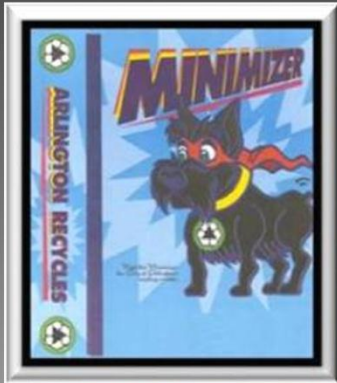


CITY OF ARLINGTON SOLID WASTE MANAGEMENT PLAN 2011 PLAN UPDATE AUGUST 2011



**Prepared by
Arredondo, Zepeda & Brunz, LLC**



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A. EXECUTIVE SUMMARY

In 2001, the City of Arlington adopted a 20 year solid waste management plan that established a course of action with the intent of implementing programs and policies designed to achieve goals established by a Citizens Advisory Committee. Since the adoption of the plan, several initiatives have been undertaken to improve the quality of service, protect the environment and enhance the City's fiscal condition. Some of the major accomplishments of the plan's implementation include the following.

- Surveys of residents continue to show that 90% of residents view the solid waste program in a favorable manner.
- A permit amendment to the City's landfill has provided significant capacity, extending the life of the landfill beyond the six years that were remaining at the time of the 2001 Plan's adoption.
- Through a competitive process, an agreement was negotiated with Republic to operate the City's landfill. This agreement has generated approximately \$40 million dollars over the course of the contract period in the form of an initial payment, usage fees and royalties for waste brought in from outside communities.
- As a result of public information and recycling programs, the residential waste generation rate has been reduced by 14%, saving the landfill space equivalent to 500,000 tons.
- Recycling programs have been enhanced by the continued operation of the concrete recycling operation at the landfill and a compost facility, both located at the landfill.

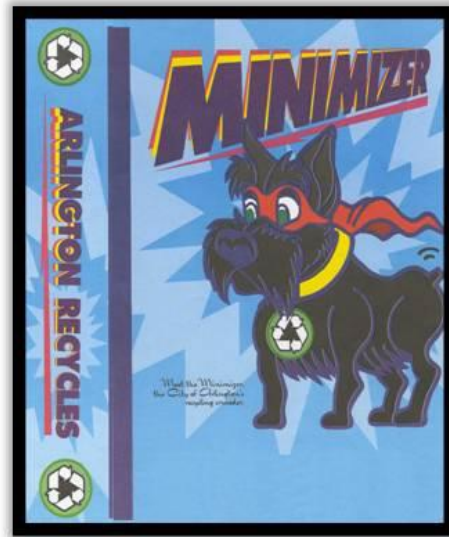
The 2011 Plan Update is designed to address several changes in the City's program and modify the 2001 Plan to reflect these changes. Some of the major changes that have occurred since the 2001 Plan was adopted include: the signing of the agreement with Republic which has resulted in a significant increase in the quantities of waste being sent to the landfill – from approximately 1000 tons per day to 3000 tons per day; the agreement also required Republic to seek a landfill permit amendment which would provide for long-term capacity; the economic conditions over the past few years that have had an impact on waste generation; the continuing rise in fuel prices well above the overall inflation rate; and changes in the community such as the new Cowboys Stadium.

These changes require that the 2001 Plan be updated to allow the city to continue to provide quality, low cost solid waste services to both residents and businesses. Some of the major recommendations put forth in this 2011 Plan Update include the following.

- Implement a program to modify the current manual collection program for both solid waste and recyclables to an automated collection program. This is necessary to address rising fuel prices and as a way to improve the recovery rate for recycling programs.
- Continue to promote source reduction and recycling programs as a way to further meet the City's sustainability program goals and conserve valuable landfill space.
- Approve a permit amendment plan to the landfill that will provide long-term capacity while continuing to protect the environmental conditions at the landfill site.
- Modify collection contract and city ordinances to address changes in the collection practices.
- Prepare the City for potential revenue impacts associated with changing market conditions that may affect the amounts of outside City waste that will be brought to the landfill.

1.0 INTRODUCTION

In 2001, the City of Arlington City Council adopted a **20 Year Solid Waste Management Plan (2001 Plan)**. The purpose of the 2001 Plan was to provide City officials with an understanding of the major issues related to solid waste management and establish a course of action designed to achieve goals and objectives established by a Citizens Advisory Committee (CAC). A number of significant changes have taken place in Arlington in the last ten years which make it necessary to update the 2001 Plan. These events include: the expansion of the City's landfill; the lease agreement signed with Republic for operation of the City's landfill; the opening of Cowboys Stadium; and the economic upheavals experienced in past five years.



The purpose of the **2011 Solid Waste Management Plan Update (2011 Plan Update)** is to accomplish the following.

- Review progress in achieving the CAC's goals and objectives.
- Evaluate the assumptions and projections that were developed in 2001 and determine if there is a need for an adjustment to these projections.
- Evaluate current programs and policies.
- Evaluate the long-term capacity of the City's landfill and establish a plan that provides for the City's disposal needs, while both protecting the environment and allowing the City to benefit financially from the investments it has made in the City's landfill.
- Provide recommendations for program changes that may be appropriate due to changes in technology, regulations or other factors such as increases in fuel costs.

The CAC was responsible for evaluating the City's needs, understanding options and preparing goals and objectives to guide the City's solid waste program over the long-term. Specific objectives were established for each of these goals. The following tables present the 2001 objectives and specific actions that have been implemented since the adoption of the **2001 Plan**. A more complete discussion of objectives and actions taken is provided in Appendix A.

Solid Waste Management Goals

- *Protect the Health and Environment of the Community*
- *Provide Quality Service to Residents*
- *Provide Quality Service to Businesses*
- *Provide Cost Effective Service*

OBJECTIVE

Goal I: Protect the Health and Environment of the Community

1. Evaluate Long Term Capacity
2. Evaluate LF strategies to improve operations
3. Address all State regulatory requirements
4. Continue Construction/Demolition and Brush services.
5. Implement public education programs
6. Provide Solid Waste Management Services
7. Provide household hazardous waste services

Goal II: Provide Quality Service to Residents

1. Provide once per week solid waste collection services
2. Timely service
3. Coordinate with Republic to reduce complaints
4. Provide brush and bulky service to all residents
5. Provide recyclable material collection svc.

ACTION

2003 permit secured additional 20 million cyds. of net capacity. Projected life remaining is 14-17 yrs. Republic is under contract to seek an expansion.

Republic is now under contract to operate landfill. The company is required to comply w/TCEQ regulations. A gas collection system now supplies energy to nearby TRWD facility.

Landfill is compliant with State Regulations.

Operations continue and have expanded at the LF.

Ongoing public education program continues

City maintains collection/waste disposal contract.

4,500 Arlington residents dropped off materials at the FW-ECC in 2010 and city has mobile program.

Through contract 2 per week collections

Contract with Republic requires timely collections.

Republic required by contract to tract complaints

Basic services provide for brush collection, unless quantities are excessive

By contract, Republic provides service once/week

RELATED INFORMATION

Since the agreement with Republic, a total of \$16.7million in royalties and annual usage fees has been paid to the city. This does not include initial payments of \$21.4 million.

Prior to the Republic agreement the landfill was accepting 1,000 tons per day; it now accepts 3,000 tons per day.

No major changes to the regulations in past 10 years.

In 2009, 430,000 tons of c/d waste was recycled and in that same year 26,000 tons of brush was processed.

Household generation rate in the past 10 years reduced 14%.

Contract term ends in 2014

Services are provided through a contract with City of Fort Worth at a yearly cost of \$211,500.

Automated collection is presently under negotiations.

Survey shows 90% satisfaction in services by residents

90% satisfaction rating from independent survey

In 2009, 26,000 tons of brush sent to LETCO facility.

Between 2001 to 2009, 154,000 tons collected.

OBJECTIVE

Goal III Quality Services to Businesses

1. Encourage effective/competitive business practice
2. Provide convenience to small businesses

Goal IV Provide Cost Effective Service

1. Periodically evaluate technical changes to improve operations
2. Contract specifications to maximize technologies
3. Recycling, brush/bulky collection system improvements
4. Provide periodic contract audits for savings
5. Evaluate potential regional opportunities
6. Periodic evaluations for cost savings
7. Evaluate benefits of a transfer station to meet long term disposal needs

ACTION

The 2004 RFB's issued, bids received, selection made

City has an exclusive franchise agreement with Republic for SW collection for businesses

The city provides periodic reviews and is presently on plan to implement an automated system.

Collection contract requires redrafting to allow for change in services

City presently under negotiations to provide solid waste and recyclable material collections once/wk

Recent audit found no changes to advocate

Landfill expansion promotes regional usage

Expansion in 2003, future expansion by Republic required as part of their lease agreement w/City

No action has been taken on this

RELATED INFORMATION

Contract has resulted in over \$38 million paid to City

The City has collected \$1.4 million in franchise fees for the solid waste collection contract.

An additional benefit in implementing an automated collection system once/week is to reduce fuel costs.

Automated system should reduce collection cost and improve recycling program

Transition to automated collection are recommended to reduce costs and improve service

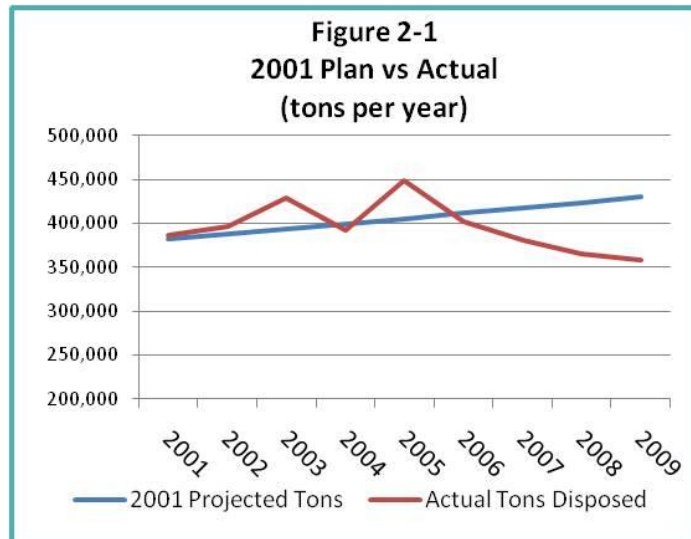
Fund has generated a \$21.5 million reserve for City

Increased waste flows, decrease operating cost but reduce life of landfill.

Although Republic owns a private transfer station, this does not meet the city's needs for the future. An estimate on site selection, permitting, and construction of a municipal transfer station is approximately 4 -6 yrs.

2.0 WASTE MANAGEMENT NEEDS

In 2010, Arlington residents and businesses generated 386,980 tons of municipal solid waste (MSW). This represents an increase of approximately 28,300 tons, or an 8% increase from 2000 (Figure 2-1). Between the period 2001 and 2005, annual waste volumes increased from 376,000 tons to 448,000 tons. The 2001-2005 waste generation trend was consistent with the **2001 Plan** projections. However, waste quantities trended downward after 2005. Factors contributing to this downturn included: increases in recycling, especially brush/leaves and concrete; continued efforts to reduce waste by product manufacturers nationally; and a severe economic downturn in recent years. Because of these factors, the amount of waste generated in 2010 does not significantly differ from the amount generated in 2000.



The drop in waste generation and disposal for the last five years is consistent with what has happened on a regional basis. A review of Texas Commission on Environmental Quality (TCEQ) data for the North Central Texas Region indicates that disposal quantities dropped 11% for the period 2004 to 2009. For the same 2004-2009 period, waste quantities in Arlington have dropped 10 percent.

Sources of waste generated by the City (Figure 2-2) include both residential and commercial sectors. Table 2-1 and Figure 2-3 present the quantities by sector for the 2001-2009 period. The residential sector accounts for 29% of the waste sent to landfills in 2009. This compares to 28% being generated by this sector in 2000. Commercial waste accounts for 56% of the waste going to the landfill; compared to 59% in 2000. The commercial sector includes waste generated by multi-family households such as apartments; commercial businesses and manufacturers. “Other waste” includes waste from government sources, private haulers other than the City’s designated commercial hauler and citizens bringing waste directly to the landfill. In 2009, this waste stream accounted for 15% of the waste stream, compared to 11% in 2000. **In summary, the sources of waste have not shifted significantly from the 2000 to 2009.**

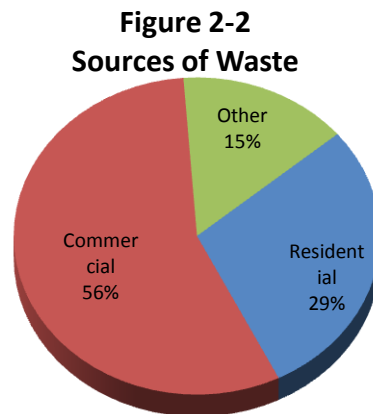
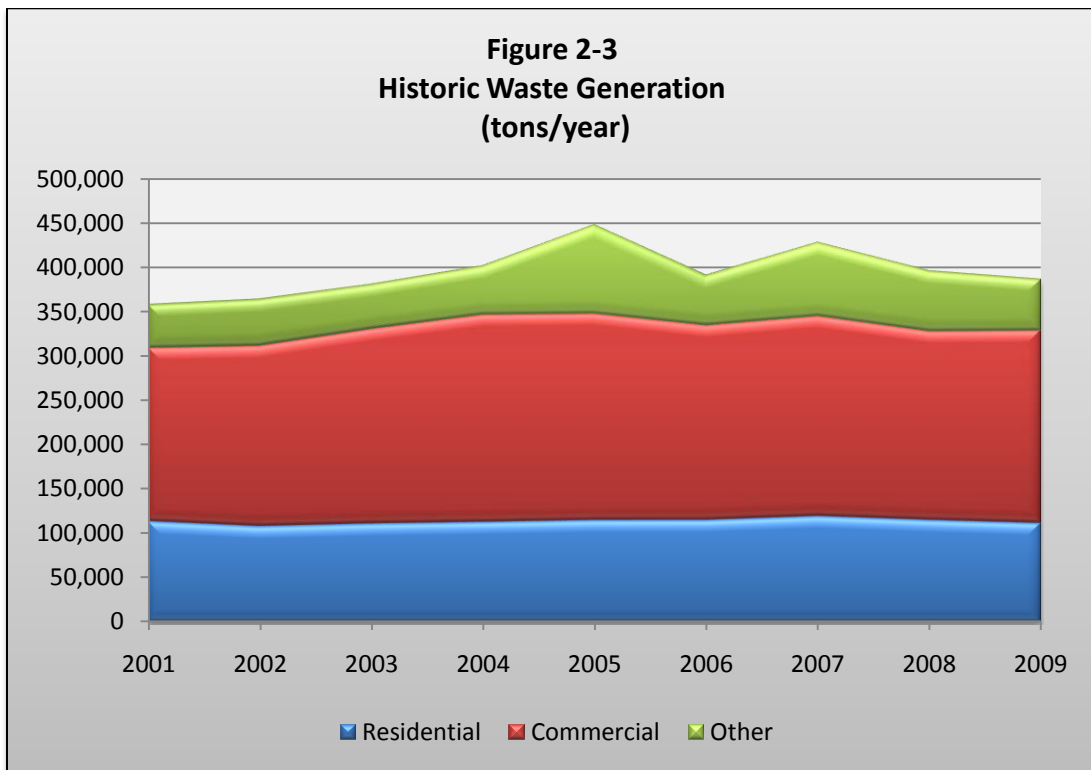


Table 2-1
Historic Waste Generation

Year	Residential	Commercial(1)	Other	Total
2001	113,563	195,472	49,638	360,674
2002	107,846	203,593	53,345	364,784
2003	110,826	219,496	51,061	381,383
2004	112,605	233,829	55,699	402,133
2005	114,749	232,881	100,678	448,308
2006	114,867	219,524	57,303	391,694
2007	119,279	225,557	83,681	428,517
2008	114,844	212,897	68,754	396,495
2009	111,309	217,341	58,330	386,980

Source: City of Arlington Public Works Department. 2011.

(1) Includes waste generated from multi-family households



2.1 Residential Waste Generation

The City provides solid waste collection services to 94,000 residents through its agreement with Republic. Between 2000 and 2010, the residential sector's generation rate, as expressed in pounds per household per day (phd), decreased by 14%. In 2000, this rate was 7.31 phd and decreased to 6.6 pounds phd in 2010. Due to source reduction programs and recycling, this reduced generation rate resulted in approximately 500,000 fewer tons going to the landfill for the period 2001 through 2009 (this assumes a constant 7.31 generation rate multiplied times number of households for each year). For the purpose of forecasting future waste generation from the residential sector, a conservative 6.9 phd is assumed.

Table 2.1-1
Residential Waste Generation Rate

Year	Tons Disposed (1)	Households (2)	Generation Rate (phd)
2,001	111,309	83,403	7.3
2,002	114,844	87,168	7.2
2,003	119,279	90,406	7.2
2,004	114,867	90,220	7.0
2,005	114,749	91,673	6.9
2,006	112,605	91,592	6.7
2,007	110,826	92,698	6.6
2,008	107,846	93,795	6.3
2,009	113,563	94,079	6.6
Total/Average	1,019,888		6.9

Sources: (1) Arlington Public Works Department

(2) City of Arlington Community Development & Planning

A number of factors will impact future residential waste generation, including the overall state of the economy, residential reduction and recycling programs and changes in consumer packaging. The City's policy regarding a ban on the disposal of grass clippings and leaves is the primary reason for the City's waste generation rate to be lower than other communities and is one of the most effective means of reducing waste at the residential sector. Based on EPA data, yard trimmings represent approximately 7% (Source: EPA) of the total waste stream on a national basis. The trend has been toward a lower waste generation rate in Arlington. To forecast future waste generation quantities by this sector, a conservative approach is to take the average of the past ten years and apply that rate to forecast increases in single family households.

2.2 Multi-family Sector

The number of multi-family households in Arlington has remained relatively constant through the last ten years. As such, the amount of waste generated by this sector has remained constant at approximately 48,000 tons per year. There are no specific waste generation numbers for this sector, as it is part of the commercial sector collection program. A generation

rate of 5.28 pounds per household per day is assumed for this sector based on the findings of the 2001 Plan.

It is appropriate to evaluate the waste generation from this sector separately, as programs designed to reduce waste quantities or promote greater recycling from multi-family households is different than general commercial or industrial sectors. Various studies and data were evaluated as part of the 2000 plan to develop an estimated waste generation rate for this sector. Table 2.2-1 presents the estimated quantities of waste generated from this sector for the period 2000 to 2009.

Table 2.2-1
Multi-family Waste Generation Rate

Year	Estimated Annual Waste Generation	Multi-family Households (1)	Waste Generation Rate (pcd)
2001	48,099	49,916	5.28
2002	48,099	49,916	5.28
2003	48,253	50,076	5.28
2004	48,295	50,119	5.28
2005	48,842	50,687	5.28
2006	48,292	50,116	5.28
2007	48,326	50,151	5.28
2008	48,326	50,151	5.28
2009	48,034	49,849	5.28

Source: (1) Arlington Community Development and Planning

2.3 Commercial Sector

The City of Arlington's commercial sector accounts for 56% of the waste generated within the City. For the period 2001 through 2009, the amounts of waste generated by this sector fluctuated significantly.

The generation rate for the commercial sector is calculated as pounds per employee per day (ped). Local conditions affect the generation rate, as different types of businesses have different waste generation rates. For example, a bank will have a significantly lower generation rate than a manufacturing facility. A review of waste generation compared to employment shows that the waste generation rate for the commercial sector has decreased over the last ten years. There are a variety of reasons for this change in waste generation rate from the period 2001 through 2009.

- The composition of the commercial sector in Arlington has changed over the past ten years.
- Economic conditions affect the amount of materials produced and waste generated. The economic downturn of the past few years can account for reduced waste generation.

- Increased recycling or source reduction efforts by the commercial sector, for which the City does not have a method for tracking.

For future years, it is assumed that the average waste generation rate is equal to the average rate before the economic downturn to provide a conservative estimate of needs. This rate is equal to 6.4 ped.

The increase in concrete recycling, from 7,800 tons in 2001 to 430,700 tons in 2009 coincides with major construction projects in the Arlington region, including the construction of Cowboy Stadium and major roadway projects in the area. With construction activity currently on the downside, the amounts of concrete recycling are also anticipated to decrease in coming years, unless roadway debris from projects (such as the improvements to IH 635) are delivered to this facility.

Table 2.3-1

Commercial Sector Waste Generation Rate

Year	Tons	Employment	Generation Rate (ped)
2000	151,045	140,947	5.87
2001	171,793	143,329	6.57
2002	167,349	145,751	6.29
2003	179,863	148,213	6.65
2004	173,790	150,718	6.32
2,005	186,629	153,265	6.67
2,006	188,098	155,854	6.61
2,007	173,733	158,488	6.01
2,008	157,830	161,166	5.37
2,009	149,985	163,889	5.01
Total/Average	1,700,115		6.14

Source: (1) City of Arlington Public Works Department
 (2) NCTCOG 2000 Employment Estimates by City and 2005-2040
 Employment Projections
 (3) Does not include waste generated from multi-family sector

2.4 Waste Projections

Applying the most recent waste generation rates to forecasted growth in households and employment indicates that approximately 421,000 tons of waste will be generated in the 2020; and 489,000 tons will be generated in year 2030.

The methodology used to determine future waste generation quantities is similar to that of the **2001 Plan**. Waste generation rates were determined for single family; multi-family and commercial sectors. Household and employment data were derived from the North Central Texas Council of Governments projections.

Table 2.4.1 presents projected waste generation quantities for the period 2010 through 2030. To predict waste management needs, waste generation rates were determined for residential and commercial sectors. For the purposes of providing a reference, the Arlington Landfill has capacity for approximately 8 to 10 million tons. The amounts presented in the table are Arlington waste generation and do not include waste brought to the landfill from outside the City. Total wastes land filled are discussed later in this Plan Update.

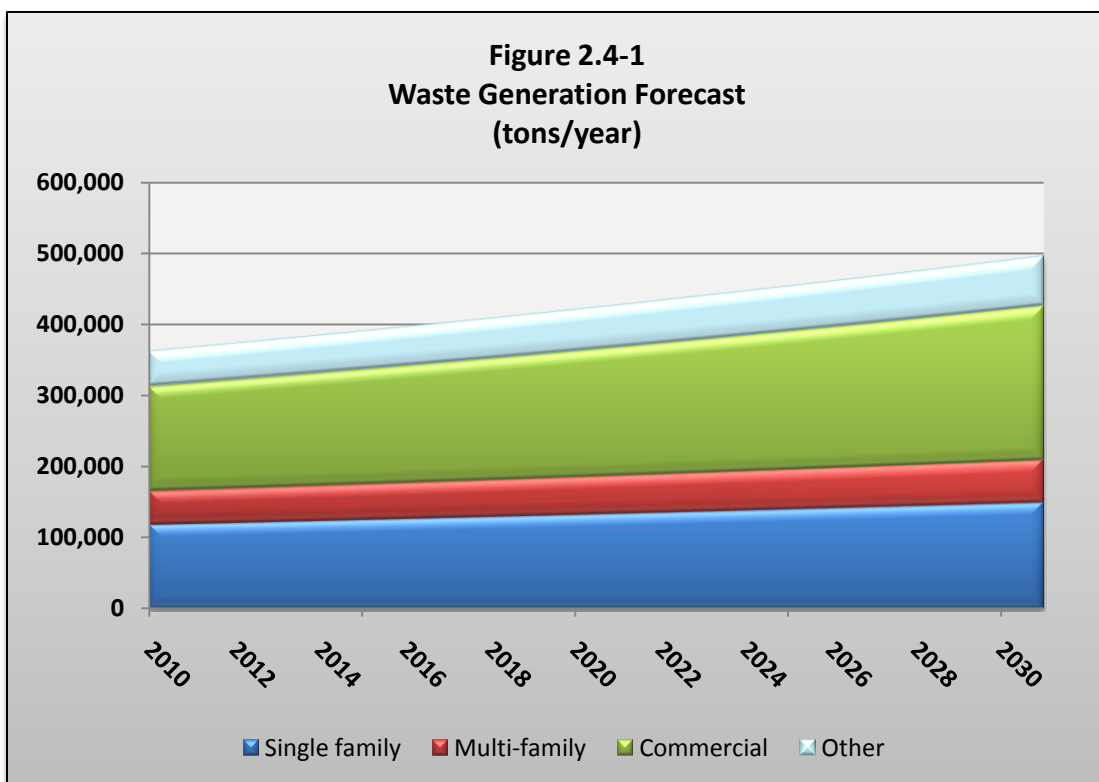


Table 2.4-1
Projected Waste Generation Quantities

Year	Single	Multi	Commercial	Other	Total	Cumulative
2,010	119,000	48,000	147,000	50,000	363,000	363,000
2,011	120,000	49,000	149,000	50,000	368,000	732,000
2,012	121,000	49,000	152,000	51,000	374,000	1,106,000
2,013	123,000	50,000	155,000	52,000	380,000	1,485,000
2,014	124,000	50,000	158,000	53,000	385,000	1,870,000
2,015	125,000	51,000	161,000	54,000	391,000	2,261,000
2,016	127,000	51,000	164,000	55,000	397,000	2,658,000
2,017	128,000	52,000	167,000	56,000	403,000	3,061,000
2,018	130,000	52,000	170,000	57,000	409,000	3,470,000
2,019	131,000	53,000	173,000	58,000	415,000	3,885,000
2,020	132,000	54,000	177,000	59,000	421,000	4,307,000
2,021	134,000	54,000	180,000	60,000	428,000	4,734,000
2,022	135,000	55,000	183,000	61,000	434,000	5,169,000
2,023	137,000	55,000	187,000	62,000	441,000	5,609,000
2,024	138,000	56,000	190,000	63,000	447,000	6,057,000
2,025	140,000	57,000	194,000	64,000	454,000	6,511,000
2,026	141,000	57,000	197,000	65,000	461,000	6,972,000
2,027	143,000	58,000	201,000	66,000	468,000	7,439,000
2,028	145,000	59,000	205,000	67,000	475,000	7,914,000
2,029	146,000	59,000	208,000	68,000	482,000	8,397,000
2,030	148,000	60,000	212,000	69,000	489,000	8,886,000
2,031	149,000	60,000	216,000	71,000	497,000	9,383,000

2.5 Disposal Quantities

During the period 2004 to 2009, the quantities of waste accepted at the City of Arlington's Landfill waste increased by more than 125% - from 442,000 tons per year, to 917,000 tons per year. This increase is a direct result of the agreement between the City and Republic, where Republic operates the landfill and also accepts outside City waste. Daily waste acceptance has increased from an average of approximately 1200 tons per day to 3000 tons per day. As part of this agreement, Republic was allowed to use the City's landfill as a regional facility in return for a \$3.25 per ton royalty fee to be paid to the City for any tons coming in from outside the City. The lease agreement included a provision that Republic commit to be bringing in a certain amount each year from outside the City to guarantee a base royalty payment. To date, Republic has consistently exceeded the amount required in the lease agreement. Landfill disposal rates and available capacity are discussed later in this [2011 Plan Update](#).

To determine future disposal needs, there are a number of factors outside of how much waste is generated in the City of Arlington and include the following.

- Household and commercial growth in surrounding communities
- Market conditions related to landfill disposal capacity in the region
- City policies regarding the acceptance of waste generated from outside their City boundaries
- Regional economic conditions
- Success of recycling and waste reduction programs in cities that rely on the Arlington landfill for disposal
- National programs to reduce waste generation in general



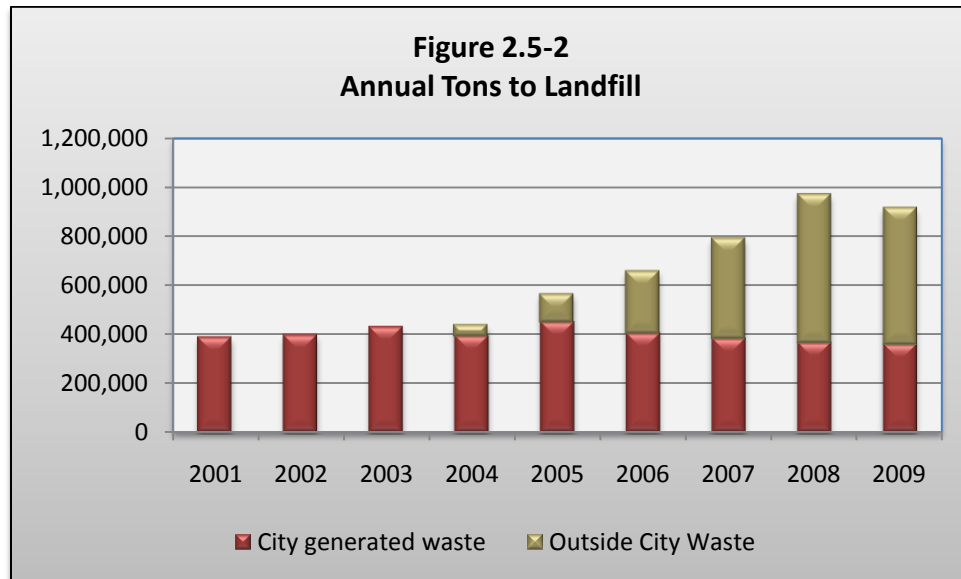
Figure 2.5-1 Regional Landfill Locations

Source: NCTCOG

Waste quantities from outside the City have peaked in year 2008 at 971,000 tons in one year. Assuming continued growth in the region and additional capacity becoming available, the future waste volumes could range from the minimum guaranteed amount to quantities similar to those experienced in 2008. Republic is forecasting a 2 percent annual increase in waste generation for the landfill, which is a reasonable and conservative estimate given the factors mentioned above.

Table 2.5-1
Waste Disposal Quantities 2001-2009

Year	City generated	Outside City	Total	Tons/Day	Cumulative
2001	386,980	0	386,980	1240	386,980
2002	396,495	0	396,495	1270	783,475
2003	428,517	0	428,517	1373	1,211,992
2004	391,694	50,933	442,627	1418	1,654,619
2005	448,308	119,278	567,586	1819	2,222,205
2006	402,133	258,875	661,008	2118	2,883,213
2007	381,383	412,998	794,381	2546	3,677,594
2008	364,784	607,193	971,977	3115	4,649,571
2009	358,673	558,207	916,880	2938	5,566,451



3.0 WASTE MANAGEMENT PROGRAMS

3.1 Residential Programs

3.1.1 Solid Waste Collection

The City provides twice weekly collection of Municipal Solid Waste (MSW). Waste must be placed in bags and the total amount of waste cannot exceed 50 pounds. Brush must be cut to lengths no greater than 4 feet in lengths. There is no limit to the amount of waste that a resident can set-out for collection. The City does not allow residents to dispose of grass clippings for disposal at the landfill, but this material can be taken to the compost operation at the landfill. The City provides once per week curbside recycling services.

In 2010, the City surveyed residents and found that 90% are satisfied with solid waste and recyclable material collection services.

Republic maintains 105 routes for solid waste collection and 31 routes for recyclable materials. The current collection day by neighborhood is shown in Figure 3-1. The term of their contract between Arlington and Republic for solid waste collection and recycling collection service ends in 2014. There are provisions for automatic five year extensions of the contract if the City does not choose to terminate the agreement. The current residential rate is \$11.94 per month. There are also additional fees for special services

3.1.2 Source Reduction and Recycling

Based on information provided by the City, the amount of recyclable materials collected per household has increased from approximately 1.0 pounds per household per day to 2.5 pounds per household per day. Materials that are collected as part of the curbside recycling program include the following.

- **Paper:** newspaper, magazines, phone books, junk mail and envelopes, office paper, flattened cereal boxes, flattened cardboard that will fit in the bin and paper bags
- **Glass:** clear, brown and green glass jar bottles
- **Plastic:** Bottles, cups and jars – rigid plastic containers with #1 through #7 recycling symbols on bottom of container; remove caps and lids and recycle; food trays, tubs and bowls – with #1 through #7 recycling symbols on bottom of container
- **Metals:** Steel, Tin and Aluminum cans

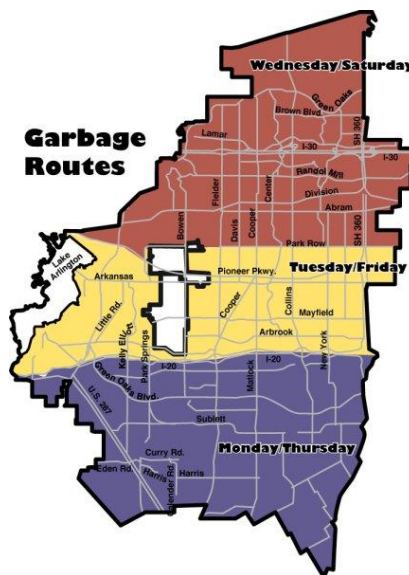
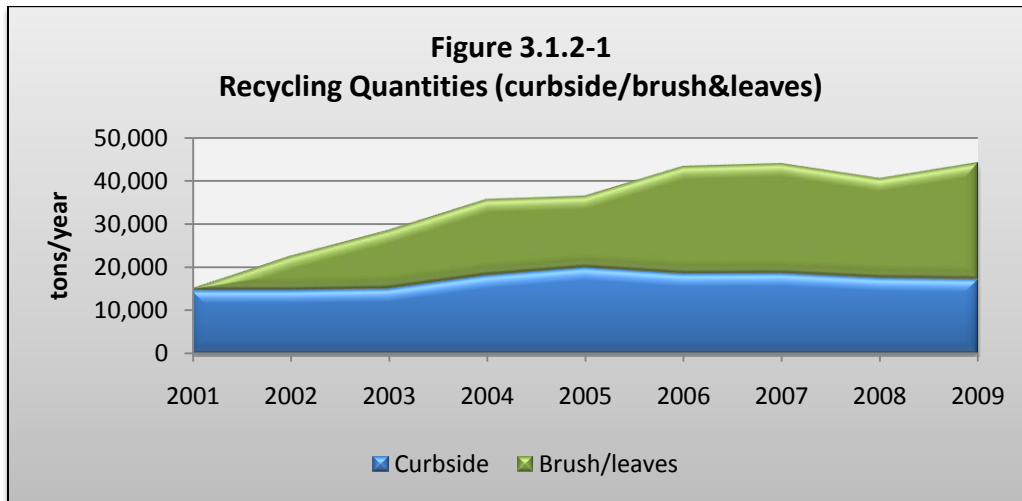


Table 3.1.2-1
Recycling Quantities (2001-2009)
Tons Per Year

Year	Curbside	Brush/Leaves	Total	phd
2001	14,715	324	16,181	1.0
2002	14,693	7,857	24,082	1.5
2003	15,061	13,485	28,961	1.7
2004	18,120	17,560	37,613	2.2
2005	19,924	16,532	37,396	2.2
2006	18,496	24,811	44,262	2.6
2007	18,584	25,373	44,634	2.6
2008	17,508	23,000	41,212	2.4
2009	17,204	26,994	44,912	2.6
Total	154,305	155,936	319,253	2.1



The City also maintains seven drop-off centers for recyclable materials (refer to Appendix B for locations of these drop-off locations). Recyclable materials are also collected at the City's landfill. Other materials that are collected as part of the City's recycling program are brush, tires and other metals. The City also recycles a considerable amount of construction/demolition materials – these are discussed in the commercial and facilities program. Recyclables can be dropped off at the Citizen Convenience and Recycling Center located at the Arlington Sanitary Landfill. The following is list of materials accepted free of charge: Newspapers, magazines, flattened cardboard boxes, flattened chipboard boxes (cereal boxes), office paper, junk mail, phone books, glass jars & bottles, aluminum and steel cans, plastic jugs and bottles.

The City provides household hazardous waste collection services through an inter-local agreement with the City of Fort Worth. Residents can take paint, oil, chemicals and other flammable materials to the Environmental Collection Center. The City also has a mobile household hazardous waste (HHW) collection program that operates once per month for ten months of the year. The mobile collection service is located in different parts of the city each month it is operating.

As part of the landfill agreement, Republic maintains a citizens' convenience center at the landfill where waste can be disposed. Recyclable materials, leaves and brush can also be taken to the landfill for recycling and composting.

Bulky items such as furniture, appliances and other large household items can be picked up by Republic.

3.2 Commercial Programs

The City has an exclusive franchise agreement with Republic to provide commercial collection services. This means any waste generated by businesses within the City boundaries must be collected by Republic. Rates for commercial collection services are presented in Appendix C. Republic pays a franchise fee to the City equal to 5% of gross receipts for its collection operations in the City. In 2010, the franchise fee generated approximately \$1.4 million. This franchise agreement applies to municipal solid waste, but does not apply to recyclable materials.

The City currently does not provide any special collection services to the private sector related to recyclable materials. There are no rates for collection of recyclable materials in the City's agreement with Republic; collection of recyclable materials from commercial establishments is also not a franchise service.

Private entities are encouraged to participate in recycling through the City's Green Team. The Green Team is comprised of members of both the public and private sector. This organization encourages businesses to recycle, as well adopt a number of other sustainable measures and provides energy audits to assist businesses identify energy savings measures. Through the Green Team, the City provides information such as the names of recycling firms and other resources to assist them increase the amounts of materials collected. Some of the firms currently participating in the Green Team program include the following gold, silver and bronze members – there are 50 plus other businesses that are also members.



- General Motors
- Texas Health – Arlington Memorial Hospital
- Frito Lay
- Rooms to Go
- Southern Flair Photography
- The City of Arlington

- University of Texas at Arlington
- Bell Helicopter
- Arlington Pathology Associates
- Staples
- ASC Industries

In 2009, the Citizens Environmental Committee presented the following recommendations related to solid waste management in the City. This presentation was made to the Arlington City Council.

The City is currently evaluating these recommendations and will periodically come to the City Council with practical methods of implementing these recommendations.

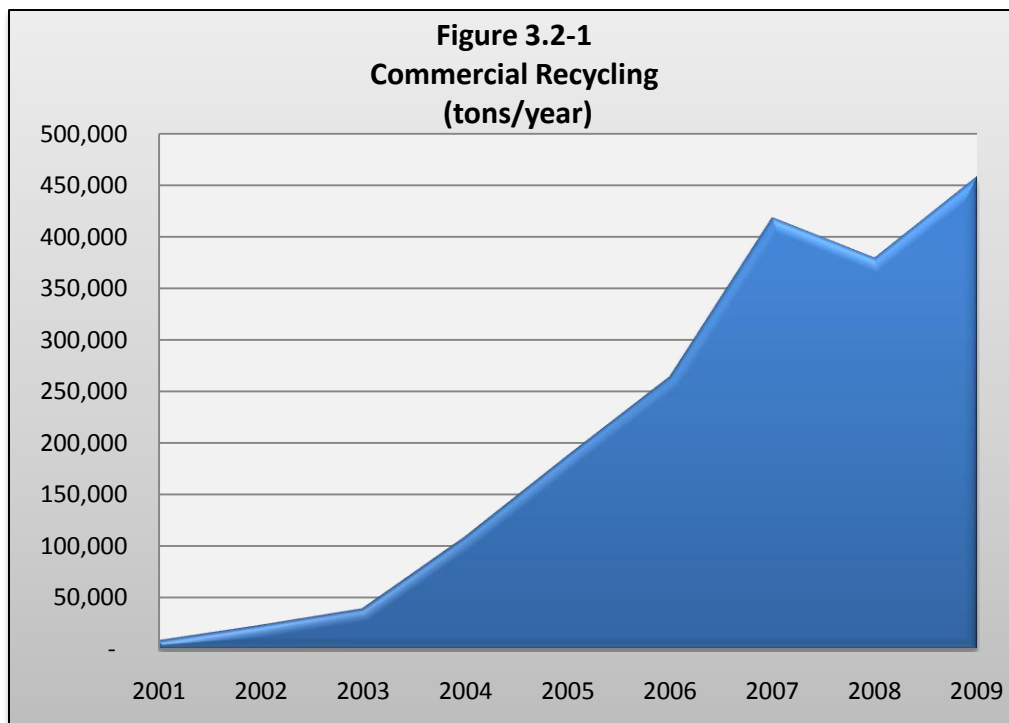
Citizens Environmental Committee Recommendations

1. *Evaluate modifying current enclosure requirements by allowing a parking variance for existing businesses to place a commercial recycling bin*
2. *Consider website listing of third party locations where recyclable items not currently allowed through curbside program can be taken*
3. *Research programs and strategies to reduce product packaging*
4. *Consider placing decals or markings on the side of curbside recycling bin listing acceptable items.*
5. *Consider adding an educational statement to the City's website that pizza boxes can be composted*
6. *Consider encouraging legislation supporting a statewide bottle bill/container deposit law*
7. *Consider adding more leaf collection locations as well as relocating collection dumpsters ad JW Dunlop Park to impede landscape contractors from using them*
8. *Identify on-going funding for a commercial Recycling Coordinator*
9. *Encourage increased involvement of other recycling companies and charitable organizations in community cleanup campaigns*
10. *Modify building ordinance to require commercial buildings four stories or higher to install internal refuse chutes to also install a recycling chute*
11. *Modify commercial building ordinance to require redevelopment and new construction to incorporate enclosure areas for commercial recycling*
12. *Modify the current solid waste ordinance to require a permit of recycling haulers*
13. *Revise current commercial properties building ordinance to require recycling of at least 50% construction and demolition debris*
14. *Establish partnerships with retailers and shopping centers to increase the number of single-stream recycling drop-off sites*
15. *Encourage large venue and public events concessions to incorporate green purchasing and recycling by providing on-site collection of single stream items.*

Specific waste materials including concrete, metals and tires can be taken to the Arlington Landfill for recycling from the commercial sector. Annual quantities of both brush/leaves and concrete recycling are presented in Table 3.2-1 below.

Table 3.2-1
Annual Concrete/Tires/Metal Recycling
Tons (2001-2009)

Year	Concrete	Tires	Metal	Total
2001	7,894	65	1,077	9,360
2002	14,862	54	1,478	24,251
2003	26,458	53	362	40,358
2004	90,221	18	1,915	109,714
2005	170,695	53	887	188,167
2006	238,943	51	904	264,709
2007	392,697	60	617	418,747
2008	355,895	250	454	379,599
2009	430,723	204	510	458,431
Total	1,728,388	808	8,204	1,893,336



3.3 Current Facilities

3.3.1 City of Arlington Landfill

The City of Arlington owns the Arlington Landfill, which is located on Farm-to-Market 157 and Mosier Valley Road. The 551-acre site is divided into two distinct fill areas: (1) the Eastern Disposal Area (EDA), which includes 175 acres; and (2) the Western Disposal Area (WDA), which includes 128 acres. These areas are separated by Hurricane Creek. The EDA is where waste is currently being disposed. The WDA was officially closed in 2000, and is in post-closure care. There are also approximately 59 acres of buffer and screening in the permitted area. 189-acres are south of the EDA and WDA was officially closed prior to implementation of federal Subtitle D landfill regulations.

In 1994, the City modified its landfill permit to bring the site into compliance with federal Subtitle D regulations. These regulations define the requirements for landfill liners, leachate collection systems, gas management systems, final covers, post-closure care and overall operations. In 2003, the City received a permit amendment to expand the landfill vertically over



the EDA. This amendment was prepared in accordance with the **2001 Plan**. At the time of the 2001 Plan, the landfill had an estimated six years of remaining capacity. A permit amendment was approved by the Texas Commission on Environmental Quality in December 2003. The amendment allowed the City to expand the landfill's EDA vertically. This amendment provided the City with 20 million cubic yards of waste disposal capacity. At the rate of disposal at the time of the permit amendment, 1,200 tons per day, the amendment provided 26 years of additional capacity. The amendment was secured with no public opposition and City Council support.

In 2005, the City negotiated a forty year lease agreement with Republic to operate the landfill. The lease provided that Republic must operate the landfill in accordance with state and federal regulations; provide disposal services for waste generated by the City of Arlington and pay certain fees and royalties. A summary of the financial considerations of the lease are as follows.

- An initial one-time payment of \$15 million
- Republic will fund the \$5.1 million Closure/Post Closure Trust Account, releasing the City's funds
- A \$500,000 transition period payment
- Annual usage fee of \$1.7 million
- Royalty of \$3.25 per ton on all disposal of non-city waste, expected to generate approximately \$1.9 million annually.

The agreement also included the following provisions: The City's landfill gas contractor will continue its operation that collects and sells methane gas produced. In addition, Republic will establish a Living Earth Technology (LETCO) operation onsite. LETCO is the leading producer of mulch, compost, and mixed soil products in Texas. Brush, Christmas trees, and other plant material will be recycled through this operation. The City will receive a royalty of \$0.50 per each cubic yard of material (mulch, compost, soils, or amendments) processed and sold, with a minimum annual payment of \$30,000.



The City retains mineral rights on the site, and the ability to drill for natural gas or other minerals.

Republic made one-time contributions to several local City projects, including \$400,000 to fund a Community Environmental Education Center at River Legacy Park, \$140,000 toward construction of the City's new animal services center, and \$260,000 to the Parks Department toward construction of Heroes Park, to recognize the service and sacrifice of City of Arlington Police and Fire Department personnel.



There is no restriction in the agreement related to quantities of waste that can be accepted at the landfill, or any guarantees regarding future disposal capacity. Republic is responsible under the agreement to deliver quantities of waste generated from outside the City each year. One of the requirements of the agreement was for the company to "use commercially reasonable efforts to prepare and submit such applications as may be required by governmental entities to secure all Government Approvals for the landfill expansion." The agreement called for the expansion application to occur before the fifth anniversary of the contract date. An initial review of the draft permit application assumes that the amendment will provide an additional 40 years of capacity. Table 3.3.1-1 shows the amounts of waste accepted from other cities from 2005 till 2010. The increasing amounts of outside waste have resulted in higher royalty payments, but have decreased the capacity of the landfill significantly. In 2003, when the permit amendment was awarded, the landfill had capacity for 26 years; seven years later, the landfill has 8 to 10 years of remaining capacity.

Table 3.3.1-1
Tons of Waste Accepted at Landfill from other Cities

Year	Tons	Cumulative Tons
2005	50,933	50,933
2006	119,278	170,211
2007	258,875	429,086
2008	412,998	842,084
2009	607,193	1,449,277
2010	558,207	2,007,484

Republic is responsible for paying all costs associated with the expansion. At this time, a permit amendment has been drafted, but not submitted to the TCEQ. It is anticipated that the permit amendment will be submitted to the TCEQ by the end of 2011. The permitting process is anticipated to take three to five years, depending on whether there is local opposition to the application.

3.4 City Solid Waste Management Budget

The Department of Public Works and Transportation has the responsibility for managing the City's solid waste management program. The mission of the Department is "to enhance the quality of life and promote economic development of the City of Arlington by providing and maintaining quality infrastructure, continually improving mobility and promoting a sustainable environment." The Solid Waste Operations Division is responsible for oversight of the landfill contract, the solid waste and recycling contract and public information programs related to source reduction and recycling. The budget for the solid waste program is presented in Table 3.4.1. In the 2011 budget, there is a budgeted line item for "challenge grant" to assist in the public information program.

Table 3.4.1
Solid Waste Management Operations

Budget Year	2009 Actual	2010 Estimated	2011 Adopted
Solid Waste Operations	\$780,536	\$624,372	\$387,257
Challenge Grant			\$206,017

It should be noted that the management of MSW is a program that is self-sustaining through fees paid by residents for services provided and from landfill usage fees and royalty payments made by Republic per the lease agreement. The agreement has been instrumental in keeping Arlington MSW service rates at a low level in comparison to other cities in the region. With improvements to the solid waste collection program, these costs can be maintained at reasonable levels.

Highlights of the current system from a budgetary standpoint are as follows:

- In 2004, the landfill revenues were \$6.8 million with \$4.8 million in expenses. A total of 26 staff members were employed by the City for the solid waste program, including one recycling coordinator. In 2010, the City is budgeting \$387,000 for solid waste and recycling public education. This does not include the cost for residential solid waste collection, recycling and disposal.
- Assuming a rate of \$11.94 per household per month and 94,000 residents – the cost for solid waste collection, recycling and disposal for residents is \$13 million per year.
- The landfill agreement generated \$3.65 million per year in royalty and usage payments
- Households pay \$11.94 per month; this equal to \$143.28 per year. Approximately \$22 of this is for solid waste disposal ($\$20 * 1.1$ tons per household per year); and \$29 is for recycling and public information programs ($\$1.90$ per household per month + public information costs of \$0.35); the remaining \$92 is to provide twice per week collection of solid waste and brush collection services.

4.0 PROGRAM UPDATE AND PLAN

The process of preparing the **2001 Plan** involved a comprehensive analysis of Arlington's solid waste management needs, a detailed review of alternatives available to the City and a strategy for achieving the goals and objectives that were developed by the CAC. The scope of the **2011 Plan Update** is to evaluate major changes in the City's needs and to identify major issues related to solid waste management that are relevant to current needs. The Program Update and Plan Section provides a description of major issues related to current needs and presents a plan of action for meeting short-term, mid-term and long-term needs. The tables presented at the end of this section provide specific strategies for implementing the City's solid waste management plan.

It is assumed that the CAC's goals and objectives for the Residential, Commercial and Facility Programs remain in place. The Program Updates address specific actions that are recommended to achieve these goals and objectives given the changes in the industry and the changes that have taken place in Arlington relative to solid waste management since the adoption of the **2001 Plan**.

4.1 Residential Service Program

4.1.1 Residential Collection Goals & Objectives

In 2001, the CAC has established a number of objectives for the Department to achieve related to residential collection service in the 2001 Plan. These objectives are described below.

1. Provide solid waste collection services as required by state law
2. Sponsor public education programs encouraging full participation in source reduction, recycling, composting and other waste reduction programs
3. Continue to provide for household hazardous waste collection
4. Address any regulatory changes in waste management, water quality or air quality that may affect the collection, process or disposal of waste in Arlington
5. Provide residential solid waste collection at least once per week
6. Provide service in a timely fashion
7. Continually work with solid waste collection contractor to reduce residential service complaints
8. Provide brush and bulky waste collect service to all residents
9. Provide convenient recyclable material collection service once per week – this will change to once every two weeks to provide single stream cart service cost-effectively.
10. Provide access for residents to use citizen's drop-off facilities
11. Continuously evaluate technical changes in solid waste collection services to identify more cost effective methods of collecting waste
12. Develop contract specifications for solid waste collection services that utilize cost effective technologies
13. Utilize cost-effective technologies for other residential services, i.e. recycling and brush/bulky collection
14. Periodically conduct contract audits to identify possible savings

15. Evaluate potential regional opportunities to identify opportunities for cost savings, including capacity improvements and labor and equipment savings

4.1.2 Major Residential Collection Issues

Maintaining a high approval rate of satisfaction: Any change in the method of providing solid waste collection services, even though there are good reasons for such a change may result in public opposition to the conversion. A significant public education program will be required to make the change from twice per week manual collection to automated collection.

The City's solid waste collection program has continued to rank very high in citizen surveys of services provided by the City.

Table 4.1.2-1
Satisfaction with Solid Waste and Recycling Services

Year	2009	2010	2011
Satisfaction with solid waste collection	88%	90%	90%
Satisfaction with recycling services	90%	90%	90%

Source: 2011 Arlington Budget

One of the primary goals of the CAC was to continue to provide quality service to residents and businesses. Without empirical data to confirm this approval rating, factors that generally support a high level of acceptance include quality of services provided – generally defined as picking up waste as scheduled and keeping litter from being generated when waste is collected and secondly, providing the service in a cost-effective manner. Rate data is available for other communities receiving similar services, which is presented in Table 4.3.2-2.

As the City makes the transition to an automated collection program for both recyclables and solid waste, it will be necessary to implement an aggressive public information/public education program. The contract amendment that establishes an automated collection program should be clear in terms of responsibilities for public education efforts, including participation in public meetings; printing of materials; notices to the public regarding cart distribution and management of the press related to the program. There have been a number of communities in the Metroplex which already have this program in place for several years and they have experienced high approval rates. Initially, however, it can be anticipated that there are going to be concerned citizens that will question why there must be change in the program that provides quality service. However, one factor that makes the program acceptable is the cost of service. With fuel price increases anticipated in the future, the ability to keep rates relative low will be decreased unless the City adopts an automated collection program.

Table 4.1.2-2
Residential Solid Waste Rates

City	Monthly Rate
Arlington	\$11.94
Dallas	\$20.34
Irving	\$19.76
Richardson	\$18.00
Garland	\$17.95
Mesquite	\$17.86
Carrollton	\$17.03
Allen	\$16.25
Grand Prairie	\$15.09
Frisco	\$11.00
Grapevine	\$10.68
Fort Worth	(96-gallon trash cart) \$24.63 (64-gallon trash cart) \$19.21 (32-gallon trash cart) \$13.80
Plano	(95-gallon trash cart) \$16.35 (68-gallon trash cart) \$12.18
Denton	(96-gallon trash cart) \$22.73 (65-gallon trash cart) \$20.19 (small trash cart) \$17.81

Conversion to automated collection services: In the **2001 Plan** it was recommended that the City continue to examine new technologies for collecting municipal solid waste, specifically a possible transition to once per week collection of waste. The contract for waste collection is now being renewed, with the anticipation that the collection method will change from twice per week to once per week automated collection.

The current method of collection is manual collection which was the practice at the time of the **2001 Plan**. The 2001 Plan did establish an objective to continue to review upgrades in collection technology and practices as means to potentially save costs while continuing to provide quality collection service. One of the primary reasons for converting to an automated collection service is that costs can be reduced as a result of having to maintain fewer trucks and

staff. A comparison of the various collection methods is provided in Table 4.1.3-2. A major cost associated with the collection of municipal solid waste is fuel for collection vehicles. These costs have increased significantly since the adoption of the 2001 Plan. In 2001, diesel prices were 94 cents per gallon (pre-tax) compared to a 2011 price of \$3.03 (pre-tax).

Table 4.1.2-3
Comparison of Collection Alternatives

Collection Option	Advantages	Disadvantages
Twice Per Week Manual Collection	• Current system • Low capital requirements • Carts do not have to be purchased, maintained or replaced • Low technology system • Flexible in providing range of collection service • More personalized service to residents	• Requires crew of two to three for collection • One of the highest cost options available
Once Per Week Manual Collection	• Lowest cost option available • Low capital requirements • Carts do not have to be purchased, maintained or replaced • Low technology system • Flexible in providing range of collection service • More personalized service to residents	• Requires crew of two to three for collection • Citizens view as decrease in the level of service provided
Six day per week operations	• More efficient use of collection fleet	• Change in service • May be higher risks to residents and children in neighborhoods on Saturday • Facilities may not be open to accept waste or recyclable materials on Saturday
Bag/Tag Program	• Encourages waste reduction and may reduce disposal costs • Provides a basis for cost-of-service funding • Low technology program for reducing waste • City already in business of selling bags, therefore transition for the City staff would not be difficult • Rate structures can be implemented in a manner that encourage recycling and discourages disposal • Encourages landfill diversion of yard waste	• May be considered a regressive tax • Will take businesses out of bag sales unless a tag program is used • May require a more complex billing system • Will require monitoring to make sure that only City-sold bags or tags are used for collection

The City is now in negotiations with Republic with the potential to change collection practices from manual twice per week collection to once per week automated collection.

Key elements in an automated collection program implementation:

- Public information responsibilities
- Contract terms and conditions
- Ownership and maintenance of containers
- Ownership and maintenance of collection vehicles
- Performance standard – route sizing
- Management of improperly disposed of materials
- Management of any waste outside the containers
- Term of the agreement
- Additional households
- Management of service calls

According to Duncan Disposal - *“An automated cart system is less costly to operate, safer for workers, and more sanitary for customers. The carts also keep trash from being scattered by animals and provide a convenient place to store trash between collection days”.*

Implementation of an automated collection program requires a significant public information program to guarantee program acceptance and compliance with changes City ordinances associated with the new program. The City maintains a public education program related to solid waste collection and recycling. As the City is about to implement a major change in the collection program, an aggressive public information program will be required to make the transition as smooth as possible. Focus of the program should be on the following issues for the program:

- Why the program is being implemented
- What services are provided
- What are City ordinances associated with cart set-out and locations
- What materials can and cannot be placed in the carts
- When and how often will waste be collected
- What should happen if a cart is stolen or broken



Prior to implementation of the program, the City should evaluate its current solid waste ordinances and consider changes to affect the transition. These ordinances may include the following:

- Where carts can be placed
- Time restrictions for carts to be placed at street curbs or in alleys
- Responsibility for lost or stolen carts
- Hauler responsibilities related to cart distribution
- What materials may be placed in the carts

Recycling Program Issues:

Conversion to single stream – automated collection service. With the change in solid waste collection, it is also appropriate to convert the recycling program to a single stream recycling collection program. This method utilizes the same types of containers used for solid waste collection.

The current recycling program relies on residents placing recyclable materials into a bin that is collected once per week by Republic crews. This is a labor intensive program and has limited storage capacity for the recyclable materials. A number of cities are moving to implement single-stream, cart recycling programs as a means of improving participation rates and reducing program costs, especially when an automated collection program is in place. The process is the same as automated collection of municipal solid waste, with the difference being there are specific materials that are to be placed in the container.

It should be noted that implementation of a single-stream automated collection of recyclable materials is an expensive option in itself and should be coordinated with the collection of municipal solid waste.

Factors that need to be considered in the implementation of a cart recycling program include the following:

- Types of materials that will be accepted – tied to market availability and market agreement with MRF operator
- Frequency of collection
- Public information program must be significant to assure program compliance and participation
- Consideration of incentives for the collection firm to actively promote the program and increase participation rates (residents pay for this service if they do or do not participate in the program). Full participation in the program by City residents provides the greatest payback in terms of investment and savings of landfill capacity.
- Cart maintenance issues that are the same as those for automated collection program, including replacement policy for stolen or broken carts
- Ordinances related to cart locations and removal from the curbside
- Potential revenue sharing from the program with either the collector or the operator of the MRF owner

The materials are collected as one single stream, so there is no labor intensive separation that takes place at the curb. Materials are then delivered to a material recovery facility (MRF), where they are sorted using both manual and mechanical techniques. The processing of materials will be the same as currently being utilized.

Increasing quantities of materials recovered from curbside program:

The City has a contract with Republic to provide collection of recyclable materials at the curbside. There have not been significant increases in material recovery over the past ten years related to the curbside program. The City pays for the collection of these materials on a per

household basis, therefore non-participants cost the City the same as a participating household, and the City does not receive the benefit in terms of extended capacity at the landfill.

The benefits of the City's once per week recyclable material collection program are to reduce the amounts of material going to the landfill thereby, preserving airspace. The program also has broader national benefits of recovering resources that can be used in the manufacture of other products. The collection service represents approximately \$1.85 per month per household of the \$11.94 monthly solid waste bill. The City will pay the same amount, regardless of whether there is a high or low participation rate in the program.

The City will also be changing the method of collecting recyclable materials. The City will replace its bin collection program for many of the same reasons as it is moving to an automated solid waste collection program. The single stream method relies on residents putting materials in carts similar to those used for residential waste collection. The materials are collected every two weeks instead of once weekly. This saves fuel in collecting materials. The use of these carts for materials and the fact that there is no separation required by residents does make it more convenient and thereby should result in higher participation rates. However a review of local recycling programs illustrates that it takes more than improving convenience to improve collection rates. Cities that have bin or bag programs have demonstrated high participation and recovery rates (refer to table)

A recent NCTCOG survey of municipalities providing recycling curbside programs shows that the City is not at the high end of recovery. Program changes that can be undertaken to increase the quantities of materials recovered include:

- An aggressive public education program
- Increasing the types of materials that can be collected as part of the program
- Converting to a single stream system making it more convenient for residents
- Providing incentives for the City's hauler to increase recycling quantities

Table 4.1.2-4
Recycling Recovery Rates for Area Cities

City	Households	Method (bin or cart)	Tons Recycled	Lbs/HH
Arlington	103,569	Bin	24,324	525
Dallas	297,941	Cart/Bag	44,259	336
Fort Worth	203,105	Cart	53,015	616
Garland	58,552	Bin	41,934	1,430
Grand Prairie	41,298	Bin/Bag	7,153	400
Irving	40,631	Bag	8,632	462
Mesquite	37,396	Bin/Bag	27,434	1,530
Plano	73,064	Cart	38,598	1,130
Richardson	28,878	Bags	3,427	238

Source: NCTCOG Recycling Survey: 2007

For the convenience of residents who live in multi-family units, the City should maintain operations of the seven recycling drop-off facilities.

Brush Collection:

The collection and processing of brush represents a significant percentage of the materials that are currently recycled by Arlington residents and businesses. In 2009, a total of 26,000 tons of brush were collected and processed at the composting facility located at the landfill. Brush chipping was included in the original plan, however there is now a compost facility located at the landfill. This facility processes the materials into a more useful product and has the flexibility to process and recycle other materials including other yard wastes such as leaves and grass clippings, as well as organic materials such as waste food processing wastes.

The City will continue to maintain its brush collection program.

HHW:

The City currently has two methods of collecting household hazardous wastes such as paints, pesticides, insecticides, petroleum products and other wastes that should not be disposed of in the landfill. The program is a part of the City's commitment under its MS4 Storm Water Pollution Prevention Program.

The City participates in a regional program with the City of Fort Worth and has an annual contract will continue to participate with the City of Fort Worth in the household hazardous waste collection program.

The City also provides services through a mobile collection program with the location of the collection day changing each month. Ten collections are held each month.

4.2 Commercial Program

4.2.1 Commercial Goals and Objectives

The CAC has established a number of objectives for the Department to achieve related to the commercial collection program. These objectives are described below.

1. Provide solid waste collection services as required by state law.
2. Comply with Local, State and Federal Regulations for disposal and other waste management activities.
3. Sponsor public education programs encouraging full participation in source reduction, recycling, composting and other waste reduction programs.
4. Address any regulatory changes in waste management, water quality or air quality that affects the collection, processing or disposal of waste in Arlington.
5. Continue operations of construction/demolition and brush recycling activities.
6. Establish ordinances and infrastructure that encourages competitive business practices for the commercial sector.
7. Provide convenient access for small businesses, reassuring disposal of municipal solid waste and construction/demolition material.
8. Continuously evaluate technical changes in solid waste collection services to identify more cost-effective methods of collecting waste.
9. Periodically conduct contract audits to identify possible savings.
10. Evaluate potential regional opportunities as a means of improving the cost-effectiveness of the entire system.

4.2.2 Commercial Collection Issues

The major issues related to commercial collection of waste relate primarily to the City's policy regarding the selection of contractors allowed to provide commercial collection service within the City and the availability of disposal options for waste collected.

Commercial Collection Services: The City will continue to provide for the collection of solid waste through private sector services. The City's agreement with Republic for exclusive franchise service expires in 2006. Prior to this time, the City should determine the method of providing future services. Options include:

- Franchise with one firm
- Allow for multiple franchises
- Establish licenses for any firm wishing to business in the City
- Open City collection service, with only minimal requirements on hauling firms
- Contract with one or multiple firms to provide collection service for commercial waste
- City collection crews provide service.

Franchise Rates: Franchise fees provide the City with a revenue stream that allows the City the opportunity generate revenues that allow for infrastructure improvements related to the

services provided by the private sector. Specifically, private entities rely on City streets to provide service. Continuous use of City streets by collection firms results in the degradation of streets and necessitates repairs. The cost of administration for the solid waste program is another expenditure to be covered through franchise fees. The nature of a franchise fee and amount should be considered at the time the commercial agreement and franchise are established.

The City currently provides Republic Waste Services with an exclusive franchise within the City for the collection and disposal of waste generated by businesses. This means that every business in the City must use Republic for the collection and disposal of waste. Rates are established through a City ordinance. An agreement was negotiated with Republic to provide this service. The term of this agreement is to end at the same time as the residential disposal agreement.

Disposal Requirements for Commercial Waste: Currently all waste collected from the commercial sector, with minor exceptions, is disposed at the City's landfill. Flow control of waste to disposal sites is often an important issue for owners of disposal sites. Greater waste flow into facilities that have high rates of fixed costs rely on quantities to keep per ton costs at reasonable levels – the greater the waste volume accepted, the lower the net fee per ton. In order to preserve long-term capacity at the City's landfill however, it may be in the City's interest to allow collection firms to haul waste to landfills located outside the City. There is legal precedence for communities securing flow control over all waste generated within their jurisdiction. Regardless of whether the City decides to continue to rely on one collection firm for commercial waste or allow several contractors to provide service, it must determine whether to require that waste continue to be sent to the City's owned landfill, or allow for this waste to be exported out of the City. This decision will have an impact on the life of the City's landfill and the cost of operating the facility.

Concrete and Brush Processing Agreements: The City currently contracts with private sector firms to provide concrete recycling and brush processing services. These are two separate contracts. Both services allow the City to reduce quantities going into the landfill. Contractors have their operations located at the City's landfill. The City will have to continuously evaluate these agreements, determine if they meet future needs and negotiate agreements for required services.

Public Information Programs: Because the commercial sector accounts for 56% of the City's waste stream (including other waste generation), it is important to include this sector in any future public information programs related to municipal solid waste. When the multi-family sector's waste generation is included in this waste stream, the total is 75%. Information programs should focus on source reduction options, including the need for periodic waste audits, recycling opportunities, and the potential impacts of the SIP on future collection and disposal programs.

As the City evaluates its commercial collection arrangement with Republic, private businesses should be kept informed of how this may affect their future collection services and the potential competitive options that may become available.

Recycling Program: The City's currently reduces a significant amount of waste through the agreements for brush and concrete recycling. These programs will continue. Contract amendments will be necessary to modify these programs.

Through public information programs, businesses should be aware of what recycling opportunities may exist. Using examples of successful recycling programs is one way of encouraging greater participation in commercial recycling efforts. Other information that encourages greater recycling includes: location of recycling markets; opportunities to participate in "waste exchange" programs such as the one sponsored by the TNRCC, and others.

4.3 Facilities Program

A successful waste management program requires the availability of facilities to process recyclable materials and dispose of waste once it has been collected. An "integrated" approach to solid waste management is recognized as the preferred method of managing waste. Such an approach requires a combination of facilities, including:

- Processing facilities for recyclable materials
- Compost operations for brush, yard waste and other materials
- Transfer stations when haul distances are excessive
- Landfills for dispose of all non-recovered materials

These facilities are available to the City of Arlington either through its current ownership of the City of Arlington's landfill, or via contracts for material processing. Recycling facilities for materials collected from Arlington residents and businesses are located throughout the Metroplex. Currently, the City's recycled materials are taken to the Abitibi Recycling facility by Republic. Republic is on considering the possibility of constructing and operating its own material recovery facility.

A compost operation, which takes brush and yard wastes and converts these materials into a useful compost product is located at the City's Landfill and is operated by LETCO.

Also located at the landfill are: a citizens convenience station, where waste from residents and small business operations can be disposed without having to bring it to the working face of the landfill; recycling drop-off locations; brush drop-off area located at the composting operation; and a concrete recycling operation.

A transfer station is currently owned by Republic in the City of Arlington, but is not operating at this time.

The City of Arlington's Landfill manages the majority of the waste generated by residents and businesses. In 2001, the facility had approximately 6 years of remaining capacity. The CAC recommended a permit amendment to expand the capacity of the site, which provided the landfill with 26 years of additional capacity, assuming only City of Arlington waste would be directed to the facility. Since the agreement with Republic, waste quantities disposed at the landfill have increased significantly. The current estimated capacity of the landfill is approximately 14 to 17 years, assuming 2010 rates of disposal. A permit amendment is now being drafted in accordance with the terms of the lease agreement. The permit amendment now being drafted is anticipated to provide an additional 32 million cubic yards of capacity.

4.3.1 Facility Goals and Objectives

The CAC objectives for the facilities program are as follows.

1. Comply with local, state and federal regulations for disposal and other waste management activities.
2. Address any regulatory changes in waste management, water quality or air quality that affects the collection, processing or disposal of waste in Arlington.
3. Evaluate long-term capacity at the Arlington Landfill and methods to assure long-term disposal capacity is available to Arlington residents.
4. Evaluate landfill strategies to improve landfill operational effectiveness and support regulatory compliance.
5. Continue operations of construction/demolition and brush recycling activities.
6. Provide access for residents to use citizen's drop-off facilities.
7. Develop contract specifications for solid waste collection services that utilize cost-effective technologies.
8. Evaluate potential regional opportunities as a means of improving the cost-effectiveness of the entire system.
9. Periodically evaluate landfill operations to identify opportunities for cost savings, including capacity improvements, and labor and equipment savings.
10. Evaluate potential benefits of a transfer station to meet long-term disposal needs.

4.3.2 Facility Issues

Regulatory Compliance: As the permit holder, the City is responsible for assuring compliance with state and federal regulations. By contract, Republic is responsible for constructing and operating the landfill in accordance with state and federal regulations. Since 2001, there have not been any major changes in landfill regulations that affected the operation or construction of the City's landfill. No immediate actions are anticipated that would significantly affect either the construction or operation of the landfill. Republic is responsible for maintaining the landfill in compliance with state and federal regulations and according to City and state records, Republic has maintained conformance with these regulations.

Landfill Development & Expansion: In 2003, the City did receive a landfill permit amendment for the purpose of expanding the EDA vertically. The expansion of the EDA provided approximately 20 million cubic yards of landfill capacity – 26 years of capacity at the rate of disposal at the time the permit amendment was approved by the TCEQ. The significant increase in waste volumes accepted has decreased the available life of the landfill. Refer to Figure 4.3.2-1.

The agreement with Republic requires that they take measures to secure an additional amendment to the permit for the landfill to provide long-term capacity. This additional capacity is necessary to meet Arlington's future disposal needs and allow the City to continue to collect revenues from the operation of the facility. Republic has drafted a permit amendment for the landfill that does provide additional capacity. The actual permit amendment will be submitted as an amendment to the City's own permit, which it will maintain as long as it owns the facility.

Republic is in the process of preparing the permit amendment which should be ready for submittal to the TCEQ by the end of 2011. The permit amendment will have to be reviewed by City staff prior to submittal to TCEQ. Prior to submittal, the application must be reviewed by the North Central Texas Council of Governments (NCTCOG). The NCTCOG must make a determination that the application is in conformance with the regional plan, prior to submittal to the TCEQ. A copy of the form associated with the NCTCOG approval process is included in Appendix E.

Once submitted to the TCEQ, the permit amendment will undergo a review by the TCEQ and comments on the permit amendment document will be provided to Republic. This process can take approximately six to nine months to complete. Once the application has been determined to be technically complete by the TCEQ staff, there is opportunity for public comment on the application. A hearing may be requested from individuals who have a vested interest in the approval or denial of the permit application. If the need for a hearing is approved by an administrative law judge, the permitting process can be extended by two to three years, and cost considerable dollars to complete, without a guarantee that the application will ultimately be approved. However, given that the last permit amendment was approved by the TCEQ without a hearing and Republic's long history in working with the TCEQ on other permit applications, there is reason to consider that there is a good probability that the permit

Figure 4.3.2-1

amendment will be approved. If approved, the City can continue to rely on the landfill for short-term, mid-term and long-term.

If the permit amendment is approved, there are no major changes in the facility program that will be required for the near to long-term, assuming the amendment provides sufficient capacity and waste volumes are equal to the current rate.

If the permit amendment is denied, there are three courses of action the City can take to assure waste is properly disposed (1) Reduce the amounts of waste accepted at the landfill in order to extend capacity, (2) Continue to accept waste at current rates and plan for a transfer station to transport waste to a regional disposal facility, or (3) Re-apply for the permit amendment.

1. Reduce the amounts of waste accepted at the landfill in order to extend capacity:

Republic is required by contract to dispose of more waste than is generated by the City of Arlington alone. This assures the City a minimum payment for royalties on outside City waste. The tonnages required to be accepted at the landfill from outside City of Arlington range from 204,000 tons in the first year of the contract to 291,000 tons per year in year 20 of the contract. At a royalty payment of \$3.25 per ton, this results in a minimum payment to the City of between \$663,000 and \$946,000 per year. To date, Republic has exceeded the minimum quantities each year.

In 2009, waste disposal quantities were approximately 3000 tons per day, approximately 2000 more per day than is generated by Arlington residents and businesses. The estimated amount of remaining capacity at the landfill is 14.9 million cubic yards. The City could reduce waste quantities to either the amount of the minimum guaranteed amount or to the amount of waste generated by the City of Arlington alone. Both of these options would require a contract amendment with Republic, and tipping fee increases would be a likely outcome of these negotiations because Republic is able to operate the landfill more cost-effectively at higher rates of disposal. Should disposal quantities be reduced, this will also have an immediate impact on the revenues generated from the royalty payments. Table 4.1.3-1 provides an analysis of potential impacts to the life of the landfill and royalty payments for these two options.

A reduction in waste quantities will extend the period for developing strategies for to dispose waste once the landfill has reached its capacity.

2. Continue to accept waste at current rates and plan for transfer station: If Republic continues to bring in waste at the current levels, the landfill has an estimated 14 to 17 years of remaining capacity. Once the landfill has reached its capacity, it is recommended that a transfer station be operational to haul waste from the Arlington to one of several landfills located in the region. The lease agreement requires that Republic build and maintain the transfer station if it reaches capacity.

The timeframe for selecting a site for a transfer station, securing a permit for the facility and constructing the transfer station is between three and five years. If the transfer station is to be located at the landfill, the permitting requirements are less involved.

There are other advantages to locating the transfer station at the landfill site, including the recognition that the landfill has served as the waste disposal site for several years and a transfer station would be consistent with current land use. However, other factors need to be considered when locating a transfer station, and include proximity to the landfill that will be used, proximity to where most of the City's waste is generated and existing land use. It should be noted that Republic does have a permitted transfer station located in Arlington at (address); but that significant rehabilitation work would be required to make this functional for Arlington's entire waste stream.

- 3. Re-apply for the permit amendment:** The City may decide that it will pursue the permit amendment either on its own or request that Republic re-apply for the permit amendment. This would involve significant change in the lease agreement. Meetings with the TCEQ should be held to determine the major reasons for denial and determine if there are technical approaches to resolving the issues.

Potential Revenue Decreases: Over the past years, the lease agreement has provided the City with a steady flow of revenues generated from the annual usage fee and the royalty fee. If the permit amendment is approved by the TCEQ, the City can expect that revenues will continue to be generated from the lease agreement. Republic is bound by the agreement to deliver to the landfill a minimal amount of outside City waste for which a royalty must be paid. It is also in Republic's interest to maintain a high level of waste acceptance to the Arlington Landfill as it is able to generate tipping fees for the waste and the landfill's location is advantageous for the company's hauling business.

There are, however, the following factors which may result in future revenue streams being lower than what was generated in past years.

- 1.** Businesses and other customers of Arlington's landfill are generating less waste. In the past three years, waste volumes regionally have decreased due to economic conditions and practices that have resulted in waste reduction by businesses and residents.
- 2.** Local governments including Fort Worth, Irving and Grand Prairie have landfills and may be seeking to increase their waste flows as a means of improving facility efficiency and increase revenues. Fort Worth's landfill is also operated by Republic and the City and Republic have a similar contract arrangement. The cities of Irving and Grand Prairie have landfills and have traditionally adopted policies to keep waste flows at minimal levels. As these cities continue to face fiscal stress, these policies may be changed as a means of increasing revenues.
- 3.** The possibility that Republic could lose market share in the collection of waste, thus affecting the amount of waste it can bring to the landfill beyond the guaranteed amount.
- 4.** Potential market distortions resulting from policies adopted by the City of Dallas which is seeking to put in place flow control for all waste generated by Dallas residents and businesses. Such a move given the size of Dallas will have uncertain impacts to the landfill market and regional waste flows.

Need for and location of a Transfer Station: Assuming that the landfill permit amendment is approved by the TCEQ, the City will have long-term disposal capacity and not require a transfer station in the near or mid-term.

If the permit amendment is not approved, a transfer station will be needed to haul waste from the City to landfills located outside the City. Republic currently owns and operates a transfer station within the City. The Republic facility is in the process of securing an expansion of the site to handle approximately 500 tons per day. The total waste generation for the City is approximately 1100 tons per day. The City will have to decide whether to build and operate its own transfer station and the facility's capacity. Facility capacity will be determined by whether the City decides to accept residential only or the entire waste stream. The same issues related to facility capacity and costs that are associated with landfill disposal also relate to transfer stations. Net per ton costs are lower for facilities that accept larger quantities of waste.

One potential site for the transfer station is the current landfill. This facility already accepts waste and there is sufficient area at this location for the transfer station. Under current TCEQ rules, only a registration would be required for a transfer station located at the landfill. A registration could also be secured for a facility located away from the landfill if the facility incorporates a design that achieves a minimum 10 percent recycling rate.

Concrete and Brush Recycling Agreements: Both the concrete and brush processing operations are currently located at the City's landfill. These operations reduce the amount of material that is going to the landfill. The agreements for these operations will need to be evaluated in the future and renewed, or competitive bids sought for these services.

4.4 Program Recommendations

The following tables present updated plan recommendations for the City of Arlington's solid waste management program. Some of the key recommendations include the following.

- Review and approve a permit amendment application being developed by Republic for the City.
- Convert to once per week solid waste and recycling collection using automated collection vehicles. Evaluate the program to determine if recycling can be collected once every two weeks depending on participation rates and quantities put in the containers.
- Seek ways to improve the quantities of materials recycled through incentives in the collection contract as a means of conserving valuable landfill space and gaining the most return for the cost paid by each household for this service.
- Continue and plan on major expansion of public information efforts as the City implements automated collection services.
- Continue to monitor contract performance for collection services and landfill operations.
- Continue programs to encourage the recycling of brush and concrete operations at the landfill.
- Continue to monitor and provide programs to reduce and recycle household hazardous materials

Table 4.1.3-2
Residential Program

Program	Short-term Actions (2011-2015)	Mid-term Actions (2016-2020)	Long-term Actions (2021-2030)
Public Information Program	• Continue public information efforts to reduce waste generation, increases recycling and promote acceptable waste disposal practices • Participate in a significant public education effort related to transition to automated collection • Monitor public acceptance of the program	• Continue public information programs to reduce waste generation and increase recycling activities	• Continue public information programs to reduce waste generation and increase recycling activities
Residential Solid Waste Collection Program	• Continue to provide twice weekly manual garbage collection until the time of contract renewal • Implement a transition program to convert to once per week automated collection • Modify ordinances for automated program • Negotiate to define terms and conditions in the contract for automated collection • Monitor public acceptance of the automated collection program • Continue to provide for drop-off disposal at the landfill	• Continue to provide automated collection service • Continue to provide collection at drop-off centers	• Continue to provide automated collection service • Continue to provide collection at drop-off centers
Recycling Program	• Continue to provide manual collection program until contract term expires and switch to automated collection • Transition to an automated cart, single stream system • Participate in an aggressive recycling public information program • Consider providing an incentive to the operator of the recycling program to encourage greater reductions in waste (fee for collection/revenues for processing)	• Continue to provide automated collection service • Continue to provide collection at drop-off centers	• Continue to provide automated collection service • Continue to provide collection at drop-off centers
HHW Program	• Continue to participate in ECC program under and inter-local government agreement with the City of Fort Worth • Continue to provide mobile collections for HHW monthly • Continue to make HHW management a part of public information program	• Continue to participate in ECC program under an inter-local government agreement with City of Fort Worth • Continue to provide mobile collections for HHW monthly • Continue to make HHW management a part of public information program	• Continue to participate in ECC program under agreement with City of Fort Worth • Continue to provide mobile collections for HHW monthly • Continue to make HHW management a key part of public information program

Table 4.1.3-3
Commercial Program

Program	Short-term Actions (2011-2015)	Mid-term Actions (2016-2020)	Long-term Actions (2021-2030)
Public Information Program	• Continue public information efforts to reduce waste generation, increases recycling and promote acceptable waste disposal practices • Promote opportunities for commercial enterprises to reduce waste and recycling • Encourage use of drop-off program • Encourage greater use of the brush and yard waste composting program at the landfill • Provide information to commercial sector regarding rate changes and causes for rate increases • Encourage multi-family recycling programs through public information efforts.	• Continue public information programs to reduce waste generation and increase recycling activities • Provide outlet for providing information on quality of service to commercial enterprises.	• Continue public information programs to reduce waste generation and increase recycling activities • Provide outlet for providing information on quality of service to commercial enterprises; collect data from Republic on complaints and responsiveness
Commercial Solid Waste Collection Program	• Continue to negotiate contract with Republic for commercial service. Establish standards of service & fees within contract. • Assure that any waste collected in Arlington is directed to the City's landfill.	• Continue to provide automated collection service • Continue to provide collection at drop-off centers • Continue to evaluate contract performance	• Continue to provide automated collection service • Continue to provide collection at drop-off centers • Evaluate contract performance and potential need for competitive procurement
Recycling Program	• Evaluate and implement commercial recycling recommendations put forth by the Citizens Environmental Committee • Seek funding for the Green Team program beyond its 2012 grant period • Continue to maintain a concrete recycling program at the City's landfill • Continue to provide brush and organic recycling part of City's program. Monitor contract with Living Earth to make sure contract terms are met. Evaluate the potential for adding additional organics at the compost facility. These materials may include restaurant waste and other food or related waste materials as operations and economics allow • Evaluate the potential of providing commercial entities the opportunity to set-out recycling containers for special materials. Contract rates with Republic. • Evaluate LEED program requirements for new construction in the City and requirements for recycling and waste management • Continue to make a concrete recycling program part of any municipal construction project	• Encourage private businesses to participate in recycling programs through drop-off programs at the City's landfill • Seek funding for the Green Team program beyond its 2012 grant period • Continue to maintain a concrete recycling program at the City's landfill • Continue to provide brush and organic recycling part of City's program. Monitor contract with Living Earth to make sure contract terms are met. Evaluate the potential for adding additional organics at the compost facility. These materials may include restaurant waste and other food or related waste materials • Evaluate the potential of providing commercial entities the opportunity to set-out recycling containers for special materials. • Continue to make a concrete recycling program part of any municipal construction project	• Encourage private businesses to participate in recycling programs through drop-off programs at the City's landfill • Continue to maintain a concrete recycling program at the City's landfill • Continue to provide brush and organic recycling part of City's program. Monitor contract with Living Earth to make sure contract terms are met. Establish markets for compost materials generated at the facility for City related projects. Evaluate the potential for adding additional organics at the compost facility. These materials may include restaurant waste and other food or related waste materials • Evaluate the potential of providing commercial entities the opportunity to set-out recycling containers for special materials. • Continue to make a concrete recycling program part of any municipal construction project

Table 4.1.3-4
Facility Program

Program	Short-term Actions (2011-2015)	Mid-term Actions (2016-2020)	Long-term Actions (2021-2030)
Drop-off Facilities	• Continue to provide drop-off services at the landfill • Provide recycling services at the landfill drop-off facility • Evaluate the potential of expanding drop-off facilities in areas of high concentration of multi-family housing	• Continue to provide drop-off services at the landfill • Provide recycling services at the landfill drop-off facility • Evaluate the potential of expanding drop-off facilities in areas of high concentration of multi-family housing	• Continue to provide drop-off services at the landfill • Provide recycling services at the landfill drop-off facility • Evaluate the potential of expanding drop-off facilities in areas of high concentration of multi-family housing
Brush Management facility	• Extend contract for brush and organic management at landfill • Evaluate potential for additional organics being added to the facility's operation • Evaluate permit changes that allow for additional materials to assure no impact on value of the landfill facility • Establish flow control ordinance related to brush waste and requirement material is sent to the City's landfill	• Evaluate permit changes that allow for additional materials to assure no impact on value of the landfill facility	• Evaluate permit changes that allow for additional materials to assure no impact on value of the landfill facility
Concrete recycling facility	• Continue operations at this facility	Continue operations at this facility	Continue operations at this facility
Transfer Stations	• Monitor population densities and service levels in southern Arlington to determine if a transfer station is economically necessary • Working with Republic, evaluate potential of developing additional markets for the City's landfill outside of Republic's current market position	• Monitor population densities in southern Arlington to determine if a transfer station is economically necessary • Working with Republic, evaluate potential of developing additional markets for the City's landfill outside of Republic's current market position	• Working with Republic evaluate transfer station needs as the landfill reaches capacity; site new transfer station, most likely at landfill location • Evaluate conditions at the Republic transfer station as a means of meeting City's needs
Landfill	• Continue operations of the landfill under the current site operating plan • Secure a permit expansion to provide additional capacity to meet City's continued needs and to add value to City's program through franchise and royalty fees • Annually monitor waste volumes and remaining capacity • Continue gas management program • Evaluate methods of increasing gas generation; evaluate Public Utility Commission rules related to electric sales from renewable resources • Renew/amend landfill contract as necessary given capacity situation • Monitor the progress of other permit amendments in the region, including Fort Worth and Irving. These amendments may impact future revenue streams to the City as competition increases for waste volumes to the other landfills	• Continue operations at the landfill under current site operating plan • Assuming permit is awarded, continue to monitor annual waste volumes and remaining capacity • If permit is not awarded, determine waste acceptance rates to maintain an acceptable capacity - this will affect annual revenue generation at the landfill. • Monitor market conditions locally to determine what value these changes may have on future revenue generation; work with Republic to address market conditions possibly through tipping fee structures.	• Continue operations at the landfill under current site operating plan • Assuming permit is awarded, continue to monitor annual waste volumes and remaining capacity • If permit is not awarded, determine waste acceptance rates to maintain an acceptable capacity - this will affect annual revenue generation at the landfill. • Monitor market conditions locally to determine what value these changes may have on future revenue generation; work with Republic to address market conditions possibly through tipping fee structures.

Appendix A

2001 Plan Objectives/Actions/ Related Information

Table A-1
2001 Plan Objectives/Actions/ Related Information
Protect the Health and Environment of the Community

Objective	Action	Related Information
Evaluate the long-term capacity at the Arlington Landfill and methods to ensure long-term disposal capacity is available to Arlington residents	In 2003, a permit amendment was secured for an expansion of the landfill. The expansion provided approximately 20 million cubic yards of net capacity – 26 years at projected disposal rates when the landfill permit amendment was prepared. Because of a significant increase in waste flows, the landfill now has an estimated 8 to 10 years remaining capacity. The City negotiated a lease agreement with Republic to seek a permit expansion by the year 2011.	The permit amendment was secured without any public hearing or opposition. The landfill generated <u>\$3.6 million in royalty and annual usage payments in 2009. Since the agreement was signed, a total of \$16.7 million in royalties and annual usage fees have been paid to the City. This does not include initial payments made at the time of the contract of over \$21.4 million</u>
Evaluate landfill strategies to improve landfill operational effectiveness and support regulatory compliance	The City's landfill is now operated by Republic which is required by contract to comply with all TCEQ regulations. The landfill gas system is now operational and the landfill gas is being used at the TRWD facility	The lease agreement has resulted in a major change in operations at the landfill. Prior to the lease, the facility managed approximately 1,000 tons per day; it is <u>currently managing 3,000 tons per day.</u>
Address any regulatory changes in waste management, water quality or air quality that affects the collection processing or disposal of waste in Arlington	The City has responded to changes effectively and is in compliance with state and federal regulations. As part of the lease agreement, Republic is responsible for meeting any regulatory changes related to the landfill.	No major changes in landfill or collection regulations have occurred in the past ten years.
Continue operations of construction/demolition and brush recycling activities	Operations have continued and expanded at these facilities.	In 2009, <u>a total of 430,000 tons of concrete and c/d waste were recycled.</u> Also that year, 26,000 tons of brush and leaves were processed into compost.
Sponsor public education programs encouraging full participation in source reduction, recycling, composting and other waste reduction programs	Ongoing public information program has been maintained.	In ten years, <u>the household waste generation rate has decreased by 14%</u> (from 7.4 lbs/household per day to 6.9 lbs /household per day.

Objective	Action	Related Information
Provide solid waste management services as required by law	City has contracts negotiated for collection and disposal of waste.	Contract term is up for renewal in 2014. There is an automatic five year extension on the contract, unless the City takes action to terminate the agreement.
Continue to provide for household hazardous waste collection services	Services have continued to be provided. <u>In 2010, approximately 4500 Arlington residents took materials to the Environmental Collection Center in Fort Worth.</u> The City also provides once per month collection of Household Hazardous Waste (HHW) through a mobile collection program.	Services are provided through a contract with the City of Fort Worth. The cost of the program is approximately \$211,500 each year.

Table A-2
2001 Plan Objectives/Actions/ Related Information
Provide Quality Service to Residents

Objective	Actions	Related information
Provide solid waste collection services at least once per week to residents	City provides twice/week garbage collection to 94,000 residents through an agreement with Republic. The City also provides once per week collection of recyclable materials that are set-out in bins.	Consideration of automated once per week collection is in 2001 Plan . A transition to this method of collection is now under negotiations with Republic and the City for both recyclable materials and solid waste.
Provide service in a timely fashion	Contract requires residential collection be provided by the end of each day, and provisions for collecting waste from residents whose waste was not collected on the assigned day are described in the collection agreement.	A survey of residents found that <u>90% of citizens are satisfied</u> with the solid waste and recycling services provided by the City, via the contract with Republic.
Continually work with solid waste collection contractors to reduce residential service complaints	The contract requires Republic to maintain a call-in center for residents to report complaints and this information is forwarded to the City.	Republic has been responsible for solid waste and recyclable collection which has a 90% satisfaction rating.
Provide brush and bulky waste collection service to all residents	Services are provided once per week if material meets City requirements. Collection of large brush or trees can be arranged with Republic for a fee.	Services are provided by Republic. <u>In 2009, a total of 26,000 tons of brush and leaves were collected for producing compost</u> at the LETCO composting facility located at the City's landfill.
Provide convenient recyclable material collection service once per week	City provides this service through a contract with Republic.	A total of <u>17,000 tons of recyclables were collected</u> as part of the program in 2009. Between 2001 and 2009, a total of <u>154,000 tons of material</u> were collected as a result of curbside recycling.
Provide access for residents to use citizen's drop-off facilities.	There are 7 drop-off centers in operation. Materials can also be taken to the landfill for recycling.	Drop-off recycling quantities are unknown at this time.

Table A-3
2001 Plan Objectives/Actions/ Related Information
Provide Quality Service to Businesses

Objective	Actions	Related information
Establish ordinances and infrastructure that encourage effective and competitive business practices for the commercial sector	City negotiated with Republic for commercial rates was in 2009. A request for proposals was issued in 2004 to select a firm to operate the City's landfill under a lease agreement. Multiple proposals were received and the City selected Republic.	Contract term is through 2014. The City and Republic review rates on an annual basis. The landfill proposal resulted in an initial payment to the City of \$15 million; \$5.1 million for closure/post-closure care; an annual usage fee and royalty payment for waste brought in from outside the City. In all, the contract has resulted in payments to the City of approximately \$40 million. Republic is also responsible for applying for a permit amendment to expand the capacity of the landfill.
Provide convenient access for small business and ensure the disposal of municipal solid waste and construction /demolition material.	City has an exclusive franchise agreement with Republic for the collection of waste generated by businesses operating in Arlington.	The City's franchise agreement requires fair rates and guarantees on service levels. <u>The City collected \$1.4 million in franchise fees for solid waste collection.</u>

Table A-4
2001 Plan Objectives/Actions/Related Information
Provide Cost Effective Service

Objective	Actions	Related information
Periodically evaluate technical changes in solid waste collection services to identify more effective methods of collecting waste	City is now recommending a move to automated collection to reduce costs and improve safety.	Rising fuel prices since 2001 make this an important transition to maintain a cost-effective collection program. Since 2001, diesel fuel prices have increased from \$0.94 per gallon to \$3.03 per gallon in 2011 (pre-tax price).
Develop contract specifications for solid waste collection services that utilize cost effective technologies.	Terms and conditions of collection contract need to be drafted to allow for change in services – an implementation plan needs to be developed to assure citizen acceptance.	The City staff is now recommending a transition to automated collection as a means of lowering collection costs and improving the recycling program
Utilize cost effective technologies for other residential services, i.e. recycling and brush/bulky collection	The City is negotiating an agreement that would provide once per week collection of both solid waste and recyclable materials using automated collection vehicles.	The City staff is now recommending a transition to automated collection as a means of lowering collection costs and improving the recycling program cost-effectiveness.
Periodically conduct contract audits to identify possible savings	In 2010, an audit of the franchise agreement was performed with no major recommendations related to the solid waste program.	Modifications to the program have resulted in large waste flows to the landfill, resulting in increased royalty payments.
Evaluate potential regional opportunities as a means of improving the cost effectiveness of the entire system	Landfill expansion has significantly increased the role of Arlington's landfill in providing regional service and generating revenues for this service. <u>The City now has a \$21.5 million Landfill Reserve Fund; closure liabilities are estimated to be \$6 million.</u>	Republic has increased waste flows in past years. Changes in the regional landfill market may result in waste flow reductions in coming years, including expansion of Fort Worth, Irving and Grand Prairie Landfills.
Periodically evaluate landfill operations to identify opportunities of cost savings, including capacity improvements and labor and equipment savings	An expansion of the landfill was secured in 2003 providing 26 years of capacity, assuming disposal of only waste generated in Arlington going to the landfill (1200 tons per day). A new permit amendment is being prepared to expand the landfill's capacity in accordance with the landfill lease agreement.	Increased waste flows significantly reduce per ton costs of landfill operations, keeping rates lower for collection and disposal. The increased tonnages have also reduced the available capacity in years from 23 to between 14 to 17..

Objective	Actions	Related information
Evaluate potential benefits of a transfer station to meet long-term disposal needs.	A transfer station is not being considered at this time. With increasing population and increased traffic congestion in the City, a transfer station may eventually make sense in northern part of the City.	Republic currently owns and a permitted transfer station in Arlington. There may be a need for a southern transfer station to help market capacity in this region as northern markets are affected by capacity increases by Irving and Fort Worth. The time required to site, permit and construct a transfer station can range from four to six years.

Appendix B
Drop-off Center Locations

RECYCLING DROP OFF LOCATIONS

The following locations...

1. Central Library, 101 E. Abram St.
2. East Branch Library 1624 New York Ave.
3. Northeast Branch Library, 1905 E. Brown Blvd.
4. Lake Arlington Branch Library, 4000 W. Green Oaks Blvd.
5. Woodland West Branch, 2837 W. Park Row Drive
6. Southeast Branch Library - 900 SE Green Oaks
7. Southwest Branch Library - 3311 SW Green Oaks Blvd

accept the items listed below:

- Newspapers
- Magazines
- Old Mail
- Flattened Cardboard Boxes
- Flattened Chipboard Boxes (cereal boxes)
- Office Paper
- Glass Jars and Bottles
- Plastic Jugs and Bottles
- Tin, Steel and Aluminum Cans

Appendix C
Commercial Collection Service Rates

Resolution No. _____

A resolution authorizing the adjustment of the City Collector Disposal Return as defined in the Lease Agreement by and between the City of Arlington and Republic Waste Services of Texas, Ltd., and adjustment of fees for residential and commercial garbage and trash collection services

WHEREAS, on February 22, 2005, by Resolution No. 05-095, the City Council authorized the execution of a Lease Agreement by and between the City and Republic Waste Services of Texas, Ltd. (Republic) for the lease of the City's sanitary landfill; and

WHEREAS, such Agreement provides for the application of an annual adjustment factor, as defined in Section 4.03 thereof, to the monthly fees and payments made by Republic to the City; and

WHEREAS, one of these monthly payments, the City Collector Disposal Return, formerly known as the City Collector Disposal Royalty Fee, is defined in the Lease Agreement as the net difference between the City Collector Disposal Fee and the City Waste Disposal Fee; and

WHEREAS, the City Waste Disposal Fee is subject to the annual adjustment factor specified in the Lease Agreement, while the City Collector Disposal Fee is established in the Lease Agreement and may be adjusted only by action of the City Council; and

WHEREAS, the City Collector Disposal Fee was last adjusted by the City Council on September 22, 2009, by Resolution No. 09-279; and

WHEREAS, increasing the City Collector Disposal Fee will result in increased residential and commercial garbage and trash collection fees; NOW
THEREFORE

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARLINGTON, TEXAS:

I.

That the City Collector Disposal Fee, as defined in Section 8.03 of the Lease Agreement between the City and Republic, is hereby adjusted to \$26.48.

II.

That Resolution No. 09-279 is hereby superseded in its entirety.

III.

That the monthly fee for residential twice-weekly collection and removal of garbage and trash, once-a-week recycling service, and debris removal, shall be \$11.94. Such amount shall include all applicable franchise fees, billing costs, and sales taxes.

IV.

That the monthly fee for commercial bag service shall be \$18.23, which amount includes all applicable sales taxes, and \$7.80 for each additional cubic yard, which amount also includes applicable sales taxes.

V.

That the charges for the monthly collection and removal of garbage and trash in commercial containers are revised as follows:

Commercial Containers	Current	New	Total
	Rate	Effective	Increase
		Rate	Amount
2 yard, 1 x week	\$ 58.63	\$ 60.14	\$ 1.51
2 yard, 2 x week	\$ 95.43	\$ 97.89	\$ 2.46
2 yard, 3 x week	\$ 138.26	\$ 141.82	\$ 3.56
2 yard, 4 x week	\$ 173.84	\$ 178.32	\$ 4.48
2 yard, 5 x week	\$ 216.68	\$ 222.27	\$ 5.59
2 yard, 6 x week	\$ 281.40	\$ 288.65	\$ 7.25
2 yard, extra	\$ 17.43	\$ 17.88	\$ 0.45
4 yard, 1 x week	\$ 95.43	\$ 97.89	\$ 2.46
4 yard, 2 x week	\$ 151.99	\$ 155.92	\$ 3.93
4 yard, 3 x week	\$ 211.00	\$ 216.46	\$ 5.46
4 yard, 4 x week	\$ 270.00	\$ 276.99	\$ 6.99
4 yard, 5 x week	\$ 335.08	\$ 343.75	\$ 8.67
4 yard, 6 x week	\$ 428.05	\$ 439.12	\$ 11.07
4 yard, extra	\$ 23.94	\$ 24.56	\$ 0.62
8 yard, 1 x week	\$ 151.99	\$ 155.92	\$ 3.93
8 yard, 2 x week	\$ 263.92	\$ 270.75	\$ 6.83
8 yard, 3 x week	\$ 340.67	\$ 349.51	\$ 8.84
8 yard, 4 x week	\$ 442.90	\$ 454.40	\$ 11.50
8 yard, 5 x week	\$ 554.85	\$ 569.26	\$ 14.41
8 yard, 6 x week	\$ 695.93	\$ 713.98	\$ 18.05
8 yard, extra	\$ 35.73	\$ 36.65	\$ 0.92
4-yd compactor, 1 x week	\$ 172.00	\$ 176.48	\$ 4.48
4-yd compactor, 2 x week	\$ 340.37	\$ 349.23	\$ 8.86
4-yd compactor, 3 x week	\$ 507.53	\$ 520.74	\$ 13.21
4-yd compactor, 4 x week	\$ 680.78	\$ 698.50	\$ 17.72
4-yd compactor, 5 x week	\$ 850.33	\$ 872.46	\$ 22.13
4-yd compactor, 6 x week	\$ 1,021.13	\$ 1,047.71	\$ 26.58
4-yd compactor, extra	\$ 29.80	\$ 30.58	\$ 0.78
6-yd compactor, 1 x week	\$ 256.20	\$ 262.87	\$ 6.67
6-yd compactor, 2 x week	\$ 508.74	\$ 521.98	\$ 13.24
6-yd compactor, 3 x week	\$ 766.16	\$ 786.10	\$ 19.94
6-yd compactor, 4 x week	\$ 1,021.13	\$ 1,047.71	\$ 26.58
6-yd compactor, 5 x week	\$ 1,274.90	\$ 1,308.08	\$ 33.18
6-yd compactor, 6 x week	\$ 1,531.08	\$ 1,570.93	\$ 39.85
6-yd compactor, extra	\$ 45.92	\$ 47.12	\$ 1.20
8-yd compactor, 1 x week	\$ 339.64	\$ 348.48	\$ 8.84
8-yd compactor, 2 x week	\$ 679.29	\$ 696.97	\$ 17.68
8-yd compactor, 3 x week	\$ 1,018.93	\$ 1,045.45	\$ 26.52
8-yd compactor, 4 x week	\$ 1,356.43	\$ 1,391.74	\$ 35.31
8-yd compactor, 5 x week	\$ 1,697.72	\$ 1,741.91	\$ 44.19
8-yd compactor, 6 x week	\$ 2,037.37	\$ 2,090.40	\$ 53.03
8-yd compactor, extra	\$ 60.82	\$ 62.41	\$ 1.59

(3)

Roll-Offs	Current Rate	New Effective Rate	Total Increase Amount
15-yd open top - rental	\$ 86.57	\$ 88.78	\$ 2.21
15-yd open top - haul	\$ 208.99	\$ 214.51	\$ 5.52
30-yd open top - rental	\$ 128.71	\$ 131.99	\$ 3.28
30-yd open top - haul	\$ 235.12	\$ 241.31	\$ 6.19
30-yd closed top - rental	\$ 217.55	\$ 223.10	\$ 5.55
30-yd closed top - haul	\$ 235.12	\$ 241.31	\$ 6.19
30-yd packer - rental	open	open	open
30-yd packer - haul	\$ 254.43	\$ 261.11	\$ 6.68
35-yd packer - rental	open	open	open
35-yd packer - haul	\$ 268.08	\$ 275.11	\$ 7.03
40-yd open top - rental	\$ 157.18	\$ 161.19	\$ 4.01
40-yd open top - haul	\$ 262.39	\$ 269.28	\$ 6.89
42-yd packer - rental	\$ 256.29	\$ 262.83	\$ 6.54
42-yd packer - haul	\$ 282.85	\$ 290.26	\$ 7.41

Misc. Charges	Current Rate	New Effective Rate	Total Increase Amount
Delivery fee	\$ 38.27	\$ 39.25	\$ 0.98
Containers with casters	\$ 4.79	\$ 4.91	\$ 0.12
Container inside fence	\$ 2.39	\$ 2.45	\$ 0.06
Mileage if south of I-20	\$ 9.57	\$ 9.81	\$ 0.24
Obstruction - return trip	\$ 13.16	\$ 13.50	\$ 0.34

Burned Containers	Current Rate	New Effective Rate	Total Increase Amount
2 yard	\$ 44.25	\$ 45.38	\$ 1.13
4 yard	\$ 57.40	\$ 58.86	\$ 1.46
8 yard	\$ 83.72	\$ 85.85	\$ 2.13
12 yard	\$ 94.48	\$ 96.89	\$ 2.41
15 yard	\$ 102.85	\$ 105.47	\$ 2.62
30 yard	\$ 151.89	\$ 155.76	\$ 3.87
40 yard	\$ 204.52	\$ 209.74	\$ 5.22
42 yard	\$ 241.58	\$ 247.74	\$ 6.16

PRESENTED AND PASSED on this the _____ day of _____, 2010,
by a vote of _____ ayes and _____ nays at a regular meeting of the City Council of the
City of Arlington, Texas.

ROBERT N. CLUCK, Mayor

(4)

Appendix D
North Central Texas Council of Governments
Approval Form

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 1: General Applicant Information

1.1 Applicant's Name: _____
Mailing Address: _____
City, State, Zip Code: _____
Facility Contact Person: _____

1.2 Site Location
Address: _____
Zip Code: _____
Nearest City: _____
County: _____

1.3 Is this a new facility or an amendment to a current permit/registration?
☐ New Facility ☐ Amendment to current permit/registration

1.4 Is this a permit or a registration application?
☐ Permit No. _____ ☐ Registration No. _____
Note: NCTCOG's 08-09 Solid Waste Grants Program contract with TCEQ (section 4.6) requires review of all permit and registration applications.

1.5 What type of MSW facility is being registered or permitted?
☐ Type I Landfill ☐ Type IV AE Landfill
☐ Type I AE Landfill ☐ Type V Facility
☐ Type IV Landfill ☐ Other (please describe)

Describe "Other" below:

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

1.6 What types of waste(s) are currently accepted at your facility?

- | | |
|--|--|
| ☐ Municipal Waste | ☐ Industrial Class III |
| ☐ Industrial Class I | ☐ Special Waste (please describe) |
| ☐ Industrial Class II | ☐ Other (please describe) |

Describe "Special Waste" and/or "Other" below:

Source: TAC 30, §330.61(b) (1)

1.7 What types of waste(s) will be accepted at your facility in the future?

- | | |
|--|--|
| ☐ Municipal Waste | ☐ Industrial Class III |
| ☐ Industrial Class I | ☐ Special Waste (please describe) |
| ☐ Industrial Class II | ☐ Other (please describe) |

Describe "Special Waste" and/or "Other" below:

Source: TAC 30, §330.61(b) (1)

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 2:
Land Use Conformance – Compliance with Local Zoning or Ordinance

- 2.1 Is the site of your facility subject to local zoning or ordinances regarding the siting of solid waste facilities?

☐ Yes ☐ No (please proceed directly to Section 3)

If yes, which government zoning or siting standards does this facility have to comply?

If yes, please attach documentation from the local zoning or siting entity indicating that the facility is in compliance with the standards or that a formal variance has been granted. If applicable, provide maps detailing all boundaries of the areas included in the ordinance and the location of the facility.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

If documentation is provided to NCTCOG proving the facility is in compliance with the local city zoning or county siting ordinance (per §364.012 of the Texas Health and Safety Code), then the applicant does not need to answer the remaining land use questions in Section 3. Please proceed to Section 4 and continue completing the application. Once the application is complete, please return the MSW facility application evaluation form and requested documentation to NCTCOG.

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 3: Land Use Conformance – Key Issues

Texas Commission on Environmental Quality Rule 330.61 defines key land use and transportation issues that need to be addressed as a part of the regional MSW facility application evaluation process. The following questions are based on the rules, and are intended to provide information for NCTCOG to develop its conformance recommendation.

- 3.1 Describe the current character of surrounding land uses within one mile of the facility boundary. Please provide site design map(s) and/ or aerial photos of the area that adequately show land use.

Source: TAC 30, §330.61 (h) (2)

- 3.2 Provide the proximity to residences and other uses (e.g., schools, licensed day-care facilities, hospitals, churches, cemeteries, ponds, lakes, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, commercial, and recreational areas) within one mile of the facility boundary. Please provide approximate number of residences and business establishments.

Source: TAC 30, §330.61 (g & h)

- 3.3 How is the facility compatible with land uses surrounding the site?

Please explain and /or provide title and published date for any applicable land use study and provide web link if available.

Source: TAC 30, §330.61(h) (3)

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Regional Review of MSW Facility Application Evaluation Form

- 3.4 Are there any plats on file in state or local government offices for development within one mile of the facility boundary?

☐ Yes ☐ No

If yes, please describe and provide documentation.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

- 3.5 Is the facility consistent with growth trends of the nearest community of communities with directions of major development?

☐ Yes ☐ No

Please explain.

Source: TCEQ correspondence from the Executive Director to each COG, March 4, 2003.

- 3.6 Explain how the facility will be designed to avoid any impact to all known water wells within 500 feet of the facility boundary.

Source: TAC 30, §330.61 (c) (2)

- 3.7 Will roads be available and adequate for access to the facility?

☐ Yes ☐ No

Please explain.

Source: TAC 30, §330.61 (l) (1)

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- 3.8 Will traffic into and out of the facility impact traffic patterns, within one mile of the facility, that currently exist and will occur over the expected life of the facility?

☐ Yes ☐ No

Please explain.

Source: TAC 30, §330.61(i) (2)

The remaining questions refer to land use issues that NCTCOG feels are important for the regional MSW facility application evaluation.

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Regional Review of MSW Facility Application Evaluation Form

- 3.9 Describe any additional information that will be beneficial regarding how the facility will be built and operated to be compatible with the current land uses of adjacent properties. (Optional)

- 3.10 Describe measures to minimize the impact from trash, odor and any other potential nuisances related to your operation on surrounding land use.

Source: TAC 30, §330.63(b)

- 3.11 If the facility is a landfill, what will be the maximum permitted elevation of the facility? (Please provide a final contour map or graphic representation of the facility.)

How will the facility compare to the general terrain of the area, within two miles of the facility boundary?

Source: Regional and Local Review of MSW Facility Applications, August, 2005, pgs. 2-12 and 2-13.

- 3.12 Describe any measures that you will implement to screen and/or blend the facility with surrounding features.

Source: TAC 30, §330.61(d) (7)

- 3.13 Describe any landscaping measures that you will implement to improve the aesthetics of the facility. (Please attach any landscaping plans.)

Source: Regional and Local Review of MSW Facility Applications, August, 2005, pgs. 2-12 and 2-13.

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

Section 4: Regional Conformance

Another component of evaluating conformance includes how the facility will affect the regional solid waste management goals of the North Central Texas Council of Governments that are included in the regional solid waste management plan, *See Less Trash Regional Solid Waste Management Plan*. In order to complete this evaluation, please provide a description of how your facility will contribute to the attainment of these goals.

In requesting this information, NCTCOG recognizes that individual facilities alone will not be held responsible to achieve these regional goals. However, solid waste facilities represent an important component of a regional integrated solid waste management system, and can contribute to the attainment of regional goals. Facilities will be expected to make a good faith effort to contribute to the attainment of the regional solid waste goals.

To assist in the completion of this section, examples of activities/programs that could be implemented to assist in the attainment of these regional goals are listed for each of the three goals. These examples are based directly on objectives included in the *See Less Trash Regional Solid Waste Management Plan*. However, they are intended to only serve as examples, as individual facilities need to determine how they will contribute to regional goals.

Goal No. 1: Time to Recycle

The regional goal for Time to Recycle is that purchased materials are reused and recycled wherever possible, while increasing waste prevention and reduction throughout the region.

Examples for Facilities to Consider

- Assist in the development of outreach and education programs to facilitate long-term changes in attitudes about source reduction, reuse and recycling.
- Contribute to efforts to expand commercial recycling efforts by businesses and governments across the region.
- Contribute to efforts to increase citizen participation in reuse and recycling through the following types of programs:
 - Facility has a drop-off site to accept materials for recycling; or
 - Facility diverts clean loads of brush/yard waste for alternative uses (e.g. mulching, composting, daily cover, surface stabilization for landfill traffic and equipment due to wet conditions).
- Assist efforts to expand the collection and management of special waste, which includes materials such as household hazardous waste, tires and sludge.
- Promote innovative technologies to reduce waste.

North Central Texas Council of Governments
Regional Review of MSW Facility Application Evaluation Form

- 4.1 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

Goal No. 2: Stop Illegal Dumping

The regional goal for Stop Illegal Dumping is to see that illegal dumping is significantly reduced in the North Central Texas region.

Examples for Facilities to Consider

- Contribute to efforts to facilitate public awareness and education opportunities to reduce littering and illegal dumping.
- Use public awareness materials (e.g. signs, brochures, etc.) developed by NCTCOG to help stop illegal dumping.
- Participate in community clean-up efforts to reduce illegal dumping.
- Support efforts to increase enforcement against illegal dumping crimes.

- 4.2 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

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Regional Review of MSW Facility Application Evaluation Form

Goal No. 3: Assuring Capacity for Trash

The regional goal for Assuring Capacity for Trash is that remaining waste be handled in a safe manner at permitted facilities.

Examples for Facilities to Consider

- Facility helps efforts to maintain a minimum of 10 years of capacity for that area of the NCTCOG planning region.¹
 - Landfills may specifically contribute to this by increasing capacity.
 - Transfer stations can contribute to this by providing more efficient transportation to more distant landfills.
- Facility helps provide ample and convenient collection and disposal options in rural and other underserved areas.
 - Facility provides opportunities for residents and other low volume customers to dispose of solid waste in a convenient and affordable manner.

- 4.3 Please describe any services or activities that you can provide, or are currently providing, to the region to assist with meeting this regional goal.

¹ Capacity issues can be considered to demonstrate the need for a facility, but cannot be used as a basis against a facility.

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Regional Review of MSW Facility Application Evaluation Form

Section 5: Certification

I certify that the information contained in this form is complete and accurate and that the information in fact represents the MSW facility for which this entity is requesting a TCEQ permit or registration.

Type or Printed Name of Applicant's Chief Administrative Officer

Title of Chief Administrative Officer

Signature of Chief Administrative Officer

Date

NOTE:

Please complete this form as fully and as accurately as possible. Responses to Sections 2 and 3 of the evaluation form that address the issue of land use compatibility will be submitted to the Texas Commission on Environmental Quality along with the NCTCOG's regional review of MSW facility application recommendation form.