



MEMORANDUM

TO: Mayor and City Council

THROUGH: Susana Carbajal, Assistant City Manager *SC*

FROM: Richard McHale, Director, Austin Resource Recovery *Richard McHale*

DATE: August 18, 2025

SUBJECT: Transfer Station Economic Feasibility Study

The purpose of this memorandum is to provide information on the findings of a feasibility study for a City of Austin (City) transfer station. In collaboration with NewGen Strategies and Solutions (NewGen), Austin Resource Recovery (ARR) completed a Transfer Station Economic Feasibility Study which analyzed five potential sites to locate a transfer station in Austin and measured the impact to the City. The study's findings support locating a transfer station in north Austin to reduce Greenhouse Gas Emissions (GHG), increase City operating efficiencies, and enhance customer service along with other potential significant benefits.

Background

A transfer station is a facility where trash, recycling, and compostable materials are temporarily held and consolidated to haul to a landfill or processor by truck, train, or barge. Currently, the City does not own a transfer station, an active landfill, or a facility that processes recyclable material. Hornsby Bend is the only City owned facility that processes organic material but excludes putrescible organics, such as food scraps, due to federal aviation requirements that prevent close proximity to an airport. ARR operators primarily collect material from single family homes and deliver it to contracted (privately owned) partners. City vehicles currently transport directly from a customer route to the processing facility or landfill. This can result in negative operational impacts. For example, routes in northwest Austin must travel more than 30 road miles (one way) to the landfill, resulting in high fuel costs, wear on vehicles, and long drive times for operators.

Benefits

Transfer stations provide many benefits including:

- (1) REDUCED GHG EMISSIONS. A transfer station reduces vehicle miles traveled, traffic congestion, and associated greenhouse gasses by maximizing the efficiency of material transport. Smaller loads are combined into single large loads. Depending on payloads, the volume from approximately three solid waste collection vehicles or 60 pick-up truck loads fit onto a single tractor trailer. In general, transfer stations have similar benefits to mass transit or carpooling.

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- (2) **FLEET ELECTRIFICATION**. A transfer station supports fleet electrification by reducing the off-route miles required of collection vehicles to ranges that are within the current capabilities of battery technology. Reduced travel times can also allow for an increase lifespan across ARR's fleet.
- (3) **IMPROVED STORM RESPONSE**. During storm response, there is a need to have dedicated and pre-approved locations to accommodate short-term, high-volume material drop off from commercial heavy-duty vehicles. A dedicated transfer station may serve as a drop-off location to streamline disaster debris cleanup efforts.
- (4) **CUSTOMER SERVICE**: A transfer station increases the ability for the public to safely and correctly divert and dispose of unwanted materials. Many transfer stations welcome the public to drop off tires, mattresses, and other items which may otherwise be illegally dumped on public roadways or incorrectly disposed at other facilities.
- (5) **INCREASED DIVERSION & DISPOSAL OPPORTUNITIES**: Optimized loads created at a transfer station allow for the more efficient use of transportation systems which opens new markets. As ARR pursues zero waste targets, this increased diversion capability is critical. For example, many transfer stations collect mattresses, tires, carpet, electronics, and other materials which can be transported beyond the local community to an appropriate recovery processor.

Feasibility Study Process and Findings

NewGen analyzed several properties that were potentially suitable and available as a transfer station. These properties included City-owned sites as well as properties that were publicly available in real estate listings. The properties identified were intentionally geographically diverse and included one in South Austin, one in Northeast Austin, one in North-Central Austin, and two in Northwest Austin.

NewGen performed an operational analysis of each location to determine the number of collection routes that could be eliminated. They calculated a financial savings estimate taking into consideration personnel, fuel, and vehicle cost savings. NewGen also visited each site, evaluated each site utilizing the [U.S. Environmental Protection Agency's Environmental Justice Screening and Mapping Tool](#), and estimated:

- Construction costs - evaluation of site conditions, potential permitting concerns, utilities, etc.
- Operating costs - includes consideration of vehicle accessibility, routing efficiency, and the previously mentioned operational financial savings; and
- Potential community impacts - includes consideration of proximity to residential, religious, educational structures, and highways.

The study found operational efficiencies with all transfer station options. Site locations in north Austin had the greatest positive impact on these efficiencies. While constructing and operating a transfer station will result in a cumulative negative cost to the City's operating budget, opportunities to generate revenue to mitigate this cost impact exist based on an optimized site location, capacity of the facility, and the potential to charge fees for the use of the facility by private haulers.

Next Steps

ARR is now working with the Financial Services Department to observe the market and narrow the search of viable properties that encompass the identified operational efficiencies and have the greatest positive

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impact on the City. Once a single property has been selected, staff will return to Council seeking authorization to procure and/or develop the property as a transfer station.

Should you have any questions or concerns, please contact Richard McHale, Director of Austin Resource Recovery at (512) 974-4301 or richard.mchale@austintexas.gov.

cc: T.C. Broadnax, City Manager
Erika Brady, City Clerk
Corrie Stokes, City Auditor
Judge Sherry Statman, Presiding Judge
Mary Jane Grubb, Municipal Court Clerk
CMO Executive Team

Attachment: NewGen Strategies and Solution Transfer Station Economic Feasibility Study



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Suite 1-240
Austin, TX 78759
Phone: (512) 806-7713

Memorandum

To: Mr. Richard McHale, Director, Austin Resource Recovery – City of Austin
From: Mr. Dave Yanke, President; Seth Cunningham, Principal – NewGen Strategies and Solutions, LLC
Date: April 1, 2025
Re: Transfer Station Economic Feasibility Study

I. Background

NewGen Strategies and Solutions, LLC (NewGen) was retained by the City of Austin (City) to assist in undertaking a Transfer Station Economic Feasibility (Study). The purpose of this Study is to determine the cost-effectiveness and other non-financial location considerations for a potential transfer station. The Study included the evaluation of five different site locations. The following memorandum and the attachments present the methodology developed by NewGen to undertake the Study as well as to summarize the analysis, findings, and recommendations.

This financial analysis is based on operational data provided by the City's solid waste department, as well as projected infrastructure, development, and operational costs provided by NewGen's teaming partner Parkhill. NewGen appreciates the timeliness in providing us with the necessary data to complete this analysis.

II. Purpose for the Study

The primary purpose for this Study is to determine whether it is more cost-effective to direct haul waste to the City's current disposal sites, or to construct a transfer station and use the transfer station to long-haul waste. The primary advantage of a transfer station is that waste can be aggregated from multiple collection vehicles into one larger load (approximately 20 tons or more in each transfer semi-trailer) and then long hauled to the landfill for ultimate disposal.

The key to the analysis in this Study is to determine whether the construction and operating costs of a transfer station are less than the cost of direct hauling waste. Figure 1 shows a picture of a typical transfer station. Figure 1 shows a lower tunnel where transfer trailers park and accept municipal solid waste from collection vehicles that unload inside the enclosed building above.

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Figure 1
Transfer Station — Teton County, Wyoming

III. Operational Analysis — Route Savings

To determine route savings, NewGen evaluated time efficiencies across key segments of the disposal process for five services offered by Austin Resource Recovery: Automated Side Load (ASL) and Rearload (RL) Garbage Collection, ASL and RL Organics Collection, and Bulky Collection¹. This analysis included measuring the time saved when traveling from the collection route to proposed transfer station sites compared to the current disposal site, assessing the reduced processing time at the transfer station relative to the existing facility, and calculating the time saved on the return journey from the disposal site to the fleet base. The time savings achieved enables the City's collection vehicles to spend more time on route. The time savings for each collection day were aggregated to calculate the route savings achieved by disposing at one of the five transfer station sites versus current operations that direct haul to the landfill.

Based on the analysis, Table 1 shows the reduction in the number of routes the City could achieve each week, by service offered, depending on where the transfer station is located.

¹ Analysis assumes brush collection will continue to be hauled to the City's compost facility at Hornsby Bend.

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Table 1
Weekly Route Savings

	Site 1	Site 2	Site 3	Site 4	Site 5
	Burnet Rd.	McNeil Merrilltown	Brown Lane	Harris Branch	Todd Lane
Collection Service					
Garbage Collection – ASL	13.4	13.4	14.7	16.6	7.5
Garbage Collection – RL	5.6	5.6	6.2	7.1	3.1
Organics Collection – ASL	9.8	9.8	10.9	12.3	10.2
Organics Collection – RL	11.3	11.3	13.3	14.7	12.0
Bulky Collection	0.9	0.9	1.0	1.2	0.6

IV. Analysis

A. Transfer Station Cost Savings

NewGen evaluated the financial impact of hauling waste to each potential transfer station site versus hauling to the current disposal sites. NewGen quantified the personnel, fuel, and vehicle cost savings realized through the route savings detailed in Table 1. This analysis was completed for ASL and Rearload Garbage Collection, ASL and Rearload Organics Collection, and Bulky Collection.

Personnel Cost Savings

NewGen estimated the personnel cost savings based on FY 2024 financial and operational data provided by the City. NewGen assumed a total annual personnel cost (salary and benefits) of \$83,688 for ASL drivers, \$75,900 for Rearload drivers, and \$69,999 for Rearload helpers.

A summary of annual personnel cost savings by service is shown in Table 2 as well as Appendix A, Schedules 2 - 6.

Table 2
Annual Personnel Savings

	Site 1	Site 2	Site 3	Site 4	Site 5
	Burnet Rd.	McNeil Merrilltown	Brown Lane	Harris Branch	Todd Lane
Collection Service					
Garbage Collection – ASL	\$322,407	\$322,407	\$353,685	\$399,400	\$180,452
Garbage Collection – RL	\$147,219	\$147,219	\$160,570	\$183,988	\$80,285
Organics Collection – ASL	\$235,790	\$235,790	\$262,256	\$295,941	\$245,414
Organics Collection – RL	\$301,185	\$301,185	\$352,471	\$390,406	\$322,414
Bulky Collection	\$229,562	\$229,562	\$255,069	\$306,083	\$153,041

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Fuel Cost Savings

NewGen estimated the fuel cost savings by evaluating two primary factors: the reduction in the total number of routes (Table 1) and the net decrease in daily mileage for existing routes.

NewGen assumed a fuel efficiency of 2.5 mpg for both ASL and Rearload collection vehicles and a fuel price of \$2.55/gallon.

A summary of annual fuel cost savings by service is shown in Table 3 and Appendix A, Schedules 2 - 6.

Table 3
Annual Fuel Cost Savings

	Site 1	Site 2	Site 3	Site 4	Site 5
	Burnet Rd.	McNeil Merrilltown	Brown Lane	Harris Branch	Todd Lane
Collection Service					
Garbage Collection – ASL	\$165,057	\$165,057	\$202,191	\$198,307	\$160,922
Garbage Collection – RL	\$54,349	\$54,349	\$68,753	\$67,198	\$60,000
Organics Collection – ASL	\$121,105	\$121,105	\$152,063	\$151,201	\$162,620
Organics Collection – RL	\$128,370	\$128,370	\$168,247	\$166,832	\$176,643
Bulky Collection	\$19,988	\$19,988	\$34,385	\$32,195	\$30,788

Vehicle Cost Savings

The vehicle cost savings is composed of two components: annual vehicle maintenance savings and annualized vehicle capital. The analysis assumes that collection vehicles are purchased with cash from operations and have a useful life of five years in a front-line capacity.

An additional savings was included for ASL and Rearload collection services to account for a reduction in necessary backup vehicles proportionate to the reduction of daily routes.

A summary of annual vehicle cost savings is shown in Table 4 as well as Appendix A, Schedules 2 - 6.

Table 4
Annual Vehicle Cost Savings

	Site 1	Site 2	Site 3	Site 4	Site 5
	Burnet Rd.	McNeil Merrilltown	Brown Lane	Harris Branch	Todd Lane
Collection Service					
Garbage Collection – ASL	\$576,319	\$576,319	\$632,231	\$713,948	\$322,567
Garbage Collection – RL	\$153,490	\$153,490	\$169,935	\$194,603	\$84,968
Organics Collection – ASL	\$421,487	\$421,487	\$468,797	\$529,009	\$438,691
Organics Collection – RL	\$309,721	\$309,721	\$364,538	\$402,911	\$328,907
Bulky Collection	\$217,525	\$217,525	\$241,695	\$290,033	\$145,017

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B. Transfer Station Costs

After quantifying the cost savings realized by hauling to a transfer station versus the current disposal site, the next step is to quantify the cost of constructing and operating a transfer station. Then, it can be determined as to which is the most cost-effective disposal option. For the purposes of this financial analysis, the purchase of land parcels on which to build the transfer station has been excluded.

Transfer Station Site Description

Each transfer station site includes improvements to efficiently manage vehicle queuing, unloading times, transfer trailer loading, and waste surge storage. Key features include:

- A scale house with inbound and outbound scales
- A fully enclosed transfer station building with a two-lane tunnel
- Two top-load hoppers so that two transfer trailers can be loaded simultaneously
- 6-7 tipping bays for collection vehicles to unload (depending on waste storage requirements)
- Two in-tunnel transfer truck scales
- Total building size of 22,500 square feet, of which 70-80% would be available for maneuvering and tipping floor

Additionally, each site was individually assessed to determine expected infrastructure improvements, including access roadways, water supply, wastewater systems, stormwater management, electrical systems, and access control measures. All proposed improvements and associated costs are developed to a project definition maturity level of 1%-15%, consistent with an AACE Class 4 estimate, suitable for concept study purposes.

Construction Costs

NewGen's teaming partner for this Study, Parkhill, developed conceptual costs for the construction of a transfer station at the five potential sites. These costs include construction and engineering services, utilities, and professional services costs. Table 5 lists a summary of the annualized construction costs associated with each proposed transfer station, with greater detail provided in Appendix A, Schedule 7. The annualized costs assume debt service with a 20-year term at a five percent interest rate. Increasing the term or lowering the interest rate would reduce the annualized construction cost.

Operating Costs

Another key cost component is the cost of operating the transfer station, including hauling the waste from the transfer station to the final disposal site. These costs include the capital costs for trailers and trucks, operations and maintenance costs, fuel, labor, and benefits. Each transfer station site assumes operations will include 8 walking-floor trailers and long-haul tractors (including spares), 2 front end loaders, 7 haul truck drivers, 4 facility operators, 4 general laborers, and 2 facility managers. Table 5 lists a summary of the annual operating costs associated with each proposed transfer station, with greater detail provided in Appendix A, Schedule 7.

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Table 5 assumes construction costs are amortized at 5% over a 20-year period. If the City were able to amortize costs over a 30-year period, annual construction costs would decrease by approximately \$331,000. For more detail, see Appendix A, Schedule 8.

Table 5
Transfer Station Construction and Operating Costs

	Site 1 Burnet Rd.	Site 2 McNeil Merrilltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane
Construction Costs ¹	\$1,965,090	\$1,764,566	\$1,650,798	\$1,950,661	\$1,539,620
Annual Operating Costs	2,521,800	2,521,800	2,469,313	2,483,125	2,414,063
Total Annual Cost	\$4,486,890	\$4,286,366	\$4,120,111	\$4,433,786	\$3,953,682

1. Construction costs amortized at 5% interest over 20 years.

C. Site Evaluation Matrix

The location of a transfer station is critical to its design, operational efficiency, and overall effectiveness. To determine the optimal location, the project team at Parkhill developed a weighted matrix (Table 6) to assess each site based on ten categories, with weights assigned through discussions with City staff. Sites were ranked on a scale of 1 to 5 for each category, with the final weighted average identifying the most optimal site overall. More detailed information regarding the evaluation criteria can be found in Appendix B.

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Table 6
Site Evaluation Matrix

	Criteria	Weighting Factor	Site 1 - Burnet Road	Site 2 - McNeil Merriltown	Site 3 - Brown Lane	Site 4 - Harris Branch	Site 5 - Todd Lane
Capital Cost Consideration	Site Conditions	7%	5	3	1	4	2
	Potential for Permitting Concerns	10%	1	4	3	2	5
	Utility Access	7%	1	2	4	3	5
	Value of Land Parcel	7%	1	3	2	4	5
Operational Effectiveness	Ease of Vehicle Accessibility	12%	2	5	1	4	3
	Collection Route Efficiency	15%	3	4	1	5	2
	Operational Cost Efficiency ¹	12%	1	3	4	5	2
Community Impact	Impact on Surrounding Community	11%	1	4	2	5	3
	Compatibility with CAPCOG Plan	3%	1	3	2	5	4
	Environmental Justice	16%	3	4	1	5	2
Total Score:			2.02	3.69	1.98	4.3	3.01

1. Operational Cost Efficiency criteria based on financial analysis summarized in Table 7 conducted by NewGen.

V. Key Findings & Recommendations

A. Key Findings

Based on the methodology listed in Section IV of this memo, **constructing and operating a transfer station would result in an annual cost of approximately \$20,000 - \$970,000 compared to direct hauling waste, prior to accounting for additional revenue from private (non-City) haulers.** A summary of NewGen's findings is shown in Table 7.

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Table 7
Transfer Station Net Cost Summary

	Site 1 Burnet Rd.	Site 2 McNeil Merrilltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane
<i>Operational Savings from Transfer Station ¹</i>					
Garbage Collection – ASL	\$1,063,783	\$1,063,783	\$1,188,107	\$1,311,655	\$663,941
Garbage Collection – RL	355,058	355,058	399,258	445,789	225,253
Organics Collection – ASL	778,382	778,382	883,116	976,151	846,725
Organics Collection – RL	739,276	739,276	885,256	960,150	827,963
Bulky Collection	467,076	467,076	531,148	628,311	328,847
Toll Savings ²	91,241	91,241	91,241	91,241	91,241
Total Savings	\$3,494,815	\$3,494,815	\$3,978,127	\$4,413,296	\$2,983,969
<i>Transfer Station Costs ¹</i>					
Construction Costs	\$1,965,090	\$1,764,566	\$1,650,798	\$1,950,661	\$1,539,620
Operational Costs	2,521,800	2,521,800	2,469,313	2,483,125	2,414,063
Total Costs	\$4,486,890	\$4,286,366	\$4,120,111	\$4,433,786	\$3,953,682
Transfer Station Net Cost	\$992,075	\$791,551	\$141,984	\$20,491	\$969,713

1. Amounts shown are the sums of Tables 2 -5.

2. Toll savings per City Staff.

The transfer station presents an opportunity for the City to generate additional revenue by accommodating private haulers. Table 8 outlines the annual tonnage required at each site to achieve a breakeven point. Preliminary assessments indicate that the transfer station would have an annual capacity ranging from 260,000 to 312,000 tons. The City is forecasted to haul 123,670 tons² of material to the transfer station annually, leaving approximately 135,000 to 185,000 tons of capacity annually to accommodate the City's long-term growth and potential tonnage from third-party haulers that could generate additional revenue for the City. However, the City would need to consider the increase in volume at the transfer station and the impact on its operations, when considering whether to maximize acceptance of private hauler tons. Site 4, which has the lowest net cost, would require the least amount of private hauler tonnage to achieve a breakeven point.

² Based on 74,320 tons from Wednesday through Friday refuse routes, 40,050 tons from organics routes, and 9,300 tons from bulky routes.

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Table 8
Transfer Station Break-even Tonnage

	Site 1 Burnet Rd.	Site 2 McNeil Merrilltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane
Transfer Station Net Cost ¹	\$992,075	\$791,551	\$141,984	\$20,491	\$969,713
Incremental Revenue per Ton ²	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
Annual Tonnage for Breakeven	66,138	52,770	9,466	1,366	64,648

1. See Table 7 for detail

2. Incremental Revenue per ton is the expected revenue realized at the transfer station, net of additional hauling costs and disposal costs. NewGen estimates the City could charge approximately \$25 per ton (excluding landfill disposal cost). There would be an incremental cost to the City of \$8 to \$10 for accepting the additional waste, providing a net financial benefit to the City of \$15 per ton.

B. Additional Considerations

Alternative Scenario — Site 4 Harris Branch

To complement the initial analysis, NewGen analyzed an additional scenario evaluating the cost-effectiveness of constructing a smaller transfer station at Site 4 Harris Branch with reduced tonnage capacity. Under this scenario, the transfer station would accept only city disposal and no private haulers. The smaller transfer station would also not provide for long-term growth of the City's own collection operations, but would provide a lower upfront capital and therefore short-term financial benefits. Table 9 compares the transfer station net cost for both Site 4 from the original analysis (See Table 7) and the alternative scenario.

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Table 9
Alternate Site 4 Transfer Station Net Cost Summary

	Site 4 Harris Branch	Site 4 Alternative Scenario
<i>Operational Savings from Transfer Station</i>		
Garbage Collection – ASL	\$1,311,655	\$1,311,655
Garbage Collection – RL	445,789	445,789
Organics Collection – ASL	976,151	976,151
Organics Collection – RL	960,150	960,150
Bulky Collection	628,311	628,311
Toll Savings	91,241	91,241
Total Savings	\$4,413,296	\$4,413,296
<i>Transfer Station Costs</i>		
Construction Costs	\$1,950,661	\$1,635,585
Operational Costs	2,483,125	2,343,906
Total Costs	\$4,433,786	\$3,979,491
Transfer Station Net Cost	\$20,491	\$(433,805)

The findings of this analysis indicate that adopting the smaller transfer station model would allow the City to break even on the construction and operating costs of the transfer station, but it would limit the City's flexibility (e.g., accepting recyclables in the future) and capacity for long-term growth.

Benchmarking Analysis

As part of our analysis, several large communities in Texas and New Mexico were surveyed to understand their use of transfer stations. These large communities, generally operate multiple transfer stations and rely heavily on them for managing their waste streams. The responses to the benchmark survey are summarized in Table 10 and can be viewed in greater detail in Appendix C.

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Table 10
Transfer Station Benchmarking Survey

	North Texas Municipal Water District	South Central Solid Waste Authority	Dallas Sanitation Services	City of Albuquerque
MSW System Population	900,000	225,000	1,300,000	955,000
Average Annual MSW tonnage	1,100,000	200,000	1,740,000	549,503
Number of Transfer Stations (TS)	3	2	3	3
% Tonnage Managed by TS	60%	70%	80% ¹	14%
Private Hauler Waste Accepted?	Yes	Yes	Yes	Yes
Private Hauler Tipping Fee (Includes Disposal)	\$70.00	\$62.92	\$69.20	N/A ²

1. City collection service is organized into four quadrants, and three of the four quadrants utilize a transfer station.
2. Albuquerque only accepts waste from residential customers and small haulers, not commercial collection vehicles.

Evaluating Additional Sites

The financial viability of a transfer station location is largely determined by its proximity to both the new dispatch location at the Northeast Service Center and the collection service areas. As shown in Table 7, locations closer to these key points help minimize travel distances, reducing fuel costs and improving overall operational efficiency. If the City were to evaluate additional transfer station sites in the future, those east of I-35 in the north-central and northeast areas are likely to offer stronger financial returns compared to other parts of the City.

Non-Financial Benefits

The construction of a transfer station would provide several additional benefits beyond financial considerations, including:

- **Environmental Benefits:** Reduction in greenhouse gas emissions by decreasing the total miles driven for waste disposal.
- **Support for Electric Vehicle Transition:** Increases the feasibility of the City transitioning to an electric vehicle collection fleet in the future by optimizing truck range and mileage.
- **Enhanced Street Sweeping Operations:** Improves efficiency and effectiveness in street sweeping operations by offering a more convenient disposal location street sweeping operations.
- **Increased Contract Flexibility:** Allows the city to access a wider range of disposal options by enabling longer hauling distances.
- **Increased Storm Readiness:** If the transfer station is built with additional capacity, it would service as a valuable resource for the City is responding to storm clean-ups.

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C. Recommendation

The Harris Branch location (Site 4) ranked the highest based on a range of site selection criteria and offers the most cost-competitive option based on the cost savings achieved through the collection operations. Even with accepting only City tons (no outside customers), the City is projected to almost breakeven, with collection cost savings almost fully offsetting the costs of building and operating the transfer station. Accepting private hauler tons, in combination with the cost savings, could fully offset the cost of constructing and operating the transfer station. Constructing and operating a transfer station in the City would align with best management practices on how other large communities manage municipal solid waste and offers additional environmental, efficiency and contractual benefits.

Appendix A

List of Schedules

List of Schedules

Schedule 1	Transfer Station Net Cost Summary Sheet
Schedule 2	Transfer Station Savings – Automated Garbage
Schedule 3	Transfer Station Savings – Semi-Automated Garbage
Schedule 4	Transfer Station Savings – Automated Organics
Schedule 5	Transfer Station Savings – Semi-Automated Organics
Schedule 6	Transfer Station Savings – Bulky Collection
Schedule 7	Transfer Station Construction and Operational Costs
Schedule 8	Transfer Station Net Cost Summary – 30 Year Term for Construction Costs

Austin Resource Recovery Transfer Station Feasibility Analysis											
Transfer Station Net Cost Summary											
Operational Savings from Transfer Station											
Line No.	Service Provided		Site 1 Burnet Rd		Site 2 McNeil Merriltown		Site 3 Brown Lane		Site 4 Harris Branch		Site 5 Todd Lane
1	Garbage Collection - ASL	\$	1,063,783	\$	1,063,783	\$	1,188,107	\$	1,311,655	\$	663,941
2	Garbage Collection - Rearloader		355,058		355,058		399,258		445,789		225,253
3	Organics Collection - ASL		778,382		778,382		883,116		976,151		846,725
4	Organics Collection - Rearloader		739,276		739,276		885,256		960,150		827,963
5	Bulky Collection		467,076		467,076		531,148		628,311		328,847
6	Toll Savings		91,241		91,241		91,241		91,241		91,241
7	Transfer Station Annual Savings	\$	3,494,815	\$	3,494,815	\$	3,978,127	\$	4,413,296	\$	2,983,969
Transfer Station Costs											
	Cost Components		Site 1 Burnet Rd		Site 2 McNeil Merriltown		Site 3 Brown Lane		Site 4 Harris Branch		Site 5 Todd Lane
8	Transfer Station Annual Construction Cost	\$	1,965,090	\$	1,764,566	\$	1,650,798	\$	1,950,661	\$	1,539,620
9	Transfer Station Annual Op Costs		2,521,800		2,521,800		2,469,313		2,483,125		2,414,063
10	Transfer Station Total Annual Cost	\$	4,486,890	\$	4,286,366	\$	4,120,111	\$	4,433,786	\$	3,953,682
11	Transfer Station Net Cost	\$	992,075	\$	791,551	\$	141,984	\$	20,491	\$	969,713
12	Additional Tonnage Needed to Break Even		66,138		52,770		9,466		1,366		64,648
13	Incremental Revenue per Ton net of hauling costs and disposal	\$	15.00								

Austin Resource Recovery Transfer Station Feasibility Analysis						
Transfer Station Savings Summary						
Automated Garbage						
Line No.		Site 1 & Site 2 Burnet Rd/McNeil Merrittown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane	Notes
1	Route Savings					
2	Wednesday Route Savings	4.90	4.80	5.50	2.40	A
3	Thursday Route Savings	5.10	6.10	6.50	3.10	A
4	Friday Route Savings	3.40	3.80	4.60	2.00	A
5	Personnel					
6	Front Line Personnel	\$ 280,354	\$ 307,552	\$ 347,304	\$ 156,914	B
7	Backup Personnel	42,053	46,133	52,096	23,537	C
8	Total Personnal Cost Savings	\$ 322,407	\$ 353,685	\$ 399,400	\$ 180,452	
9	Vehicle					
10	Fuel	\$ 165,057	\$ 202,191	\$ 198,307	\$ 160,922	D
11	Maintenance	156,413	171,587	193,765	87,545	E
12	Lease Payment	227,800	249,900	282,200	127,500	F
13	Backup Vehicles	192,106	210,744	237,983	107,522	G
14	Total Vehicle Cost Savings	\$ 741,376	\$ 834,422	\$ 912,255	\$ 483,489	
15	Total ASL Garbage Savings	\$ 1,063,783	\$ 1,188,107	\$ 1,311,655	\$ 663,941	

Notes

A. Route savings indicates the number of routes the City could operationally reduce each week based on the time savings realized from dumping waste at each transfer station site versus direct hauling waste to the TDS landfill. The 3 route components analyzed to determine time savings were time traveling to dumpsite, time spent at dump site, and time traveling from dumpsite to fleet base.

B. Frontline Personnel Savings = \$83,688 ASL driver annual salary and benefits x Routes Savings

C. Backup Personnel Savings = Frontline Personnel Savings x 15% Backup Ratio

D. Fuel Savings includes the savings associated from the reduction in total number of routes (lines 2-4) and the net decrease in daily mileage for existing routes.

E. Assumes an annual vehicle maintenance cost of \$58,363.

F. Assumes an ASL purchase price of \$425,000, a 5 year useful life, and 0% interest rate.

G. Backup Vehicle Savings = (Maintenance Savings + Lease Payment Savings) x 50% backup ratio.

Austin Resource Recovery Transfer Station Feasibility Analysis						
Transfer Station Savings Summary						
Semi-Automated Garbage						
Line No.		Site 1 & Site 2	Site 3	Site 4	Site 5	Notes
		Burnet Rd/McNeil Merriltown	Brown Lane	Harris Branch	Todd Lane	
1	Route Savings					
2	Wednesday Route Savings	2.00	2.00	2.30	1.00	A
3	Thursday Route Savings	1.60	2.00	2.10	1.00	A
4	Friday Route Savings	2.00	2.20	2.70	1.10	A
5	Personnel					
6	Front Line Personnel	\$ 128,016	\$ 139,626	\$ 159,989	\$ 69,813	B
7	Backup Personnel	19,202	20,944	23,998	10,472	C
8	Total Personnel Cost Savings	\$ 147,219	\$ 160,570	\$ 183,988	\$ 80,285	
9	Vehicle					
10	Fuel	\$ 54,349	\$ 68,753	\$ 67,198	\$ 60,000	D
11	Maintenance	65,367	72,370	82,875	36,185	E
12	Lease Payment	36,960	40,920	46,860	20,460	F
13	Backup Vehicles	51,163	56,645	64,868	28,323	G
14	Total Vehicle Cost Savings	\$ 207,839	\$ 238,689	\$ 261,801	\$ 144,968	
15	Total Semi-Automated Garbage Savings	\$ 355,058	\$ 399,258	\$ 445,789	\$ 225,253	

Notes

A. Route savings indicates the number of routes the City could operationally reduce each week based on the time savings realized from dumping waste at each transfer station site versus direct hauling waste to the TDS landfill. The 3 route components analyzed to determine time savings were time traveling to dumpsite, time spent at dump site, and time traveling from dumpsite to fleet base.

B. Frontline Personnel Savings = (\$75,900 annual Rearload Driver salary and benefits + \$69,999 annual Rearload Helper salary and benefits) x Routes Savings

C. Backup Personnel Savings = Frontline Personnel Savings x 15% Backup Ratio

D. Fuel Savings includes the savings associated from the reduction in total number of routes (lines 2-4) and the net decrease in daily mileage for existing routes.

E. Assumes an annual vehicle maintenance cost of \$58,363.

F. Assumes a Rearload Vehicle purchase price of \$330,000, a 5 year useful life, and 0% interest rate.

G. Backup Vehicle Savings = (Maintenance Savings + Lease Payment Savings) x 50% backup ratio.

Austin Resource Recovery Transfer Station Feasibility Analysis						
Transfer Station Savings Summary						
Automated Organics						
	Site 1 & Site 2	Site 3	Site 4	Site 5		
Line No.	Burnet Rd/McNeil Merriltown	Brown Lane	Harris Branch	Todd Lane		Notes
1	Route Savings					
2	Monday Route Savings	0.90	1.40	1.50	2.70	A
3	Tuesday Route Savings	1.60	1.80	2.00	3.00	A
4	Wednesday Route Savings	3.00	2.90	3.40	1.60	A
5	Thursday Route Savings	2.50	2.90	3.10	1.70	A
6	Friday Route Savings	1.80	1.90	2.30	1.20	A
7	Personnel					
8	Front Line Personnel	\$ 205,035	\$ 228,049	\$ 257,340	\$ 213,404	B
9	Backup Personnel	30,755	34,207	38,601	32,011	C
10	Total Personnal Cost Savings	\$ 235,790	\$ 262,256	\$ 295,941	\$ 245,414	
11	Vehicle					
12	Fuel	\$ 121,105	\$ 152,063	\$ 151,201	\$ 162,620	D
13	Maintenance	114,391	127,231	143,573	119,061	E
14	Lease Payment	166,600	185,300	209,100	173,400	F
15	Backup Vehicles	140,496	156,266	176,336	146,230	G
16	Total Vehicle Cost Savings	\$ 542,592	\$ 620,860	\$ 680,210	\$ 601,310	
17	Total ASL Organics Savings	\$ 778,382	\$ 883,116	\$ 976,151	\$ 846,725	
18						

Notes

- A. Route savings indicates the number of routes the City could operationally reduce each week based on the time savings realized from dumping waste at each transfer station site versus direct hauling waste to Organics by Gosh. The 3 route components analyzed to determine time savings were time traveling to dumpsite, time spent at dump site, and time traveling from dumpsite to fleet base.
- B. Frontline Personnel Savings = \$83,688 ASL driver annual salary and benefits x Routes Savings
- C. Backup Personnel Savings = Frontline Personnel Savings x 15% Backup Ratio
- D. Fuel Savings includes the savings associated from the reduction in total number of routes (lines 2-6) and the net decrease in daily mileage for existing routes.
- E. Assumes an annual vehicle maintenance cost of \$58,363.
- F. Assumes an ASL purchase price of \$425,000, a 5 year useful life, and 0% interest rate.
- G. Backup Vehicle Savings = (Maintenance Savings + Lease Payment Savings) x 50% backup ratio.

A. Route savings indicates the number of routes the City could operationally reduce each week based on the time savings realized from dumping waste at each transfer station site versus direct hauling waste to the TDS landfill. The 3 route components analyzed to determine time savings were time traveling to dumpsite, time spent at dump site, and time traveling from dumpsite to fleet base.

B. Frontline Personnel Savings = (\$75,900 annual Rearload Driver salary and benefits + \$69,999 annual Rearload Helper salary and benefits) x Routes Savings

C. Backup Personnel Savings = Frontline Personnel Savings x 15% Backup Ratio

D. Fuel Savings includes the savings associated from the reduction in total number of routes (lines 2-6) and the net decrease in daily mileage for existing routes.

E. Assumes an annual Vehicle maintenance cost of \$58,363.

F. Assumes a Rearload Vehicle purchase price of \$325,000, a 5 year useful life, and 0% interest rate.

G. Backup Vehicle Savings = (Maintenance Savings + Lease Payment Savings) x 50% backup ratio.

Austin Resource Recovery Transfer Station Feasibility Analysis										
Transfer Station Savings Summary										
Bulky Collection										
		Site 1 & Site 2		Site 3		Site 4		Site 5		
Line No.		Burnet Rd/McNeil Merriltown		Brown Lane		Harris Branch		Todd Lane		
									Notes	
1	Route Savings		0.90		1.00		1.20		0.60	A
2	Personnel									
3	Front Line Personnel	\$	199,619	\$	221,799	\$	266,159	\$	133,080	B
4	Backup Personnel		29,943		33,270		39,924		19,962	C
5	Total Personnal Cost Savings	\$	229,562	\$	255,069	\$	306,083	\$	153,041	
6	Vehicle									
7	Fuel	\$	19,988	\$	34,385	\$	32,195	\$	30,788	D
8	Maintenance		72,417		80,463		96,556		48,278	E
9	Lease Payment		79,200		88,000		105,600		52,800	F
10	Backup Vehicles		65,908		73,232		87,878		43,939	G
11	Total Vehicle Cost Savings	\$	237,513	\$	276,079	\$	322,228	\$	175,805	
12	Total Bulky Collection Savings	\$	467,076	\$	531,148	\$	628,311	\$	328,847	

Notes

A. Route savings indicates the number of routes the City could operationally reduce each week based on the time savings realized from dumping waste at each transfer station site versus direct hauling waste to TDS landfill. The 3 route components analyzed to determine time savings were time traveling to dumpsite, time spent at dump site, and time traveling from dumpsite to fleet base.

B. Frontline Personnel Savings = (\$75,900 annual Rearload Driver salary and benefits + \$69,999 annual Rearload Helper salary and benefits) x Routes Savings

C. Backup Personnel Savings = Frontline Personnel Savings x 15% Backup Ratio

D. Fuel Savings includes the savings associated from the reduction in total number of routes (line 1) and the net decrease in daily mileage for existing routes.

E. Assumes an annual Rearload Vehicle maintenance cost of \$58,363 and Crane maintenance cost of \$22,100.

F. Annual Lease Payment based on a \$330,000 (Rearloader) and \$220,000 (Crane) purchase price paid over a 10 year useful life of the vehicle at 0% interest.

G. Backup Vehicle Savings = (Maintenance Savings + Lease Payment Savings) x 30% backup ratio.

Austin Resource Recovery Transfer Station Feasibility Analysis						
Transfer Station Cost Summary						
Transfer Station Construction and Operational Cost						
Line No.	Site 1 Burnet Rd	Site 2 McNeil Merriltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane	Notes
1	Construction Costs					A
2	Site Improvement Cost	\$ 631,000	\$ 272,000	\$ 262,700	\$ 500,000	\$ 812,500
3	Scale House Cost	735,000	735,000	735,000	735,000	735,000
4	Site Paving Cost	2,162,500	1,136,500	1,270,000	2,597,500	690,000
5	Utilities Cost	2,874,000	2,547,000	1,451,500	2,317,500	532,500
6	Transfer Station Building Cost	9,685,000	9,685,000	9,685,000	9,685,000	9,685,000
7	Professional Services	2,408,750	2,237,550	2,140,420	2,533,500	2,045,500
8	Construction Mob., Bonds/Insurance	965,250	862,530	804,252	950,100	747,300
9	Contingency	4,865,375	4,368,895	4,087,218	4,829,650	3,811,950
10	Art in Public Places	486,538	436,890	408,722	482,965	381,195
11	Total Construction Cost	\$ 24,813,413	\$ 22,281,365	\$ 20,844,812	\$ 24,631,215	\$ 19,440,945
12	Amortized Annual Construction Cost	\$1,965,090	\$1,764,566	\$1,650,798	\$1,950,661	\$1,539,620
13	Operational Costs					A
14	Equipment Cost	\$ 466,000	\$ 466,000	\$ 466,000	\$ 466,000	\$ 466,000
15	Fuel Cost	191,440	191,440	149,450	160,500	105,250
16	Staff Cost	990,000	990,000	990,000	990,000	990,000
17	Utilities & Insurance Cost	135,000	135,000	135,000	135,000	135,000
18	Maintenance Cost	235,000	235,000	235,000	235,000	235,000
19	Contingency	504,360	504,360	493,863	496,625	482,813
20	Annual Operational Costs	\$ 2,521,800	\$ 2,521,800	\$ 2,469,313	\$ 2,483,125	\$ 2,414,063
21	Total Annual Transfer Station Cost	\$4,486,890	\$4,286,366	\$4,120,111	\$4,433,786	\$3,953,682
22	Equipment Listing	Quantity				
23	Front End Loader	2				
24	Utility Tractor and Broom	1				
25	Yard Tractor	1				
26	Walking-Floor Trailer	8				
27	Long-Haul Tractor	8				
28	Tamping Crane	1				
29	Staff Listing					
30	Haul Truck Drivers	7				
31	Facility Operators	4				
32	General Facility Labor	4				
33	Facility Manager	2				

Notes

- A. Construction and Operational Costs provided by Parkhill Engineers.
B. Construction costs amortized over a 20 year period at a 5% interest rate.
C. Assumes 60 hauls per week and a fuel price of \$2.55/gallon.

Austin Resource Recovery Transfer Station Feasibility Analysis								
Transfer Station Net Cost Summary								
Operational Savings from Transfer Station								
Line No.	Service Provided	Site 1 Burnet Rd	Site 2 McNeil Merriltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane		
1	Garbage Collection - ASL	\$ 1,063,783	\$ 1,063,783	\$ 1,188,107	\$ 1,311,655	\$ 663,941		
2	Garbage Collection - Rearloader	355,058	355,058	399,258	445,789	225,253		
3	Organics Collection - ASL	778,382	778,382	883,116	976,151	846,725		
4	Organics Collection - Rearloader	739,276	739,276	885,256	960,150	827,963		
5	Bulky Collection	467,076	467,076	531,148	628,311	328,847		
6	Toll Savings	91,241	91,241	91,241	91,241	91,241		
7	Transfer Station Annual Savings	\$ 3,494,815	\$ 3,494,815	\$ 3,978,127	\$ 4,413,296	\$ 2,983,969		
Transfer Station Costs - 30 Year Construction Financing Term								
Cost Components	Site 1 Burnet Rd	Site 2 McNeil Merriltown	Site 3 Brown Lane	Site 4 Harris Branch	Site 5 Todd Lane			
8	Transfer Station Annual Construction Cost	\$ 1,598,445	\$ 1,435,334	\$ 1,342,793	\$ 1,586,708	\$ 1,252,358		
9	Transfer Station Annual Op Costs	2,521,800	2,521,800	2,469,313	2,483,125	2,414,063		
10	Transfer Station Total Annual Cost	\$ 4,120,245	\$ 3,957,134	\$ 3,812,106	\$ 4,069,833	\$ 3,666,421		
11	Transfer Station Net Cost	\$ 625,430	\$ 462,319	\$ (166,021)	\$ (343,462)	\$ 682,452		
12	Additional Tonnage Needed to Break Even	41,695	30,821	(11,068)	(22,897)	45,497		
13	Incremental Revenue per Ton <i>net of hauling costs and disposal</i>	\$ 15.00						

Appendix B

Transfer Station Site Evaluation

Report | December 2024

Transfer Station Site Evaluation

City of Austin, Texas

Prepared by:



Parkhill

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SECTION 1 SITE EVALUATION AND SELECTION

Criteria for Evaluation

The placement of a transfer station plays a crucial role in shaping both its design and operational efficiency. Site-specific conditions can pose challenges during the permitting process and may lead to increased capital costs. The facility's proximity to the city's collection routes and final disposal sites will significantly affect its operational effectiveness. Additionally, and most importantly, it is essential to assess the surrounding community to evaluate any potential impacts a solid waste transfer station may have on affected parties.

The weighted matrix, Table 1.1, evaluates the sites included in this study across ten different categories, detailed later in this section. Each category is assigned a weight based on discussions with the Austin Resource Recovery (ARR) team. Sites are ranked within a category based on a relative comparison to each other. The site found to be the most optimal in the category receives a score of 5 and the least optimal site receives a score of 1. The final weighted average ranking displays the site found to be the most optimal site overall, relative to the others.

Table 1
Site Evaluation Matrix

	Criteria	Weighting Factor	Site 1 - Burnet Road	Site 2 - McNeil Merriltown	Site 3 - Brown Lane	Site 4 - Harris Branch	Site 5 - Todd Lane
Capital Cost Consideration	Site Conditions	7%	5	3	1	4	2
	Potential for Permitting Concerns	10%	1	4	3	2	5
	Utility Access	7%	1	2	4	3	5
	Value of Land Parcel	7%	1	3	2	4	5
Operational Effectiveness	Ease of Vehicle Accessibility	12%	2	5	1	4	3
	Collection Route Efficiency	15%	3	4	1	5	2
	Operational Cost Efficiency ¹	12%	1	2	4	5	3
Community Impact	Impact on Surrounding Community	11%	1	4	2	5	3
	Compatibility with CAPCOG Plan	3%	1	3	2	5	4
	Environmental Justice	16%	3	4	1	5	2
Total Score:			2.02	3.57	1.98	4.3	3.13

1. Operational Cost Efficiency criteria based on financial analysis summarized in Table 7 conducted by NewGen.

Site Conditions

Sites were examined for potential construction issues that will likely increase the cost to design and construct a transfer station. The total area and width of the site were considered for limitations on construction and expansion of a transfer station.

Potential for Permitting Concerns

The Texas Administrative Code (TAC) Title 30, Chapter 330, Subchapter M stipulates location restrictions which must be considered and addressed during permitting, require coordination with other state and federal agencies, or limit the ability to construct a facility in a specific area. A preliminary review of the key features specified in 30 TAC §330 Subchapter M can aid in anticipating potential challenges during the permitting process. Additionally, the project team has provided an opinion on the relative risk of substantial public opposition to a permit application. Public opposition may come from individuals, groups or organizations who may or may not be affected parties.

Utility Access

The optimal site will be located in areas where utilities are developed and can be tied into. A facility's proximity to existing utilities may greatly reduce construction costs to connect to utilities. Sites were evaluated based on the requirements to extend onsite utilities to the proposed facility.

Value of Land Parcel

Property values are assessed using the Travis County Appraisal District's 2024 appraised values, which encompass both the land and any improvements. Sites are compared based on the published appraised cost per acre.

Ease of Vehicle Accessibility

The optimal transfer station site will be easily accessible from a major highway to reduce drive distance and drive time for the solid waste collection fleet. Safety of entering and exiting the facility is an additional concern. Factors such as road type, conditions, traffic control measures, and Texas Department of Transportation (TxDOT) Average Annual Daily Traffic (AADT) count are used to evaluate the ease and safety of accessing the facility.

Collection Route Efficiency

The optimal transfer station site will minimize the time that solid waste collection vehicles are off route, compared to the off route time required to access and utilize the landfill directly. The scope of this study is to primarily consider efficiency of routes north of the Colorado River, however efficiency gains made to other routes are considered for secondary benefits.

Operational Cost Efficiency

The optimal site will reduce operational costs at the facility. The placement of a transfer station plays a crucial role determining haul truck operation based on the proximity to the final disposal facility.

Impact on Surrounding Community

The optimal transfer station site should minimize its proximity to residential structures, religious structures, and educational structures. Screenings such as a nearby highway can reduce a facility's impact by creating a visual or physical barrier between the proposed facility and sensitive land uses.

Compatibility with CAPCOG Plan

During the permitting process, TCEQ requires a copy of the permit to be submitted to the local council of governments for review. Verifying a site's compliance with CAPCOG's plans early in the process will aid in the future permitting process. CAPCOG is primarily concerned with a solid waste facility's effect on surrounding community, including coordination with schools and school districts within 1-mile of the proposed facility.

Environmental Justice

This study includes reports derived from U.S. Environmental Protection Agency's (USEPA) Environmental Justice Screening Tool (EJScreen) for a one mile area surrounding each site. EJScreen Reports provide environmental and socioeconomic information for a defined area. This information is combined into an Environmental Justice (EJ) Index for thirteen environmental indicators. The EJ Indexes are a measure of percentile risk of exposure to an environmental indicator specifically for people of color and those of low income in a specific census block compared to the risk of exposure for the same groups of interest in all other census blocks in the state and country.

Based on the EPA's guidance webpage, *How to Interpret EJScreen data*, the EPA identified areas at or above the 80th percentile filter as potential candidates for further review to determine the presence of an EJ Community. The 80th percentile filter in EJScreen is not intended to designate an area as an EJ Community. EJ Screen is intended to be a starting point to identify potential environmental justice issues by providing screening level indicators.

Further review, outside of the scope of this study, may include considering other factors and other sources of information such as local environmental justice evaluation requirements, health-based information, local knowledge, proximity and exposure to environmental hazards, susceptible populations, unique exposure pathways, and other federal, regional, state, and local data.

Site 1: Burnet Road

Overall Weighted Score: 1.9

Site Conditions: Score 5

Site 1 consists of 61.3 acres of developable land that could accommodate multiple site layouts to find the one that works best for the city's needs. The size of the property will accommodate future expansions to the facility or be utilized for additional city services or resource recovery projects.

Potential for Permitting Concern – Score: 1

The primary drawbacks for Site 1 are the following: immediately adjacent land uses: 2 centers of worship, a single family residential neighborhood, a multifamily residential development, and a historic cemetery.. A portion of the developable land will likely be used for visual screening or buffer of some kind. Future plans for additional visual screening/ buffer may be required for possible future resource recovery

projects. This proximity to these sensitive land uses significantly increases the risk of serious public opposition to the project. The risk of public opposition is high.

According to Federal Emergency Management Agency (FEMA) there are no 100-year floodplains within the property boundary, however the US Fish and Wildlife Service (USFWS) identifies the potential of a riverine habitat across the site and the potential of a wetland on the property. From aerial imagery, an ephemeral stream is clearly visible. Mitigation of this habitat may require a Nationwide Permit or Clean Water Act Section 404 permitting.

Utility Access – Score: 1

Water services are available in the vicinity of the site; however, access will likely require approximately 3,000 LF of public water main installation, and 3,000 to 4,000 LF of private onsite water lines for fire protection depending on the final location of the building on the large property.

Access to wastewater services is available at the northeast and southwest corners of the property. It is likely that development of the property will require extension of the southwest wastewater line across the property frontage, approximately 3,000 LF. Onsite wastewater piping may require the installation of up to 1,600 feet of sewer depending on the final location of the building on the large property.

Electrical service is available along the Burnet Road where overhead power lines run on the east side of the road where the site is located.

Value of Land Parcel – Score: 1

Travis Central Appraisal District valued the land in 2024 at \$26,717,962, or \$435,855 per acre

Ease of Vehicle Accessibility – Score: 2

Site 1 is approximately 0.5 miles from the intersection of Mopac Expressway and Merriltown Drive and 0.5 miles from the intersection of Mopac Expressway and Shoreline Drive. From these intersections, ARR staff can enter and exit the Expressway. This site abuts Burnet Road in two separate locations allowing design discussions of locating the entrance in the safest location.

Burnet Road is a five lane, asphalt paved roadway, with two lanes for each direction of traffic and a single central turn lane. The AADT count is 17,863 per TxDOT's 2020 study.

Collection Route Efficiency – Score: 3

Based on the average centroid of all routes on a given collection day, this location is more efficient for Wednesday through Friday routes. Monday and Tuesday routes should continue to direct haul to the landfill based on travel time and travel distance.

Operational Cost Efficiency – Score: 1

See Transfer Station Economic Feasibility Study Memo.

Impact on Surrounding Community – Score: 1

Site 1 is direct neighbors with 2 religious structures. There is a total resident population of 17,389 within 1 mile of this site, with multiple residential structures that have sight lines into the site. Additional screening can be constructed on the site to reduce the impact the facility will have on the surrounding community.

Compatibility with CAPCOG Plan – Score: 1

Site 1 is approximately 500 feet from Jubilee Wells Branch which is a public charter school, and approximately 2,000 feet from Joe Lee Johnson Elementary which is in Round Rock ISD. Other schools within 1 mile include Wells Branch Elementary in Round Rock ISD and Chaparral Star Academy, which is a public charter school. Per CAPCOG's plan, additional coordination with these schools and Round Rock ISD will be required should this site be selected for the development of a transfer station.

Environmental Justice – Score: 3

Site 1 is in the 83 percentile of national EJ Index for Particulate Matter 2.5. It is also in the 79th percentile of national EJ indexes for Nitrogen Dioxide and Wastewater Discharge.

Further review of the area is recommended to determine if the area meets the definition of an EJ community that the transfer station could impact.

Site 2: McNeil Merriltown Road

Overall Weighted Score: 3.33

Site Conditions: Score: 3

Site 2 contains 18.1 acres of developable land. However, the Austin's Ultimate Roadway plan indicates that Merriltown Drive will be extended through this site. Based on that preliminary plan, there will be approximately 10.5 acres of developable land south of the future Merriltown Drive. This sub portion of the parcel will be sufficient to layout on site drive paths that prioritize safety and accessibility.

The primary drawbacks for Site 2 include the department coordination to ensure current city development does not impede future city roadway expansion. Additionally, the site's size will somewhat limit possible expansions or additional projects at the facility.

Potential for Permitting Concern – Score: 4

A preliminary investigation of Site 2 found no immediate concerns of issues with the requirements of 30 TAC §330 Subchapter M.

The site is bordered by no known sensitive land uses. The risk of public opposition is low, although still likely.

Utility Access – Score: 2

Water is available via a 48-inch water line along the Mopac Expressway right of way. A waterline extension of approximately 1,500 feet will be required, when accounting for the extension of Merriltown Drive through the site. Approximately 1,900 LF of onsite waterline will be required for fire protection.

Wastewater services may be accessed by two options. Each option presents a large capital cost to construct. The first option is to extend existing services located on the west side of Howard Lane and Mopac Expressway by approximately 5,700 feet. This service pathway includes areas of elevation gain, so this option will require lift station(s) further adding to design and construction costs. The second option would require services on the east side of Mopac Express way be tied into and brought 1,400 feet to the west. Site 2 is at slightly higher elevation, so this connection may be possible without lift stations, but will

require crossing a major expressway adding to design and construction costs. It is likely that crossing Mopac is not a feasible alternative.

Electrical service is available along the McNeil Merriltown Road where overhead power lines run on the opposite side of the road from where the site is located.

Value of Land Parcel – Score: 3

Travis Central Appraisal District valued the land in 2024 at \$1,403,385, or \$77,535 per acre.

Ease of Vehicle Accessibility – Score: 5

Site 2 is located approximately 0.1 miles from the intersection of Mopac Expressway and McNeil Merriltown Road. From this intersection, ARR staff can enter and exit the Expressway.

Currently McNeil Merriltown Road is a divided three lane, asphalt paved roadway, with two lanes in the east bound direction and one lane in the west bound direction. This roadway reduces to a two lane road with single lanes for both directions of traffic. The AADT count is 1,667 per TxDOT's 2020 study.

City of Austin Thoroughfare Plan indicates plans to expand Merriltown Drive through the property of Site 2, likely increasing background traffic in the vicinity of the facility.

Collection Route Efficiency – Score: 4

Based on the average centroid of all routes on a given collection day, this location is more efficient for Wednesday through Friday routes. Monday and Tuesday routes should continue to direct haul to the landfill based on travel time and travel distance.

Operational Cost Efficiency – Score: 2

See Transfer Station Economic Feasibility Study Memo.

Impact on Surrounding Community – Score: 3

Site 2 has few direct neighbors, all of whom are either agricultural, industrial, commercial, or vacant. The site is in proximity to a total resident population of 11,301 in 1 mile; however, Mopac Expressway visually screens the facility from a majority of the residential structures.

Compatibility with CAPCOG Plan – Score: 4

Site 2 is approximately 3,300 feet from Jubilee Wells Branch which is a public charter school, and approximately 4,000 feet from Wells Branch Elementary which is in Round Rock ISD. Other schools within 1 mile include Joe Lee Johnson Elementary in Round Rock ISD and Chaparral Star Academy which is a public charter school. Per CAPCOG's plan, additional coordination with these schools and Round Rock ISD will be required.

Environmental Justice – Score: 4

Site 2 is above the 80th percentile of the national EJ Index for Particulate Matter 2.5, Nitrogen Dioxide, and Wastewater Discharge.

Further review of the area is recommended to determine if the area meets the definition of an EJ community that the transfer station could impact.

Site 3: Brown Lane

Overall Weighted Score: 1.5

Site Conditions: Score: 1

Site 3 contains 5.1 acres of developable land. The primary drawbacks for Site 3 include the narrow width of the property. While 5.1 acres is typically sufficient for most transfer station layouts, the width of this site is approximately 275 feet. This narrow width will limit the layouts and may force less than optimal site road layouts. The existing structures and pavement will need to be demolished for the proposed transfer station layout, adding additional capital costs.

Potential for Permitting Concern – Score: 3

A preliminary investigation of Site 3 found no immediate concerns of issues with the requirements of 30 TAC §330 Subchapter M.

The site is generally located in an area characterized by light industrial uses. However, multifamily residential developments have been constructed in close proximity to the property. Additionally, some single family residences are located immediately adjacent to the property. The risk of public opposition is moderate.

Utility Access – Score: 4

Water services can be accessed via an 8-inch water line in the right-of-way of Brown Lane. It is likely that development will require the extension of the 12" waterline from the south for a distance of 1,800 LF.

Wastewater services can be accessed directly on the edge of the western property boundary.

Electrical service is available along the Brown Road where overhead power lines run on the opposite side of the road from where the site is located.

Value of Land Parcel – Score: 2

Travis Central Appraisal District valued the land in 2024 at \$1,247,380, or \$328,257 per acre.

Ease of Vehicle Accessibility – Score: 1

Site 3 is located approximately 1.9 miles from I35 and 1.8 miles from Highway 183. Depending on the specific route, collection drivers could have good routes to access a highway.

Brown Lane is a two lane, asphalt paved roadway, with single lane traffic for both directions and a 60ft to 80ft wide right-of-way. The roadway itself is narrow, has multiple turns with poor sight lines, no curb and gutter or stormwater conveyance, and no clear center dividing line on portions of the roadway. Brown lane has not been part of a TxDOT AADT study, but a comparable road within 0.5 miles, Pleasant Lane, has an AADT Count of 735 per TxDOT's 2020 study. Access to Brown Lane from Ferguson Lane and Dungan Lane is poor with inadequate turning radii for transfer trailer traffic. The limited right-of-way limits potential improvements to access.

Drivers will need to travel along Rundberg Lane or Cameron Road to access I35 or Highway 183, respectively. Rundberg lane is a four lane divided asphalt paved roadway with two lanes of traffic for both directions. The AADT count ranges from 20,656 to 30,999 for the sections of Rundberg lane to access I35.

Cameron Road is a six lane divided asphalt paved roadway with three lanes of traffic for both directions. The AADT count ranges from 27,872 to 44,351 for the sections of Cameron Road to access Highway 183.

The distance from the either highway presents a concern for efficiency of accessing the facility.

Collection Route Efficiency – Score: 1

Based on the average centroid of all routes on a given collection day, this location is more efficient for Wednesday through Friday routes. Monday and Tuesday routes should continue to direct haul to the landfill based on travel time and travel distance. But Site 3 is overall the least efficient site to access.

Operational Cost Efficiency – Score: 4

See Transfer Station Economic Feasibility Study Memo.

Impact on Surrounding Community – Score: 2

Site 3 has multiple direct neighbors that are primarily commercial/industrial but include four residential properties. One of the four residential property is directly across from the entrance/ exit of the facility. The site is in proximity to a total resident population of 10,323 in 1 mile; however, the site is visually screened from a majority of residents by other commercial/ industrial structures and activities in the area.

Compatibility with CAPCOG Plan – Score: 2

Site 3 is approximately 3,500 feet from Dobie Middle School and College Prep Academy which is part of Austin Independent School District. The other school within 1 mile includes Harmony Science Academy Austin, a public charter school. Per CAPCOG's plan, additional coordination with these schools and Austin ISD will be required.

Environmental Justice – Score: 1

Site 3 is above the 80th percentile of state and national EJ Indexes for Particulate Matter 2.5, Nitrogen Dioxide, Diesel Particulate Matter, Traffic Proximity, Hazardous Waste Proximity, Underground Storage Tanks, and Wastewater discharge. Site 3 is above the 80th percentiles for national EJ Indexes for Ozone and RMP Facility Proximity.

Further review of the area is recommended to determine if the area meets the definition of an EJ community that the transfer station could impact.

Site 4: Harris Branch Parkway

Overall Weighted Score: 3.7

Site Conditions: Score: 4

Site 4 contains 69 acres of land. However, only approximately 14 acres located in the southwest corner are suitable for the development of a transfer station. While only a portion of the land parcel, this section should be sufficient to create an optimal site layout that allows for future expansion.

The primary drawbacks for Site 4 are the limitations in the development of the land parcel. The Federal Emergency Management Agency (FEMA) denotes a 100-year floodplain through the center of the site as well as possible wetlands within the property boundaries. The facility will not be located within the

floodplain, but the access road from Harris Branch Parkway will cross the floodplain, which will require additional permitting and design considerations for the roadway.

Potential for Permitting Concern – Score: 2

According to FEMA records, there is a 100-year floodplain occupying a large portion of the site. USFWS identifies the potential of wetlands on the site. The Texas Historic commission believes a historic cattle driving trail passes through the site, which indicates the possible existence of artifacts that may be uncovered during excavation operations.

The above features limit the location of the transfer station facility on the site itself. Their presence on the site in general do not disqualify this site from permitting and constructing a facility. This site is sufficiently large enough that there are approximately 14 acres of developable land outside of the limits of these features called out in 30 TAC §330 Subchapter M.

The site is bordered by no known sensitive land uses. The risk of public opposition is low, although still likely.

Utility Access – Score: 3

Water services can be accessed via a 12-inch water line directly on the edge of the southeast property boundary. It is likely that development of the property may require 1,900 LF of waterline extension along the Decker Lane frontage. Onsite waterline installation of up to 4,700 LF may be required for fire protection.

Wastewater services can be accessed directly either through the gravity sewer main running through the property or at the southeast property boundary following the water line connection. Onsite piping length may be up to 2,000 feet depending on the required connection point.

Electrical service is available along Harris Branch Parkway/ Decker Lane where overhead power lines run on the opposite side of the road from where the site is located.

Value of Land Parcel – Score: 4

The proposed property total property limits of 69 acres is comprised of three abutting parcels. Travis Central Appraisal District valued the sum total of the three parcels in 2024 at \$1,464,540, or \$21,225 per acre.

Ease of Vehicle Accessibility – Score: 4

Site 4 is located 0.3 miles from Highway 290 at the intersection of Harris Branch Parkway and Highway 290. From this intersection, ARR staff can enter and exit the highway.

Harris Branch Parkway is a four lane divided asphalt roadway with two traffic lanes for both directions and also features two wide shoulders for both directions of traffic that can accommodate a parked vehicle in the case of emergency. The AADT count is 10,894 per TxDOT's 2020 study.

The site entrance/ exit to the facility could be aligned with Decker Lane and include a plan to install a signalized intersection. The addition of a traffic signal is necessary for truck traffic entering and exiting the facility.

Collection Route Efficiency – Score: 5

Based on the average centroid of all routes on a given collection day, this location is more efficient for Wednesday through Friday routes. Approximately half of Tuesday routes, primarily on the east side, will benefit from utilizing the transfer station. Monday routes should continue to direct haul to the landfill based on travel time and travel distance.

Additionally, this facility is located near the potential future north ARR Service Center. Collection vehicles would have a very short drive to part at the end of the collection day.

Operational Cost Efficiency – Score: 5

See Transfer Station Economic Feasibility Study Memo.

Impact on Surrounding Community – Score: 5

Site 4 has few direct neighbors, all of whom are either agricultural, commercial/industrial, or vacant. The site is in proximity to a total resident population of 1,071 in 1 mile. The site is visually screened from the north by Highway 290. The site also abuts a rail line directly to the south.

Compatibility with CAPCOG Plan – Score: 5

Site 4 is approximately 4,000 feet from the closest day care facility. Site 4 is not within 1 mile of a school. Based on Travis County Appraisal District Records, it is believed that no school district owns land within 1 mile of Site 4.

Environmental Justice – Score: 5

Site 2 is in the 81st percentile of national EJ Index for Drinking Water Non-Compliance. The exceedance of any EJ Index could be indicator that an EJ Community may exist in the area.

Further review of the area is recommended to determine if the area meets the definition of an EJ community.

Site 5: Todd Lane

Overall Weighted Score: 2.77

It should be noted that in this Study, Site 5: Todd Lane, is also evaluated for the expansion and rehabilitation of the existing transfer station for use as an organics-only transfer facility. Curbside organics vehicles currently direct haul to Organics by Gosh to unload. Transfer of the organic loads may prove efficient.

Site Conditions: Score: 2

Site 5 contains 6.8 acres of land. The site contains an existing structure previously used as a waste transfer facility. The site currently houses the City's household hazardous waste collection facility. The current transfer station building is undersized to handle the full amount of solid waste the city currently needs to transfer and would require the construction of an entirely new facility.

The primary drawbacks of this facility are the existing structure, which limits the options for expansion. The facility will likely require retrofitting to operate as a primary solid waste transfer station.

Potential for Permitting Concern – Score: 5

A preliminary investigation of Site 5 found no immediate concerns of issues with the requirements of 30 TAC §330 Subchapter M.

The site is generally located in an area characterized by light industrial uses. However, multifamily residential developments have been constructed within one mile of the property. Additionally, some single family residences are located on the north side of Highway 71. The risk of public opposition is low, although still likely.

Utility Access – Score: 5

The current structure is a waste transfer station with all required utilities in service.

Value of Land Parcel – Score: 5

Travis Central Appraisal District valued the land in 2024 at \$4,4335,978, or \$637,643 per acre. However, this parcel is already city owned property, so purchase is not necessary.

Ease of Vehicle Accessibility – Score: 3

Site 5 is located 0.3 miles from Highway 71 at the intersection of Todd Lane and Highway 71. From this intersection, AAR staff can enter and exit the highway.

Todd Lane is a three lane, asphalt paved roadway, with single lane traffic for both directions, a central turn lane, and shoulders that have been converted into bike lanes with flexible bollards designating the bike lane. The AADT Count is 14,043 per TxDOT's 2020 study.

Collection Route Efficiency – Score: 2

Site 5 is more efficient for all routes on average to utilize over the landfill. However, some specific routes on the south side of Monday's collection may still benefit from utilizing the landfill over the transfer station. While the transfer station is more efficient for all routes, some routes from the north, such as Wednesday routes will not have a significant savings utilizing the transfer station.

Operational Cost Efficiency – Score: 3

See Transfer Station Economic Feasibility Study Memo.

Compatibility with CAPCOG Plan – Score: 3

Site 5 is approximately 2,700 feet from Harmony School of Excellence, a public charter school. Other schools within 1 mile of Site 5 include Linder Elementary School and Rodriguez Elementary School both part of Austin ISD. Per CAPCOG's plan, additional coordination with these schools and Austin ISD will be required.

Impact on Surrounding Community – Score: 4

The direct neighbors of Site 5 are either municipal, commercial or vacant. The site is in proximity to a total resident population of 10,345 in 1 mile. The site is visually screened from the north by Highway 71 from the residential structures on the north side of the highway. While impossible to predict public comment, a permit at this site location does not seem likely to be contested.

Environmental Justice — Score: 2

Site 5 is at or above the 80th percentile of state and national EJ Indexes for Particulate Matter 2.5, Nitrogen Dioxide, Traffic Proximity, Hazardous Waste Proximity, and Underground Storage Tanks. Site 5 is above the 80th percentile for the national EJ Index for Ozone.

Further review of the area is recommended to determine if the area meets the definition of an EJ community that the transfer station could impact.

Appendix C

Benchmarking Survey

Transfer Station Feasibility Study
City of Austin, Texas
Benchmarking Questionnaire - City of Albuquerque

Question	Remarks
Respondent's organization (i.e. City, District, or Authority name)	City of Albuquerque
What is the approximate population served by the MSW system?	955,000 metro and surrounding area
What is the average annual MSW tonnage managed by the system?	549,503.28 average annual tonnage for the landfill
How many transfer stations does the MSW system operate?	3 Note by Parkhill: The City uses 2 transfer stations primarily as collection points, not for City collection vehicles.
What percentage of the total tonnage is managed through the transfer station(s)? (Not direct hauled to a landfill)	6667 Tons a month for all 3 transfer stations Note by Parkhill: Approximately 14% based upon the tonnage.
Is 3rd party commercially hauled waste accepted at the transfer station(s)?	Yes
If so, what percentage is from 3rd party haulers?	about 2%
If applicable, what is the transfer station tipping fee for 3rd party haulers?	same for everyone, a truck load is 64 cubic yards for trailers we measure it length X width X height divide by 64 to see how many trucks loads you get out of the trailer, charge by the truck load
Is residential self hauled waste accepted at the transfer station? Do residents use the primary tipping floor?	Yes and Yes if customer has a dump trailer only
Does the transfer station provide for waste diversion or recycling? If so, what waste streams are diverted (green waste, single stream, etc.)	bikes, green waste, metals, white goods and electronics

Transfer Station Feasibility Study
City of Austin
Benchmarking Questionnaire - City of Dallas

Question	Remarks
Respondent's organization (i.e. City, District, or Authority name)	City of Dallas, TX. Department of Sanitation Services
What is the approximate population served by the MSW system?	1.3 million
What is the average annual MSW tonnage managed by the system?	Landfill averages 1.74 millions tons annual (5500 tons/day). The three transfer stations average 280K tons MSW (1300 Tons/day) and 35-40K tons recycling annually
How many transfer stations does the MSW system operate?	Three
What percentage of the total tonnage is managed through the transfer station(s)? (Not direct hauled to a landfill)	Approx 80% run through the transfer stations, 20% direct hauls to landfill
Is 3rd party commercially hauled waste accepted at the transfer station(s)?	Yes
If so, what percentage is from 3rd party haulers?	Approx 15%
If applicable, what is the transfer station tipping fee for 3rd party haulers?	\$69.20/ton
Is residential self hauled waste accepted at the transfer station? Do residents use the primary tipping floor?	City residents are able to use the transfer stations. There are customer convenience centers available to drop off other than MSW materials (metal, recycling, E-waste/Universal waste, White goods). MSW, C&D etc. need to use the transfer station(s) tipping floor.
Does the transfer station provide for waste diversion or recycling? If so, what waste streams are diverted (green waste, single stream, etc.)	Recycling is collected at the curb and sent to either the transfer station(s) or direct haul to MRF located at the landfill property.

Transfer Station Feasibility Study
City of Austin, Texas
Benchmarking Questionnaire - NTMWD

Question	Remarks
Respondent's organization (i.e. City, District, or Authority name)	North Texas Municipal Water District
What is the approximate population served by the MSW system?	900,000
What is the average annual MSW tonnage managed by the system?	1,100,000 tons
How many transfer stations does the MSW system operate?	3
What percentage of the total tonnage is managed through the transfer station(s)? (Not direct hauled to a landfill)	60%
Is 3rd party commercially hauled waste accepted at the transfer station(s)?	Yes
If so, what percentage is from 3rd party haulers?	2%
If applicable, what is the transfer station tipping fee for 3rd party haulers?	\$70/ton
Is residential self hauled waste accepted at the transfer station? Do residents use the primary tipping floor?	Yes, it is accepted. Residents use a seperated portion of the tipping floor at our newest transfer station. Residents do not go inside the other two TS due to the design. It is prefered that they unload inside to avoid windblown trash.
Does the transfer station provide for waste diversion or recycling? If so, what waste streams are diverted (green waste, single stream, etc.)	Used oil, tires, and metal are collected for recycling. Our Custer TS has a wood grinding operation that hauls the material offsite to be composted.

Transfer Station Feasibility Study
City of Austin, Texas
Benchmarking Questionnaire - SCSWA

Question	Remarks
Respondent's organization (i.e. City, District, or Authority name)	South Central Solid Waste Authority, City of Las Cruces, Dona Ana County
What is the approximate population served by the MSW system?	225,000
What is the average annual MSW tonnage managed by the system?	200,000 tons
How many transfer stations does the MSW system operate?	2 permitted transfer stations with 3rd in development
What percentage of the total tonnage is managed through the transfer station(s)? (Not direct hauled to a landfill)	Approx. 70 percent
Is 3rd party commercially hauled waste accepted at the transfer station(s)?	yes
If so, what percentage is from 3rd party haulers?	100 percent SCSWA does not haul MSW to our transfer station. Our partner, the City of Las Cruces does bring in about 58% of the Transfer Station Waste.
If applicable, what is the transfer station tipping fee for 3rd party haulers?	62.92/ ton
Is residential self hauled waste accepted at the transfer station? Do residents use the primary tipping floor?	Yes. No we have a surge pit and they have a designated side.
Does the transfer station provide for waste diversion or recycling? If so, what waste streams are diverted (green waste, single stream, etc.)	Not the Transfer Station. We have a recycling center drop off center next door. We take single stream recycling, HHW, and scrap metal.