have hit the big time with their new single-stream facility! Local Extension's contribution was to facilitate a series of group discussions between the county SW Departments and their stakeholder groups in 2007-08, to make sure everyone was on board. You were each called at various points for consultation, as well. Thanks to you all for helping make this a successful launch!

Jim

From: Bocik, Barbara A. On Behalf Of Paltzer, Toby N.

Sent: Wednesday, August 05, 2009 9:00 AM

To: ALL COUNTY USERS **Subject:** MRF of the Month

Good Morning:

Attached please find an article regarding our Single Stream Recycling facility being named MRF of the Month. We are very proud of this facility. Congratulations to all those involved in the project!

Toby

Toby Paltzer
Outagamie County Executive
410 S. Walnut Street
Appleton, WI 54911
Phone: 920-832-1684

Fax: 920-832-1534

Steve Brachman, Waste Reduction Specialist
UW-Extension Solid & Hazardous Waste Education Center
161 W. Wisconsin Ave., Suite 6000
Milwaukee, Wisconsin 53203
414-227-3160
steve.brachman@ces.uwex.edu
http://shwec.uwm.edu

MRF of the Month

Tri-County Single-Stream Recycling Facility



spanking new Tri-County Single-

Stream Recycling (TCSSR) facility, located in Appleton, Wisconsin, is a byproduct of the newly-combined recycling programs of Brown, Outagamie and Winnebago counties. The largest public-sector single-stream MRF in the Badger State and one of the larger publicly owned and operated single-stream plants in the U.S., the TCSSR presently serves some 60 communities (over 200,000 households) within the three counties, handling both residential and commercial recyclables.

"We have brought a new era of recycling to Wisconsin," says Philip Stecker, Outagamie County's director of solid waste. "This facility allows us to serve some 500,000 residents in Northeastern Wisconsin; that's 10 percent of the state's total population."

Operated by Outagamie County, the \$9.9 million regional facility includes a state-of-the-art single-stream processing system designed, engineered, manufactured and installed by Bulk Handling Systems. Outfitted with the latest in screening, optical and

air-separation technologies, the system was created by BHS to process an average of 25 tons per hour, all while generating minimal residual material.

According to company representatives, the single-stream system employs the use of integrated processes that emphasize mechanization, and the extraction of recoverable materials, all on the first pass. As a result, this technology allows the TCSSR to experience a high-value material capture rate of nearly 100 percent, and produce an end-product with extremely low residue values (projected to be less than three percent). In addition to including a large old corrugated cardboard separator and steel disc debris roll screen, in order to remove virtually all glass at the front end (currently, glass content is approximately 25 percent of the overall material flow), the processing system also includes a unique filtration system that provides a cleaner, dust-free working environment for the plant's 20 total employees.

The system's main sorting stations include presort, paper post-sort and container sort, with three other smaller sorting stations located

Tri-County Single-Stream Recycling Facility

pecifications*

echnical

Location:

Appleton, Wisconsin

Start-up date:

July 2009

Number of processing lines:

One (single-stream)

Throughput:

Single-stream: 25 tons per hour

Estimated tons of material to be processed:

Designed with an 80,000-ton capacity, MRF will initally process 50,000 tons annually

Residue rate:

Projected to be less than three percent

2007-2008 Materials Processing and Recycling in the United States: Yearbook and Directory

5th Edition — Print or CD-ROM

The 1,300 page Yearbook is the only comprehensive guide to Materials Recovery Facilities (MRFs) in the United States, providing information on 583 operating, planned and shut projects. A nationally recognized resource, it provides a strategic analysis of the post-consumer recycling industry and a database of U.S. Material Recovery Facilities. It is an invaluable reference tool for solid waste decision makers, planners, consultants, and organizations interested in the present and future of recycling.

Governmental Advisory Associates, Inc.

203.226.3238 • 203.226.3239 (fax) • gaa@governmentaladvisory.com • www.governmentaladvisory.com

GAA, Inc.

along the processing line. Altogether, 17 sorters work under one shift to handle material coming into the facility.

And, though the TCSSR is projected to process 50,000 tons per year, initially, BHS actually designed the system to handle up to 80,000 tons annually, thus allowing the MRF to serve larger portions of Wisconsin as more single-stream programs come on-line. "There are no firm plans yet, but we are talking with several other municipalities and counties," says Stecker.

"For our grand opening and open house, we had between 700 and 800 community and business officials, as well as members of the public, visit and tour the facility," says Stecker. "The level of interest for this facility has far exceeded our expectations."



*Know of a North American-based materials recovery facility that you feel *Resource Recycling* readers should know about? If so, e-mail your recommendation, with hi-resolution pictures, to justin@resource-recycling.com, and your facility may just be highlighted in a future "MRF of the Month" column.

From: lschaal@sbcglobal.net

Sent: Thursday, August 13, 2009 2:36 PM

To: MacDonald, Terry **Cc:** lschaal@sbcglobal.net

Subject: FW: [focus_solar] Solar-Powered Waste Compactors [2 Attachments]

Terry,

Please forward to Recycling Task Force members- thanks hope all is well.

Hmmm interesting- now were talking business! Solar, recycling and waste management all rolled into one and they are eligible for Cash Back Rewards by Focus on Energy!! Right up my alley...

J

Not to mention they are a WI owned company- Milwaukee Shines maybe interested in this also.

UrbanRe Vitalization Group LLC

3260 N Humboldt Blvd Milwaukee WI 53212 414-231-3291 414-364-5422(cell) www.urbanrevitalizationgroupllc.com info@urevitalize.org

Lisa Schaal
President

See attached for some solar powered waste compactors.

They, like off grid lighting systems, would be eligible for a Focus on Energy Cash Back reward if:

- there is an electric meter paying into the Focus Program at the installation site
- the total module capacity installed at one site is more than 500 watts
- all our other normal requirements

The compactors are sold by at least one company in WI, J-MEC Equipment, which is located in Lake Mills.

They contacted us.

Contact information for them:

Ryan Simmons Sales Manager

J-Mec Inc.

Cell: (920) 605-0061 | Fax: (920) 648-6649

Web site: www.jmecinc.com

2 of 2 File(s)

GreenBuilt-Full_Product_Line.pdf WM Solar Trash Compactor Sales Sheet 4-29-09.pdf

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.5.392 / Virus Database: 270.13.45/2286 - Release Date: 08/06/09 18:17:00



with environmentally friendly options, our solution for reducing energy consumption and noise pollution



- Solar Power Units
- ▼ 5 HP High Efficiency

 Submerged Power Unit
- ▼ Cushioned Ground Rollers
- ▼ Biodegradable Hydraulic Fluid



GreenBuilt Self-Contained Compactors

- 5 HP High Efficiency Submerged Power Unit or Solar Power Unit
- Biodegradable hydraulic fluid
- Cushioned ground rollers
- ▼ Other features: Universal 37" Double-End Pick-Up Understructure; Programmable PLC; Push Button Controls mounted in Panel Box Face; CYCON Life-Xtender® System; Quick Disconnects; Full Door Seal; Qwik Clean® Tank flushes area behind ram; 12" deep sump area for liquid retention.

GreenBuilt Stationary Compactors

- 5 HP High Efficiency Submerged Power Unit or Solar Power Unit
- Biodegradable hydraulic fluid
- ▼ Other features: Push Button Control Station mounted on 13' Sealtite; Ratchets with Grab Claws; and External Reset Button in Panel Box Face.

^{*}Except HT models

Environmentally Friendly Products

Marathon Equipment is aware of global sustainability and environmental impact with regard to our products. With each new product we have made measurable strides in reducing energy and fuel consumption while continuing to offer superior compaction for maximum payloads. Marathon sets the standard with **GreenBuilt**® product options.



Motor compartment of a GreenBuilt VIP

GreenBuilt Vert-I-Pack®

- Solar Power Unit
- Biodegradable hydraulic fluid
- Other features: Reversible Compactor Assembly with Interchangeable Leg/Platform Assembly*; Full Container Light; and Container.

*4-, 6-, & 8 - cubic yard FL only

GreenBuilt PAK'NTAINER®

- Solar Power Unit
- Biodegradable hydraulic fluid

GreenBuilt

Vertical Baler

- 5 HP High Efficiency Submerged Power Unit
- ▼ Biodegradable hydraulic fluid
- ▼ Other features: Automatic Feed Door for hands-free loading; Side-mounted Power Unit for easy access and maintenance; Redundant Interlock System; Programmable PLC; Front Facing Push Button Control Panel; Conventional Bale Tie-Off System; and Heavy-Duty Structure. Available optional wire guides for front tie-off and automatic bale ejector.



- Unit or Solar Power Unit
- Biodegradable hydraulic fluid
- Cushioned ground rollers
- Other features: Multi-purpose compactor with two variable capacity compartments for two types of waste/recyclables; Patented Flex-D-Vider®, a pivoting steel wall that automatically adjusts the compartments' capacity during loading; Four individual doors for controlled discharge of compacted material.

Solar Power Unit

Solar panels for up to 100% of power requirements*

DC powered hydraulics

Performance is comparable to comparable 10 HP power units

No three phase power required

Environmentally friendly biodegradable hydraulic fluid

120 VAC backup charger used to charge batteries when needed





5 HP High Efficiency -Variable Displacement Power Unit

- 5 HP energy efficient unit with submerged variable displacement pump
- Environmentally friendly biodegradable hydraulic fluid
- Offers speed and performance comparable to 10 HP units while using 50% less power



GreenBuilt Specifications

GreenBuilt 5 HP Power Unit Specs

Electric Motor 3/60/208-230/460 – 5 HP (3.7 kW)

Electric Control Voltage - 120 VAC

Key Operated Control Station – All Circuits Fused

Hydraulic Pump – 11 GPM HiLo (41.6 L/min)

Pressures & Forces - same as standard units

Hydraulic Fluid - Biodegradable

GreenBuilt Solar Power Unit Specs

Electric Motor - 24 Volt DC

(2 for SC's and 1 for VIP and PAK'NTAINER)

Batteries – Powered stored in 4 premium deep cycle batteries (2 for VIP)

Charger – 120 VAC backup charger used to charge batteries when needed

Key Operated Control Station - All Circuits Fused

Hydraulic Pump(s) – 4 GPM Each Motor (Variable)(15.2 L/min)

(2 for SC's and 1 for VIP)

Pressures & Forces – same as standard units

Hydraulic Fluid - Biodegradable

GreenBuilt Self-Contained Compactor Specifications

Model	Container Capacities*	*Charge Box Capacity	Feed Opening	System Pres-Norm.	System Pres-Max.	Force Rate-Norm	Force Rate-Max	5 HP Cycle Time	Solar Cycle Time**
RJ-88 SC	15, 20, & 24 cy.	0.7 cy.	30 1/2" x 48"	1,700 psi	2,000 psi	36,600 lbs.	43,100 lbs.	25 sec.	34 sec.
RJ-88 HT	16, 20, & 24 cy.	0.7 cy.	30 1/2" x 48"	1,700 psi	2,000 psi	36,600 lbs.	43,100 lbs.	25 sec.	34 sec.
RJ-100 SC	30, & 34 cy.	1.32 cy.	35" x 60"	1,850 psi	2,300 psi	36,300 lbs.	45,200 lbs.	36 sec.	50 sec.
RJ-250 SC	15, 20, 25, 30, 34, & 39 cy.	1.31 cy.	41" x 58"	1,850 psi	2,300 psi	39,900 lbs.	49,500 lbs.	32 sec.	43 sec.
RJ-250 HT	25, & 29 cy.	1.31 cy.	41" x 58"	1,850 psi	2,300 psi	39,900 lbs.	49,500 lbs.	32 sec.	43 sec.
DRC II	8.4 – 19.6 cy. per compart.	1.79 cy.	34 1/2" x 48"		2,000 psi		31,800 lbs.	36 sec.	49 sec.

GreenBuilt Stationary Compactor Specifications

Model	*Charge Box Capacity	Feed Opening	System Pres-Norm.	System Pres-Max.	Force Rate-Norm	Force Rate-Max	5 HP Cycle Time	Solar Cycle Time**
RJ-225	1.55 cy.	40 1/2" x 60"	1,650 psi	1,950 psi	46,700 lbs.	55,100 lbs.	69 sec.	95 sec.
TC-220T TANK	1.44 cy.	42" x 58"	2,000 psi	2,000 psi	54,500 lbs.	54,500 lbs.	49 sec.	67 sec.
TC-225T TANK	1.82 cy.	53 1/2" x 58"	2,000 psi	2,000 psi	54,500 lbs.	54,500 lbs.	59 sec.	81 sec.

GreenBuilt Vert-I-Pack® & PAK'NTAINER® Specifications

Model	Collection Vehicle Type	Container Capacities	Charge Box Capacity*	Feed Opening	System Pres-Norm.	System Pres-Max.	Force Rate-Norm	Force Rate-Max	Solar Cycle Time**
Front Feed VIP	FL	3, 4, 6 & 8 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
Rear Feed VIP	FL	4, 6 & 8 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
Side Feed VIP	FL	3, 6 & 8 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
Front Feed VIP	RL	4 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
Rear Feed VIP	RL	4 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
Untouchable VIP	FL	2.5 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
VIP FL/3	FL	3 cy.	0.54 cy.	23 1/2" x 46"	2,100 psi	2,400 psi	26,400 lbs.	30,200 lbs.	24 sec.
PAK'NTAINER	FL/RL	4 & 6 cv.	0.5 cv.	22 1/2" x 46"	2,100 psi	2,400 psi	19,800 lbs.	19,800 lbs.	22 sec.

FL = Front Loader collection trucks

GreenBuilt Vertical Baler Specifications

Model	Bale Size	Bale Weight (OCC)	Feed Opening	System Pressure	System Pres-Max.	Platen Force	Platen Pressure	5 HP Cycle Time
V-6030HD	60"W x 30"D x 48"H	Up to 1,100 lbs.	60" x 25"	2,000 psi	2,200 psi	56,550 lbs.	34 psi	54 sec.
V-7230HD	72"W x 30"D x 48"H	Up to 1400 lbs.	72" x 25"	2,000 psi	2,200 psi	56,550 lbs.	29 psi	54 sec.

^{*} WASTEC Rating

RL = Rear Loader collection trucks

^{**} Cycle time may vary because of battery charge level.



This major retailer is one of the first to adopt a "green" policy that included compaction equipment. This installation features a RJ-100 SC with a Solar Power Unit and Cushioned Ground Rollers.

The solar panels for this GreenBuilt RJ-250SC is mounted on the roof. Solar panels can be placed as much as 100 feet from the power unit.



This solar powered power unit runs a Vert-I-Pack (VIP) at a national fast food restaurant. The solar energy is used to recharge two premium deep cycle batteries.

This GreenBuilt RJ-250SC has a 5 HP high efficiency power unit and is located inside. Pulling the compactor is made easy with the double-end pickup feature.



This GreenBuilt® 5 HP high efficiency submerged power unit runs a RAMJET 3 cubic yard TANK® located at a manufacturing facility. It provides the same speed and performance as its 10 HP predecessor.





MarathonEquipment.com



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P.O. Box 1798 • Vernon, AL 35592-1798 USA • (205) 695-9105 fax (205) 695-7250 1-800-633-8974 130 Hwy. 339 • Yerington, NV 89447 USA • (775) 463-4030 fax (775) 463-4531 1-800-624-5724 1102 Industrial Park Rd. • Clearfield, PA 16830 USA • (814) 765-0200 fax (814) 765-2072 1-800-922-7062

Pictures in this literature are illustrative only. Specifications are subject to change without notice in order to accommodate improvements to the equipment. Certified in compliance with ANSI Regulation Z245.2, all OSHA standards, and certified under WASTEC's Stationary Compactor Certification Program. Products must be used with safe practice and in accordance with said regulations and standards.











City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR

Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, September 14, 2009

1:30 PM

Room 301-A, City Hall

Meeting convened: 1:36 P.M.

Present 4 - Cole, Dudzik, Shambarger and Schaal

Excused 1 - Daun

1. Roll call

Also present: James Carroll, Legislative Reference Bureau, Jim Michalski, Comptroller's Auditing Division, Wanda Booker, Dept. of Public Works, Rick Meyers, Dept. of Public Works and Craig Kammholz, Comptroller's Office

2. Approval of the minutes of the July 27, 2009 meeting

Ald. Dudzik moved approval of the minutes, Ms. Schaal seconded. There were no objections.

3. Presentation given by Mr. Donald F. Pirrung, P.E., Consultant for Earth Tech/AECOM relating to a Recycling Facility Study for the City of Milwaukee

Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM appeared to give the presentation.

Mr. Pirrung handed out a copy of his presentation. (Exhibit 1)

Ald. Dudzik moved and seconded by Ms. Schaal that the RECYCLING TASK FORCE convene into closed session, pursuant to s. 19.85(1)(e), Wis. Stats., for the purpose of formulating competitive bargaining strategies relating to recycling facility contracts in respect to item #3...Presentation given by Mr. Donald F. Pirrung, P.E., Consultant for Earth Tech/AECOM relating to a Recycling Facility Study for the City of Milwaukee.

Roll call taken at 1:44 P.M.:

Present: 4 - Erick Shambarger, Lisa Schaal, Ald. Dudzik and Preston Cole Excused: 1 - Michael Daun

Mr. Shambarger moved and seconded by Ms. Schaal that the committee reconvene in open session.

Roll call taken at 2:44 P.M.

Present: 4 - Erick Shambarger, Lisa Schaal, Ald. Dudzik and Preston Cole Excused: 1 - Michael Daun

4. Set next meeting date, time and agenda

Mr. Cole recommended that the next Recylcing Task Force meeting take place on October 26, 2009 at 1:30 P.M. There were no objections.

Mr. Cole suggested that the following item be discussed by the task force at its next meeting:

Discussion relating to the changes in the Department of Public Works, Operations Division 2010 proposed budget that may impact the City of Milwaukee's recycling operations

Meeting adjourned: 2:46 P.M.

Terry J. MacDonald Staff Assistant



Recycling Facility Alternatives Study City of Milwaukee September 14, 2009 Prepared by:
Don Pirrung, PE
Paul Matz
AECOM

Exhibit 1

Project Background

- City owns recycling facilities
- Under contract with Recycle
 America (Waste Management)
- City shares in recycling revenue,50:50 split
- Contract period
 - ❖ July 2004 through June 30, 2009
 - City has sole option to extend contract for up to five one-year periods



Existing and Proposed Regional Recycling Facilities

- City's facility: South 13th Street and Mount Vernon
- Waste Management (Recycle America)
 - New facility in Germantown
- Proposed facility in Wauwatosa
 - Would serve Waukesha County, City of Wauwatosa, and City of Milwaukee



Executive Summary

Processing Alternatives

- A. Dual stream at existing City facility
- B. Single stream at existing City facility (City only)
- C. Two transfer stations to third party
- D. One transfer station at existing facility
- E. Regional MRF at Wauwatosa
- F. Regional MRF at existing City facility



Collection Alternatives

- Monthly current practice
- 3 weeks (1 person/truck)
- 3 weeks (2 persons/truck)
- 2 weeks (1 person/truck)
- 2 weeks (2 person/truck)



Evaluation Based on:

- Total present worth over 15 years
- State of practice
 - Dual stream
 - Single stream



Findings

- Processing

- ❖ First: Alternative D one transfer station at existing facility
- Second: Alternative C two transfer stations to third party

- Collection

- ❖ First: 3 week 1 person/truck
- ❖ Potential in future for 2 week 1 person/truck as City fine tunes the program



Recommendations

- Implement single stream processing
- Implement Alternative D one transfer station at existing facility
- 3. Potential to implement Alternative C two transfer stations to third party in future if recycling compaction is done during second shift, thereby avoiding capital costs
- 4. Consider "pay as you throw" to improve recycling and reduce solid waste
- Implement collection 3 week 1 person/truck, fine tune thereafter



Alternative A – Dual Stream at Existing City Facility

- Continue same processing
- Replaces old equipment
- Serve only the City
- Industry trend is single stream because collection is more cost-effective, increased recyclables, more user friendly
- Not most cost-effective



Alternative B – Single Stream at Existing City Facility (City only)

- Single stream processing
- Industry trend is toward single stream
- Not most cost-effective



Alternative C – Two Transfer Stations to Third Party

- Lincoln Avenue site
- New northwest site
- Two new transfer stations higher capital cost than Alternative D
- Need room to park recycling trucks
- Potential solution in future if recyclables compacted during second shift to reduce capital cost and use solid waste transfer station
- Second lowest cost alternative

Alternative D – One Transfer Station at Existing Facility

- Lowest cost alternative
- Converts City MRF into transfer station
- Smallest City investment, lowest risk
- Single stream processing at third party



Alternative E – Regional MRF at Wauwatosa

- Regional MRF for Waukesha County, City of Wauwatosa and City of Milwaukee
- Highest cost alternative
- Recent MRF construction projects indicate higher costs than Waukesha County study
- More costs, more risks
- More challenges to implement with more government bodies involved



Alternative F – Regional MRF at Existing City Facility

- Regional MRF for Waukesha County, City of Wauwatosa, and City of Milwaukee
- Third most cost-effective alternative
- More costs, more risks than transfer station alternatives
- More challenges to implement with more government bodies involved

Collection Alternatives

- Monthly 1 person/truck
 - Continues existing program
 - City survey and literature indicates more frequent collection is desirable
- 3 weeks 1 person/truck
 - Most cost effective and efficient if cart is at curb or alley on a set pick up schedule
 - No more up the driveway service
 - ❖ 10% increase in recyclables expected over monthly
 - Requires public information
 - View as next step in continuing improvement process



Collection Alternatives



- 3 weeks 2 persons/truck
 - Not cost-effective
 - Increased labor cost is not offset by increased recyclables volume
 - 10% increase in recyclables over monthly
- 2 weeks 1 person/truck
 - Not cost-effective yet, but may be in future as City fine tunes program
 - Best approach, user friendly
 - Increases recyclables by 20 percent over monthly
- 2 weeks 2 persons/truck
 - Increased labor cost is not offset by increased recyclables volume

Total Present Worth Analysis Summary

- Capital cost: processing, structures
- Operation & maintenance cost: processing
- Recycling revenue
- Transportation cost: trucks and labor
- Avoided cost (revenue) for recyclables formerly sent to landfill



Alternatives and Total Present Worth

A.	Dual	stream	at	existing	City	y facility

Single stream at existing City facility (City only)

C. Two transfer stations to third party

D. One transfer station at existing facility

E. Regional MRF at Wauwatosa

F. Regional MRF at existing City facility

Based on low volume, low recycling price

Negative is a cost, a plus is a revenue

Alternative D is always profitable (4 cases)

\$-5,559,000

\$-9,536,000

\$-2,428,000

\$1,225,000

\$-10,985,000

\$-6,242,000

Cost Analysis

- Bracketed recycling material price and recycling volume
- 4 scenarios
- Low volume, low recycling material price
- Low volume, high recycling material price
- High volume, low recycling material price
- High volume, high recycling material price

Results: most cost-effective alternative was consistent throughout



Other Recycling Considerations

- Public education
- Recycling collection frequency
- Pay as you throw program
 - 16 to 17% diversion from trash among recycling, yard waste and source reduction



Richmond, IN sample public informational flyer

Summary

- Recycling program is a continuing improvement process
- Collection will evolve from monthly to 3 weeks to possibly 2 weeks in future
- Processing becomes more efficient over time
- Recycling markets are global and improved markets are expected
- Contract negotiations are key to success
- Single transfer station is cost effective. Potential for two transfer stations, with innovative operations





City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR

Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail: tmacdo@milwaukee.gov

Monday, October 26, 2009 1:30 PM Room 301-A, City Hall

Meeting convened: 1:34 P.M.

1. Roll call

Present 4 - Cole, Daun, Dudzik and Schaal

Excused 1 - Shambarger

Also present: James Carroll, Legislative Reference Bureau, Jim Michalski, Comptroller's Auditing Division, Wanda Booker, Dept. of Public Works and Rick Meyers, Dept. of Public Works

2. Approval of the minutes of the September 14, 2009 meeting

Ald. Dudzik moved approval of the minutes, Ms. Schaal seconded. There were no objections.

Roll call taken at 2:08 P.M.

Present 4 - Cole, Dudzik, Shambarger and Schaal

Page 1

Excused 1 - Daun

3. Discussion and crafting of the recommendations of the Task Force

Mr. Cole said today's discussion will revolve around the fine-tuning of the recommendations that the consultant Earth Tech/AECOM is recommending as a result of its study. He said he will then convene one more task force meeting, within the next two weeks, to review and vote on the final recommendations.

Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM and Mr. Meyers, City's Recycling Specialist appeared to give an update on the study titled "Recycling Facility Alternatives Study."

Mr. Meyers said the report is not final yet. He said the consultants and City staff have been working together to revisit some of the assumptions to make the numbers more realistic.

Mr. Pirrung gave an update on the Recycling Facility Alternatives Study, by PowerPoint presentation (Exhibit 1).

Ald. Dudzik said that he thought the ordinance directed this task force to consider a bi-weekly pick-up.

Mr. Meyers replied that bi-weekly pick-up was considered in the study.

Ms. Schaal asked what are the reasons that make Alternative D the lowest risk?

Mr. Pirrung replied that Alternate D requires the least amount of capital investment, it can be implemented relatively easily by using the existing facility, parking lot and scale; and the City would only be required to obtain a compactor and it would be ready to go.

Mr. Daun asked if the alternatives that dealt with purchasing a new facility include the cost of the land?

Mr. Pirrung replied that the land improvement costs were included, but not the cost of the land itself. He said in the alternatives that dealt with purchasing a new facility the City and Wauwatosa already own the land on which the facility would be located.

Mr. Daun asked if there is any certainty on what the level of cost the City will be facing when it's time to enter into it new recycling agreements?

Mr. Cole replied that he feels that there will not be any more long-term recycling agreements in the future. He said future agreements will probably be no more than 3-5 years in length.

Ald. Dudzik asked when looking at the cost effectiveness in using a transfer station does the cost include the fuel?

Mr. Pirrung replied in the affirmative.

Ald. Dudzik referred to Alternative C where it refers to "Potential solution in future to have the recyclables compacting done during a second shift at a transfer station" and asked if this is saying this will be done at only one of the transfer station?

Mr. Pirrung replied that there would be two transfer stations, there is one on the southside already and the other the location needs to be determined and there would

be a second shift at both locations.

Mr. Michalski said the cost noted in the study for switching from a monthly pickup to every three weeks is inaccurate.

Mr. Meyers replied that the study used 34 routes when figuring the cost for a three week pickup. He said due to budget cuts, etc., those numbers will need to be revisited. He asked Mr. Cole if the study should use 31 routes for the basis to figure the cost?

Mr. Cole replied in the affirmative.

Ald. Kovac appeared to question the task force on its finding relating to a three week recycling pick-up cycle, because he would like to offer a couple of amendments to the Mayor's 2010 proposed budget.

Mr. Cole advised Ald. Kovac to work with budget office staff and Dept. of Public Works recycling staff to come up with a more accurate cost for the number of routes that would be needed for a three week pick-up cycle.

Ald. Dudzik asked if the tipping fee is applied to recyclables or just garbage?

Mr. Cole replied that the tipping fee is applied to just garbage, but it is considered a part of the savings for recyclables.

Mr. Carroll said that he has been working with the Budget Office in creating the amendment for the three week recycling pick-up cycle for Ald. Kovac and there are also additional costs for HMO and pension benefits for each additional full-time employee (FTE) needed for the additional routes.

Mr. Pirrung continued his presentation by explaining the collection alternatives.

Mr. Meyers said that newer recycling collection equipment can be used for certain routes and would allow for more frequent collection with fewer resources in the future.

Mr. Pirrung said that alternative D, using one transfer station at the existing facility, would be the most cost effective.

Mr. Pirrung said some of the other recycling issues the study considered were: Public education, recycling collection frequency and Pay-As-You-Tthrow program.

Lastly, Mr. Pirrung gave a summary of his study's findings.

Mr. Shambarger asked Mr. Pirrung if he can provide a spreadsheet with all the scenarios so that the City can review and use when negotiating contracts.

Mr. Pirrung replied in the affirmative. He said that the tables with all the scenarios will be included in the final copy of the study.

Ald. Dudzik asked if this task force is charged with the developing recycling enforcement policy?

Mr. Cole replied in the negative. He said the legislation directs the Dept. of Public Works to develop and implement a recycling enforcement policy.

4. Next meeting date, time and agenda

Mr. Cole recommended that the next Recycling Task Force meeting take place on November 16, 2009 at 1:30 P.M. There were no objections.

Mr. Cole said that at the next meeting the task force will discussion and approve the final recommendations.

Meeting adjourned: 2:50 P.M.

Terry J. MacDonald Staff Assistant



Recycling Facility Alternatives Study City of Milwaukee October 26, 2009 Prepared by:
Don Pirrung, PE
Paul Matz
AECOM

EXHIBIT 1

Project Background

- City owns recycling facilities
- Under contract with Recycle
 America (Waste Management)
- City shares in recycling revenue,50:50 split
- Contract period
 - ❖ July 2004 through June 30, 2009
 - City has sole option to extend contract for up to five one-year periods



Existing and Proposed Regional Recycling Facilities

- City's facility: South 13th Street and Mount Vernon
- Waste Management (Recycle America)
 - New facility in Germantown
- Proposed facility in Wauwatosa
 - Would serve Waukesha County, City of Wauwatosa, and City of Milwaukee



Executive Summary

Processing Alternatives

- A. Dual stream at existing City facility
- B. Single stream at existing City facility (City only)
- C. Two transfer stations to third party
- D. One transfer station at existing facility
- E. Regional MRF at Wauwatosa
- F. Regional MRF at existing City facility



Collection Alternatives

- Monthly current practice
- 3 weeks (1 person/truck)
- 3 weeks (2 persons/truck)
- 2 weeks (1 person/truck)
- 2 weeks (2 person/truck)



Evaluation Based on:

- Total present worth over 15 years
- State of practice
 - Dual stream
 - Single stream



Findings

- Processing

- ❖ First: Alternative D one transfer station at existing facility
- Second: Alternative C two transfer stations to third party

- Collection

- ❖ First: 3 week 1 person/truck
- ❖ Potential in future for 2 week 1 person/truck as City fine tunes the program



Recommendations

- 1. Implement single stream processing
- Implement Alternative D one transfer station at existing facility
- 3. Potential to implement Alternative C two transfer stations to third party in future if recycling compaction is done during second shift, thereby avoiding capital costs
- 4. Consider "pay as you throw" to improve recycling and reduce solid waste
- Implement collection 3 week 1 person/truck, fine tune thereafter



Alternative A – Dual Stream at Existing City Facility

- Continue same processing
- Replaces old equipment
- Serve only the City
- Industry trend is single stream because collection is more cost-effective, increased recyclables, more user friendly
- Not most cost-effective



Alternative B – Single Stream at Existing City Facility (City only)

- Single stream processing
- Industry trend is toward single stream
- Not most cost-effective



Alternative C – Two Transfer Stations to Third Party

- Lincoln Avenue site
- New northwest site
- Two new transfer stations higher capital cost than Alternative D
- Need room to park recycling trucks
- Potential solution in future if recyclables compacted during second shift to reduce capital cost and use solid waste transfer station
- Second lowest cost alternative

Alternative D – One Transfer Station at Existing Facility

- Lowest cost alternative
- Converts City MRF into transfer station
- Smallest City investment, lowest risk
- Single stream processing at third party



Alternative E – Regional MRF at Wauwatosa

- Regional MRF for Waukesha County, City of Wauwatosa and City of Milwaukee
- Highest cost alternative
- Recent MRF construction projects indicate higher costs than Waukesha County study
- More costs, more risks
- More challenges to implement with more government bodies involved



Alternative F – Regional MRF at Existing City Facility

- Regional MRF for Waukesha County, City of Wauwatosa, and City of Milwaukee
- Third most cost-effective alternative
- More costs, more risks than transfer station alternatives
- More challenges to implement with more government bodies involved

Collection Alternatives

- Monthly 1 person/truck
 - Continues existing program
 - City survey and literature indicates more frequent collection is desirable
- 3 weeks 1 person/truck
 - Most cost effective and efficient if cart is at curb or alley on a set pick up schedule
 - No more up the driveway service
 - ❖ 10% increase in recyclables expected over monthly
 - Requires public information
 - View as next step in continuing improvement process



Collection Alternatives



- 3 weeks 2 persons/truck
 - Not cost-effective
 - Increased labor cost is not offset by increased recyclables volume
 - 10% increase in recyclables over monthly
- 2 weeks 1 person/truck
 - Not cost-effective yet, but may be in future as City fine tunes program
 - Best approach, user friendly
 - Increases recyclables by 20 percent over monthly
- 2 weeks 2 persons/truck
 - Increased labor cost is not offset by increased recyclables volume

Total Present Worth Analysis Summary

- Capital cost: processing, structures
- Operation & maintenance cost: processing
- Recycling revenue
- Transportation cost: trucks and labor
- Avoided cost (revenue) for recyclables formerly sent to landfill



Alternatives and Total Present Worth

A. Dual stream at existing City fa	acility
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B. Single stream at existing City facility (City only)

C. Two transfer stations to third party

D. One transfer station at existing facility

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F. Regional MRF at existing City facility

Based on low volume, low recycling price

Negative is a cost, a plus is a revenue

Alternative D is always profitable (4 cases)

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Cost Analysis

- Bracketed recycling material price and recycling volume
- 4 scenarios
- Low volume, low recycling material price
- Low volume, high recycling material price
- High volume, low recycling material price
- High volume, high recycling material price

Results: most cost-effective alternative was consistent throughout



Other Recycling Considerations

- Public education
- Recycling collection frequency
- Pay as you throw program
 - 16 to 17% diversion from trash among recycling, yard waste and source reduction



Richmond, IN sample public informational flyer

Summary

- Recycling program is a continuing improvement process
- Collection will evolve from monthly to 3 weeks to possibly 2 weeks in future
- Processing becomes more efficient over time
- Recycling markets are global and improved markets are expected
- Contract negotiations are key to success
- Single transfer station is cost effective. Potential for two transfer stations, with innovative operations





City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Meeting Minutes RECYCLING TASK FORCE

PRESTON COLE, CHAIR

Ald. Joe Dudzik, Michael J. Daun, Lisa Schaal, and Erick

Shambarger

Staff Assistant, Terry MacDonald
Phone: (414)-286-2233; Fax: (414) 286-3456, E-mail:
tmacdo@milwaukee.gov

Wednesday, December 16, 2009

3:00 PM

Room 301-A, City Hall

Meeting convened: 3:02 P.M.

1. Roll call

Present 5 - Cole, Daun, Dudzik, Shambarger and Schaal

Also present: Ted Medhin, Legislative Reference Bureau, Jim Michalski, Comptroller's Auditing Division, Wanda Booker and Rick Meyers, Dept. of Public Works, Environmental Services Section

2. Review and Approval of the minutes of the October 26, 2009 meeting

Mr. Shambarger moved approval of the minutes, Ms. Schaal seconded. There were no objections.

3. Review and approval of the recommendations

Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM gave an update on the Recycling Facility Alternatives Study (Exhibit 1). He said there has been some changes to the study since the final draft was given to each of the members. He said the changes that were made are to the income from recyclables, salvage value, and to the collections cost.

Ald. Dudzik said the study recommends using a a three week collection cycle and asked if it is cost effective regardless of where the transfer station is located?

Mr. Pirrung replied that the report assumes the use of the existing station.

A motion was made by Ald. Dudzik and seconded by Mr. Daun that the City recommends implementation of a single stream recycling collection and processing system. There were no objections.

Mr. Daun referred to his memo, dated December 14, 2009 (Exhibit 2) and said the memo was put together in response to the draft recommendations by the Dept. of Public Works and its consultant AECOM. He asked the Task Force to consider modifying the recommendations to include the examination of both Alternatives D and F simultaneously.

Ms. Schaal asked what would be the difference between Alternative D and Alternative F as far as how the current jobs would be affected at the recycling facilities?

Mr. Meyers replied that there would be job losses if the City's MRF becomes a transfer station instead of continuing as a processing facility.

Mr. Michalski said he reviewed the letter from Waukesha County, dated December 8, 2009 (Exhibit 3), and he got the sense that there was an urgency on their behalf to move to a regional single stream process, because their recycling contracts are going to expire at the same time as the City of Milwaukee's recycling contract.

Mr. Daun referred to Mr. Meyers' modified recommendations (Exhibit 4) and asked if recommendation #4 - implement a bi-weekly recycling collection within 1-4 years will involve a pilot program or is there enough data to go ahead with it citywide?

Mr. Cole replied that the department still needs to look at the cost of the fully automated truck that is needed and to also complete a survey of the City to find out what areas could be done with that type equipment. He thinks the bi-weekly with a fully automated truck could be done for about 1/2 of the City.

A motion was made by Mr. Daun to approve the following recommendations as suggested by the Department of Public works:

- 1. Implement single stream recycling within the next 1-4 years as the recycling collection and processing system to serve the City of Milwaukee.
- 2. Include internal and external stakeholders in a deeper investigation of the Recycling Facility Study's top two options:
 - Alternative D One Transfer Station at Existing City Facility
 - ii. Alternative F Regional Single Stream MRF at Existing City Facility

- 3. Immediately implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection and require the cart to be located at the curb or alley line to improve collection efficiency. End summer walk up driveway service except for hardships.
- 4. Implement bi-weekly recycling collection within 1-4 years as greater collection efficiencies are achieved through improved routing methods and prescriptive use of fully-automated collection vehicles.
- 5. Implement Pay-As-You-Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.
- Mr. Shambarger said he is opposed to recommendation 4 Implement bi-weekly recycling collection within 1-4 years.
- Mr. Daun moved to amend his motion by removing recommendation #4.

A motion was made by Mr. Daun and seconded by Ald. Dudzik to approve recommendations 1, 2, 3 and 5 as listed above. There were no objections.

4. Review and approval of the Recycling Task Force report

A motion was made by Mr. Daun and seconded by Ms. Schaal to approve the draft Recycling Task Force Report (Exhibit 5). There were no objections.

Meeting adjourned: 3:50 P.M.

Terry J. MacDonald Staff Assistant



Recycling Facility Alternatives Study City of Milwaukee December 16, 2009 Prepared by:
Don Pirrung, PE
Paul Matz
AECOM

EXHIBIT 1

Changes to Study between Draft and Final

- The formula for "Income from Recyclables" was modified to better reflect how the City's contract is currently structured.
- A figure for the "Salvage Value" of a facility was used in the Present Worth calculation for the two alternatives (C and E) that require construction of new facilities.
- The "Collection Costs" were revised to reflect 31 routes versus 34 routes for monthly pick-up.



Executive Summary

Processing Alternatives

- A. Dual stream at existing City facility
- B. Single stream at existing City facility (City only)
- C. Two transfer stations to third party
- D. One transfer station at existing facility
- E. Regional MRF at Wauwatosa
- F. Regional MRF at existing City facility



Collection Alternatives

- Monthly current practice
- 3 weeks (1 person/truck)
- 3 weeks (2 persons/truck)
- 2 weeks (1 person/truck)
- 2 weeks (2 person/truck)



Cost Analysis

- Bracketed recycling material price and recycling volume
- 4 scenarios
- Low volume, low recycling material price
- Low volume, high recycling material price
- High volume, low recycling material price
- High volume, high recycling material price

Results: most cost-effective alternative was consistent throughout



Total Present Worth Analysis Summary

- 15 year analysis
- Capital cost: equipment, structures
- Annual Recycling Income (includes O&M/Processing Costs)
- Annual Collection cost: trucks and labor
- Annual Avoided cost (income) for recyclables formerly sent to landfill
- Facility Salvage Value (only for Alternatives needing new facility)



Alternatives and Total Present Worth

Example

Based on 3 Weeks (1 person / truck) Low volume - Low recycling price Negative is a cost, a plus is a revenue

A.	Dual stream at existing City facility	\$-7,509,000
B.	Single stream at existing City facility	\$-8,997,000
	(City only)	
C.	Two transfer stations to third party	\$-7,810,000
D.	One transfer station at existing facility	\$-3,764,000
E.	Regional MRF at Wauwatosa	\$-7,700,000
F.	Regional MRF at existing City facility	\$-5,219,000

In all comparisons "Alternative D" is always has the best Present Worth

Alternative D – One Transfer Station at Existing Facility

- Lowest cost alternative
- Converts City MRF into transfer station
- Smallest City investment, lowest risk
- Single stream processing at third party



Findings

- Processing
 - ❖ First: Alternative D one transfer station at existing facility
- Collection
 - ❖ First: 3 week 1 person/truck
 - ❖ Potential in future for 2 week 1 person/truck as City fine tunes the program



Recommendations

- 1. Implement single stream processing
- Implement Alternative D one transfer station at existing facility
- 3. Consider "pay as you throw" to improve recycling and reduce solid waste
- 4. Implement collection 3 week 1 person/truck, fine tune thereafter



Summary

- Recycling program is a continuing improvement process
- Collection will evolve from monthly to 3 weeks to possibly 2 weeks in future
- Processing becomes more efficient over time
- Recycling markets are global and improved markets are expected
- Contract negotiations are key to success
- Single transfer station is cost effective



MEMORANDUM FOR MEMBERS OF THE RECYCLING TASK FORCE

FROM: Michael Daun (MQ)

SUBJECT: Task Force Draft Recommendations

DATE: December 14, 2009

The Office of the Comptroller has carefully reviewed the Recycling Facility Alternatives Study and the proposed Recycling Task Force Draft Recommendations by the Department of Public Works and its consultant AECOM. We commend both on the thoroughness of the study and view the draft recommendations to implement single stream recycling as a major step to increase City of Milwaukee recycling while controlling the associated costs. Our Office supports these draft recommendations with one suggested modification. Regarding Recommendation #2, we would ask Task Force consideration of a modification to allow simultaneous consideration of Alternative F – Regional (publicly owned) Single Stream Recycling Facility at the Existing City Facility - along with Alternative D. With Task Force approval of the recommendations, we suggest that DPW and its consultant actively pursue both alternatives to determine the most cost effective direction for the City

Given the uncertainty associated with a future recycling processing vendor contract, we believe Alternative F is worthy of further consideration. Alternative F would likely provide additional long term control over recycling costs than would the vendor dependent alternatives. Also, the recycling study did not consider that the City of Milwaukee can borrow funds at a significant "discount" (eg, tax exempt borrowing) compared to the private sector, which effectively lowers the capital cost portion of all alternatives, thus favoring Alternative F. While Alternative D remains the lowest projected cost alternative after this adjustment, the City's discounted cost of capital narrows the Present Value cost difference between Alternatives D and F. Under the low volume-low commodity price scenario, this cost difference is reduced from \$1.5 million (39% higher) to \$0.7 million (19.8% higher). Under all other scenarios, the cost difference between Alternatives D and F narrows even further.

Moreover, it is generally thought that future recycling contracts with a private vendor would have to be negotiated for a significantly shorter term. If the City was dependent on only one or two private vendors for its recycling processing at the time of contract renewal, the cost of these future contract renewals could come at a premium.

On December 8th Task Force members received a letter from the Waukesha County Department of Parks and Land Use which encourages further review of the regional MRF concept. DPW's study indicates that Alternative F would be the lowest cost regional publicly owned MRF alternative. We are not advocating Alternative F (publicly owned MRF at the City's existing site) over Alternative D. We are simply requesting that both alternatives be simultaneously explored as the City moves toward implementation.

NOTE: With regard to Recommendation #3 - Alternative C for two transfer stations to a third party recycling processor - the final AECOM report (page 24) did not include it in the study recommendations. Therefore, we assume that this recommendation is withdrawn.

Mjd/Jtm/12-14-09



Waukesha county

DEPARTMENT OF PARKS AND LAND USE

December 8, 2009

Milwaukee Recycling Task Force Members: Preston Cole, Chair Michael Daun Alderman Dudzik Lisa Schaal Erik Shambarger

RE: Recycling Facility Alternatives Study and Recommendations (November 2009)

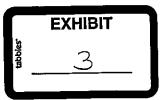
Dear Recycling Task Force members,

Thank you for the opportunity to review your Recycling Facility Alternatives Study. This correspondence is submitted to offer a few comments on behalf of Waukesha County. Many of these comments were previously made by Perry Lindquist, of my Land Resources Division at your July Task Force meeting.

The primary driving factor for changing the Waukesha County Material Recycling Facility (MRF) is pressure from 25 Waukesha County communities that participate in our coordinated recycling effort, to reduce their private hauling costs by switching to every-other-week single stream recycling collection. Our existing weekly recycling collection using blue bins, can no longer be sustained given current local budget pressures. However, a study we completed in 2007 shows that switching our MRF to single stream, with the current amount of tonnage being processed is not economical. The study did go on to show that the return on investment would be vastly improved by doubling our tonnage. The increased tonnage could be achieved through a cooperative venture with the City of Milwaukee.

Your report states that the most cost-effective solution for the City of Milwaukee's recycling program is to switch to single stream and negotiate with WMRA to process your materials at their MRF in Germantown. It further states that if the City is not happy with the costs of this option in the future, they could reconsider processing at a publicly-owned MRF. We are concerned that processing recyclables at a privately-owned MRF may only provide short term cost relief and that once the public MRF is shut down, it would be politically and fiscally impossible to start it back up again in the future. This is because re-starting a publicly-owned MRF would require taking the materials away from the private sector, representing a direct threat to private enterprise. We would like to remind you that processing recyclables at the Milwaukee

Administration
515 W. Moreland Blvd • Room AC260
Waukesha, Wisconsin 53188-3878
Phone: (262) 896-8300 • Fax: (262) 896-8298
www.waukeshacounty.gov/landandparks



and Waukesha County facilities is already privatized. The current public/private partnerships have worked very well, and competition to operate the MRFs has led to very favorable pricing for the communities we serve. An RFP process would be required if we were to send materials to a private MRF, and based on our recent experience with coordinated hauling contracts, may not give us the results we are looking for.

Having two existing publicly-owned MRF operations work together on a new facility provides not only an opportunity to greatly improve the return on our investments, but is also a great way to demonstrate how regional cooperation can work. The cooperative MRF approach continues to take advantage of a competitively bid private operator.

Now that the City of Milwaukee has completed its draft Recycling Facility Alternative Study, I would like to encourage Milwaukee to take the next step in the analysis process. That next step involves taking the data from your analysis along with the data from the Waukesha County 2007 analysis and enter into a joint study with the City of Wauwatosa to further analyze the cooperative regional MRF approach. The scope of the study should include:

- 1) Refining and updating economic analysis from previous studies
- 2) A technical investigation of possible sites for a regional single stream MRF
- 3) A review of transportation issues related to each site option
- 4) Developing a building concept plan and budget for the best option
- 5) Identifying financial options for sharing costs and revenues
- 6) A review of institutional options for facility ownership, contracting, oversight, etc.
- 7) Recycling collection or any other issues that may arise.

This next step in the process will provide the opportunity to fully examine the details associated with a regional approach to recyclable material processing. Not only has the cooperative municipal approach been financially beneficial to Waukesha County for many years, but the same model has now been demonstrated to be very effective in Wisconsin's Fox Valley. I encourage you to make the joint study a part of your recommendation to the Common Council.

We would appreciate the opportunity to discuss these issues at the next Recycling Task Force meeting. Should you have any questions, or need further information, please do not hesitate to contact me.

Sincerely,

Dale R. Shaver

Dela Z. Shaven

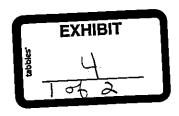
Director

Recycling Recommendations:

 Recommendations by AECOM in their Recycling Facility Alternatives Study final report to DPW are listed below.

The following recommendations are made:

- Implement Alternative D One Transfer Station at Existing City Facility, based on the economics.
 It presents the least investment and least risk to the City of Milwaukee. Single stream collection
 offers the benefit of more efficient collection. It maximizes the cart volume and improves
 convenience for residents.
- 2. Negotiate with WMRA to implement Alternative D.
- 3. Implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection for the cart to be located at the curb or alley line (no walk up driveway) to improve collection efficiency. Make improvements to the routes based on new software for routing trucks.
- 4. Implement Pay As You Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.
- Modified recommendations below by DPW Recycling Specialist, Rick Meyers, are suggested alternatives for Recycling Task Force consideration
 - 1. Implement single stream recycling within the next 1-4 years as the recycling collection and processing system to serve the City of Milwaukee.
 - 2. Include internal and external stakeholders in a deeper investigation of the Recycling Facility Study's top two options:
 - i. Alternative D One Transfer Station at Existing City Facility
 - ii. Alternative F Regional Single Stream MRF at Existing City Facility
 - 3. Immediately implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection and require the cart to be located at the curb or alley line to improve collection efficiency. End summer walk up driveway service except for hardships.
 - 4. Implement bi-weekly recycling collection within 1-4 years as greater collection efficiencies are achieved through improved routing methods and prescriptive use of fully-automated collection vehicles.
 - 5. Implement Pay As You Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.



City of Milwaukee Recycling Facilities Study: Top Two Options

Alternative D: One Transfer Station to Third Party at Existing City Facility

Pros:

- Most cost-effective based on Present Worth analysis (over a 15-yr period)
- Lowest capital cost
- Least complicated to implement
- Most flexible option; retaining use of building allows option of installing new processing equipment in the future
- Contracts can be short term if fair prices will come from existing area processors or long term if desired to potentially attract new processors to the market area
- Ample private processing capacity exists within reasonable transfer distance
- Least risk

Cons:

- Loss of public infrastructure with discontinuation of processing in public facility
- Gives recycling processors with existing area facilities a leg up on competition
- May expect fewer companies to bid on recycling processing services since they would have to capitalize their own building and equipment
- Less competition could lead to higher processing costs, particularly in the long term
- Potentially lose unique opportunity to partner with nearby communities on public processing site
- Eliminates ability to maintain Milwaukee residency requirements in processing contracts

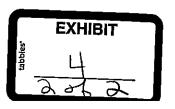
Alternative F: Regional Single Stream MRF at Existing City Facility

Pros:

- Existing building is adequate size and condition to house new processing equipment serving the region
- Maintain public ownership of public works infrastructure
- Competitive bidding on recyclables processing due to level playing field created by public ownership of capital assets
- Long term cost-containment for recyclables processing services by preventing private monopoly
- Maintains ability to have Milwaukee residency requirements in processing contracts

Cons:

- Greater risk due to uncertainty of Return On Investment caused by unpredictable commodity market prices
- Considerable staff time and consulting work required to develop and implement
- Implementation contingent upon successful cooperation of multiple government entities



DRAFT

City of Milwaukee

Recycling Task Force

Final Report and Recommendations to the

Common Council

January 2010



INTRODUCTION

The City of Milwaukee Common Council established the Recycling Task Force (RTF) on January 16, 2009, with the adoption of Common Council File # 081212 and amended it with Common Council File 090233.

MISSION STATEMENT

This Task Force was charged with conducting a comprehensive study of the fiscal and operational impacts of a conversion to single-stream recycling in the City of Milwaukee. The task force was directed to submit those findings and recommendations to the Common Council by January 11, 2010.

MEMBERSHIP

The Recycling Task Force members consisted of five members:

Preston Cole, appointed by the Commissioner of Public Works as his designee and appointed as chair by the Common Council President

Ald. Joe Dudzik, appointed by the Common Council President

Lisa Schaal, citizen member appointed by the Common Council President with experience and knowledge of municipal public works operations

Michael Daun, appointed by the Milwaukee Comptroller as his designee

Erick Shambarger, appointed by the Budget and Management Director as his designee

MEETING DATES

The Task Force held the following public meetings in 2009:

April 6, 2009

April 27, 2009

May 18, 2009

June 8, 2009

June 29, 2009

July 27, 2009

September 14, 2009

October 26, 2009

December 16, 2009

SUMMARY

During the regular meetings of the task force, members discussed a series of issues, questions and recommendations by task force members, the Consultant Earth Tech/AECOM and others relating to:

- Recycling citation process
- What is a single stream recycling program
- What kind of recycling program other cities are using
- The current recycling contract
- What type of equipment is required and what is the cost for such equipment
- "Pay As You Throw" program
- What the cost would be to the City to convert to a single-stream collection process
- Determine whether the City would bring the collected recyclables to the Germantown facility or would the City purchase its own equipment and use its own facility
- Will the City contract out the recyclables processing like it is doing now
- How the weather can impact the recycling program

The following individuals appeared at one or more of the task force meetings to answer questions, offer suggestions and to provide legal advice:

- Mr. Rick Meyers, Department of Public Works, Sanitation Division
- Ms. Wanda Booker, Department of Public Works, Sanitation Division
- Mr. Donald Stone with Department of Public Works, Sanitation Division
- Ald. Nik Kovac
- James Carroll, Legislative Reference Bureau
- Jim Michalski, Comptroller's Auditing Division
- Deputy City Attorney Linda Burke
- Assistant City Attorney Jay Unora with the ordinance Enforcement Division
- Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM Consultant Firm
- Mr. Perry Lindquist, Land Resources Manager with Waukesha County

During the task force meetings the following presentations were made:

Mr. Rick Meyers, City of Milwaukee, Environmental Recycling Specialist, gave a PowerPoint presentation on the City of Milwaukee Department of Public Works' current recycling program (APPENDIX A).

Member Erick Shambarger gave a brief summary of the La Follette School of Public Affairs (Madison, WI) policy study on the Pay-As-You-Throw program, which was done at the request of the City of Milwaukee's Department of Administration, Budget & Management Division. The report is titled "Impacts of Pay-As-You-Throw Municipal Solid Waste Collection" (APPENDIX B). A copy of the report can also be found at: http://www.lafollette.wisc.edu/publications/workshops/2009/waste.pdf

Mr. Perry Lindquist, Land Resources Manager with Waukesha County, gave a PowerPoint presentation relating to a Waukesha County Recycling System Study (**APPENDIX C**).

Mr. Donald F. Pirrung, PE and Mr. Paul Matz with Earth Tech/AECOM, gave a series of PowerPoint presentations relating to a "Recycling Facility Alternatives Study" (**APPENDIX D**).

The Recycling Task Force also attended tours of the City of Milwaukee Materials Recovery Facility (1313 W. Mount Vernon Ave) and the Waste Management Materials Recovery Facility (W132 N10487 Grant Dr., Germantown, WI) on June 29, 2009.

The minutes of all meetings of the Task Force are accessible on the Internet at http://milwaukee.legistar.com/calendar.aspx and in Common Council File #090072.

RECOMMENDATIONS

The recommendations may require further refinement and review and may require ordinance amendments or contract negotiation to be implemented. Time has not allowed for a complete review of their legality and enforceability.

We, the members of the City of Milwaukee Recycling Task Force hereby recommend the following:

- 1. Implement single stream recycling within the next 1-4 years as the recycling collection and processing system to serve the City of Milwaukee.
- 2. Include internal and external stakeholders in a deeper investigation of the Recycling Facility Study's top two options:
 - i. Alternative D One Transfer Station at Existing City Facility
 - ii. Alternative F Regional Single Stream MRF at Existing City Facility
- 3. Immediately implement three-week recycling collection to increase recycling volumes and revenues. Schedule recycling collection and require the cart to be located at the curb or alley line to improve collection efficiency. End summer walk-up driveway service except for hardships.
- 4. Implement Pay-As-You-Throw features for garbage collection in conjunction with increased recycling collection service to optimize effectiveness of both programs.

APPENDICES

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D



January 15, 2010

Preston Cole
Chair, Recycling Task Force
City of Milwaukee Dept of Public Works
841 N Broadway, Rm 501
Milwaukee, WI 53202
preston.cole@milwaukee.gov

Re: Letter of Interest in the design, build, retrofit, and/or operation of a recycling facility for the City of Milwaukee

Dear Mr. Cole:

FCR, LLC is pleased to submit this Letter of Interest to you and the City of Milwaukee's Recycling Advisory Board. We understand that the City is in the process of investigating the next step in developing the future of recycling for Milwaukee and its residents. We understand that your task force has been working on options for the City's future in recycling, and that several scenarios have been discussed. We are very interested in the opportunity of submitting proposals detailing plans to operate your existing MRF, to retrofit the current MRF with new Single Stream equipment, or develop a regional municipal processing facility with the City and surrounding communities. There may be other initiatives that we may explore together to further expand and improve the recycling initiatives currently in place. We would like the opportunity to offer our expertise and experience to the City as it takes the next step in its efforts to create a world class recycling program. We take great pride in our track record of building mutually beneficial partnerships with municipalities throughout the country.

By way of introduction, FCR is a wholly owned subsidiary of Casella Waste Systems, Inc., a publicly held company listed on the NASDAQ stock exchange, "CWST". Casella's substantial operational and MIS systems, as well as financial resources, support all of FCR's endeavors. As the "recycling arm" of Casella, FCR brings a wealth of design, project management, and operational experience to projects. Our parent company brings the same level of expertise in solid waste management services and business development.

- Experience FCR has been in the recycling business since 1981. We currently operate 24
 Materials Recovery Facilities (MRFs) which are processing over 1,400,000 tons per year of
 mixed curbside-collected recyclables including glass bottles, metal cans, plastic containers,
 aseptic containers, corrugated cardboard, magazines, junk mail, phone books and newspaper.
 We are proud of our record and we encourage you to contact any and all of the
 contract/project managers who are our major customers. We are confident that our customer
 references will establish our industry leading credibility.
- Processing FCR operates 7 single stream MRFs. Within the year, two more of our facilities will be converted to single stream, and there are current plans to convert three others. Our approach to single stream has been deliberate; concentrating on product quality and maximum recovery, and responding to our customers' needs. We have listened carefully to the paper mills and have taken careful steps toward single stream processing because of their concerns. We have identified challenges in glass markets as more facilities convert to single stream collection and processing and continue to pursue glass recycling initiatives. We have

nurtured partnerships and developed our own capacity to make furnace-ready cullet for the bottle makers to improve the value we can gain from recyclable glass. We have responsibly expanded our recyclable material specifications to include more plastic items- all without losing our focus on our core priorities:

- 1. Safety
- 2. Product Quality
- 3. Productivity
- Design Half of the facilities that FCR operates required furnishing a new facility. FCR was
 responsible for the design and construction of the original MRF from the ground up. The
 other half existed when FCR took the operation over. In these cases, FCR was responsible for
 the extensive retrofit of equipment and buildings so that the facilities would meet our needs
 and the demands of our municipal customers. We are fully prepared to offer you design
 recommendations, procure the equipment system, manage the building expansion project,
 and oversee the construction and installation of the processing equipment.
- Project Approach We would like the opportunity to sit down, meet with you and walk through in more detail our accomplishments, current municipal deal structures and the mutually beneficial partnerships which make us the premier municipal recycling partner in the United States.
- Operations Management FCR's organizational structure has been developed carefully to
 provide all the oversight and support from corporate management to make the local facility
 manager successful. Plant Managers report to Area Managers, who report directly to FCR's
 Vice-President of Operations. Corporate functions that support the facility include commodity
 marketing, safety policy and training, environmental compliance and permitting, accounting,
 human resources, and equipment maintenance. Detailed, professional maintenance
 procedures, including planned maintenance schedules and reporting requirements, are an
 integral part of operations.

Operations are scrutinized on a daily, weekly, and monthly basis through a series of management reports that are systematically generated by our Controllers. Area Managers routinely review these reports so that Plant Managers are never without a support system to keep plants running the way they were intended. These, and other strategic policies, are why FCR has earned such an excellent reputation for residential MRF operations throughout the eastern and central U.S.

Commodity Marketing - FCR markets over one million tons per year of recyclable commodities
to export and domestic markets. FCR's marketing knowledge and clout provides our
customers with two assurances: they will earn the maximum value for their recyclables and
they will be assured of product movement, even in the worst of market conditions.

Because the operation of MRFs is essentially FCR's only business, our success depends on the satisfaction of our municipal customers. The City can be assured that FCR will apply the highest standards of design, project management, and operations management to your facility. We want to continue to earn your business for the long-term; and, the best way to do that is to be the best partner we can be on your recycling team.

Sincerely,

Stephen Klemann Area Manager Business Development FCR Recycling Casella Waste Systems

Daniel Kurtz Area Manager FCR Recycling Casella Waste Systems



City of Milwaukee

200 E. Wells Street Milwaukee, Wisconsin 53202

Master With Text

File Number: 091417

File ID: 091417 Type: Communication-Report Status: In Committee

Version: 0 Reference: Controlling Body: PUBLIC WORKS

COMMITTEE

Requester: Cost: File Created: 02/09/2010

File Name: Final Action:

Title: Communication from the Department of Public Works relating to moveable bridges.

Notes:

Code Sections: Agenda Date:

Indexes: BRIDGES, DEPARTMENT OF PUBLIC WORKS

Agenda Number:

Sponsors: THE CHAIR Enactment Date:

Attachments: Enactment Number:

Drafter: Effective Date:

Contact: Extra Date 2:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
0	COMMON COUNCIL	02/09/2010	ASSIGNED TO	PUBLIC WORKS COMMITTEE			
	Action Text: This Co	ommunication-Re	port was ASSIGNED TO	to the PUBLIC WOR	RKS COMMITTEE		
0	PUBLIC WORKS COMMITTEE	02/15/2010	HEARING NOTICES SENT		02/18/2010		
0	PUBLIC WORKS COMMITTEE	02/18/2010					

Text of Legislative File 091417

..Number

091417

..Version

ORIGINAL

..Reference

..Sponsor

THE CHAIR

..Title

Communication from the Department of Public Works relating to moveable bridges.

Master With Text Continued (091417)

..Requestor

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