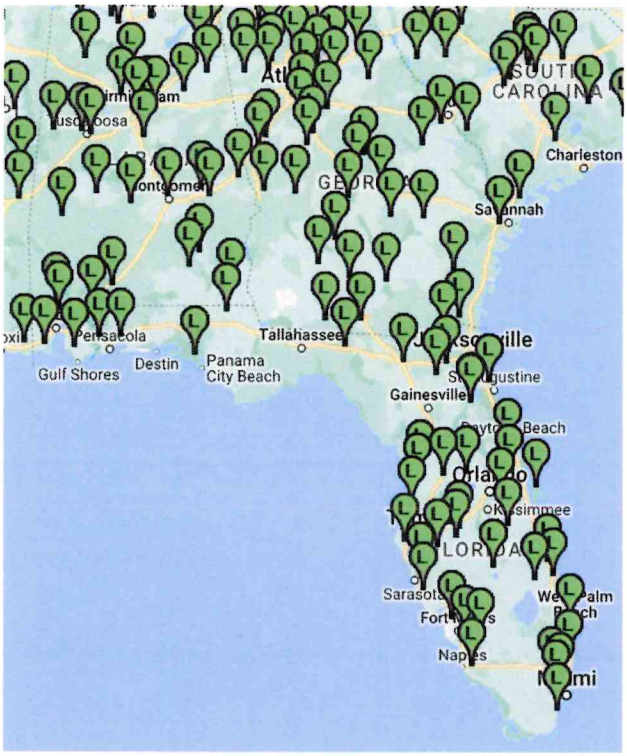
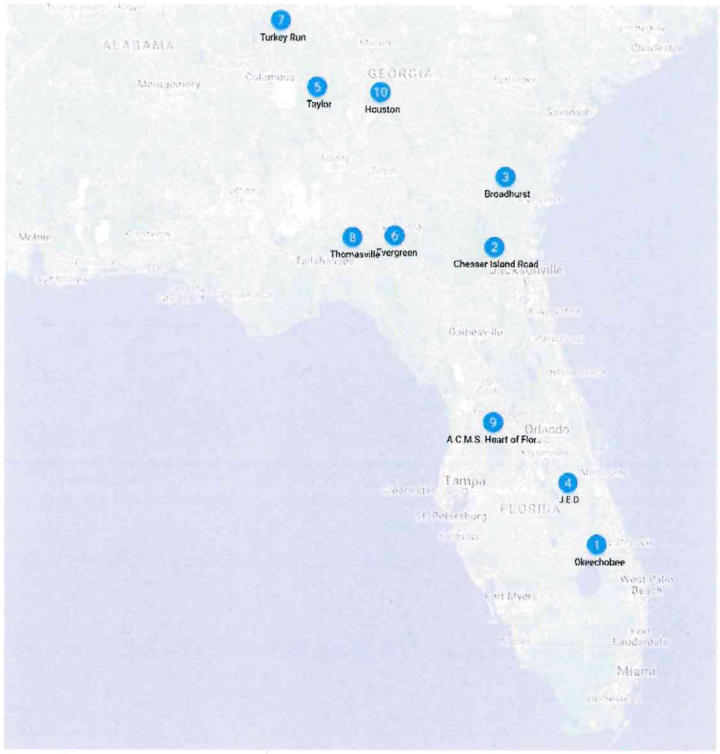
Most Responsible Landfill Options for Miami-Dade County

January 24, 2025



Operating Landfills in the Southeastern U.S. (ejmap.org)



Most responsible landfill options for Miami-Dade County

Analysis of 63 Florida and Georgia landfills examining:

- Transportation Distance / Rail Access / Cost
- Available capacity
- Population impacted
- Environmental justice impacts
- Environmental compliance
- Landfill ownership
- Landfill gas management methods
- Rainfall (affecting landfill gas generation)
- Future availability as incinerators retire
- Acceptance of out-of-county municipal waste

Commissioned by The Goldstein Environmental Law Firm, P.A., on behalf of the City of Miramar, Florida

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An online copy of this report is available at:
www.energyjustice.net/fl/landfills.pdf

BACKGROUND

Currently, and for the foreseeable future, Miami-Dade County's trash is going to landfills. It is important to pick the most responsible landfills while working to reduce landfilling impacts through Zero Waste management practices.

Incinerators (so called "waste-to-energy" or "WTE" facilities) do not replace landfills. For every 100 tons burned in an incinerator, close to 30 tons of toxic ash are produced which are then landfilled. Incineration makes landfills more toxic by making toxic chemicals in waste more available to be inhaled or ingested through air and water releases. This takes place when toxic elements like heavy metals in waste are spread into the air and also concentrated in fine ash that can blow off of trucks and off of the surface of a landfill, and can also impact groundwater more readily. Incineration also creates new toxic chemicals in the combustion process, including acid gases and highly toxic dioxins and furans which are both emitted into the air and concentrated in the ash. Incineration causes landfills to be smaller, but more toxic.

The most comprehensive life cycle assessments of waste systems have shown that incineration (and landfilling ash) is 2-3 times more harmful for human health and the environment (including climate impacts) than landfilling waste directly without burning it first.[1]

Miami-Dade County residents, businesses and tourists produce about 3.5 million tons of municipal solid waste (MSW) per year after recycling about 840,000 tons. Before the county's trash incinerator in Doral burned down in February 2023, it was burning about 520,000 tons per year, and the county was landfilling close to 3 million tons per year. It is unclear from state reporting data whether this landfilling figure includes the 150,000 tons of ash that would result from the 520,000 tons of trash burned at the incinerator.

If the county were to build a 4,000 ton/day trash incinerator, as is proposed, this would be the largest in the nation and would be capable of burning 40% of the annual tonnage currently being generated in Miami-Dade County. As the incinerator would take about 10 years to build, this percentage could change in either direction depending on waste generation trends and waste reduction policies and programs. Currently, the county is responsible for managing 40% of the county's waste generation, while the other 60% is managed by the private sector.

No new trash incinerator has been successfully sited, financed, constructed, and operated at a new site in the U.S. since 1995, despite hundreds of attempts. The building of a second incinerator adjacent to the existing incinerator at West Palm Beach, Florida is a rare exception where a new, expanded, or rebuilt incinerator was developed where an operating incinerator exists.

Even if Miami-Dade County were to succeed in being the first to build a new trash incinerator at a new site in the U.S. in 3-4 decades, the proposed incinerator would handle only 40% of the county's current annual waste generation. The other 60% (about 2 million tons/year currently handled by the

[1] "Life Cycle Analysis: Incineration vs. Landfilling vs. Zero Waste," Appendix to Zero Waste Plan for Delaware County, Pennsylvania, 2024. https://www.energyjustice.net/files/incineration/DelcoLCA.pdf

private sector) would still need to go to landfills, as would the toxic ash from the waste burned at any new incinerator (about 400,000 tons/year). Even after building the nation's largest incinerator, with operation starting around 2035, the county will need a landfill location for about 2.5 million tons of waste per year for the remaining trash plus the incinerator's ash. Until then, the county will be landfilling the 3.5 million tons/year generated until Zero Waste efforts are implemented to reduce this amount.

While landfills are needed, even with a large incinerator, some existing ones are better than others, and county contracts can also move private landfill operators toward better landfill management practices in line with the Zero Waste Hierarchy.[2]

Building a new landfill in Miami-Dade County is also an option, but is not recommended for a few reasons. First, developing a new landfill is quite costly, though not as costly as a new incinerator. The large public investment required could go much further if invested in waste reduction, reuse, recycling and composting strategies that are higher in the Zero Waste Hierarchy. A new landfill is also a poor choice because it risks contaminating a new location, as opposed to utilizing existing landfills. Finally, Miami-Dade County, especially at the South Dade landfill site, faces flood risks from global warming and related extreme weather events that are becoming more common.

In evaluating the best landfills for Miami-Dade County's use, we examined the 63 landfills in Florida and Georgia, as far north as Atlanta. We looked at 18 metrics and grouped them into ten criteria that we weighted and combined into a single score with which to rank the most preferred landfills. The ten criteria are:

1. Transportation Distance / Rail Access / Cost
2. Available capacity
3. Population impacted
4. Environmental justice impacts
5. Environmental compliance
6. Landfill ownership
7. Landfill gas management methods
8. Rainfall (affecting landfill gas generation)
9. Future availability as incinerators retire
10. Acceptance of out-of-county municipal solid waste

The tenth criteria ruled out many landfills that do not accept municipal solid waste (MSW) from outside of their county or a small group of counties, reducing the 63 potential landfills to 30 that will be summarized in the following review of evaluation metrics.

1. Transportation Distance / Rail Access / Cost

Transportation distance and cost are related factors. A greater transportation distance can be a major factor in total cost of disposal, especially when fuel prices are high. Three options for transportation were evaluated: 1) trucking while avoiding toll roads, 2) trucking using available toll roads, and 3) rail.

[2] "Zero Waste Hierarchy," Zero Waste International Alliance. http://www.zwia.org/zwh

Miami-Dade County has three trash transfer stations: Northeast, Central, and West.[3] To standardize the transportation distance analysis, the trucking distance to landfills was measured with Google Maps from the Central Transfer Station at 1150 NW 20th St, Miami, FL 33127.

Toll roads were an option for 22 of the 30 eligible landfills. For ten of those, the difference in distance was under ten miles, most of them actually a longer distance than taking non-toll roads. Another 11 landfills had toll road distances that were 24-33 miles shorter than the non-toll route. One landfill (Toombs County, GA) had a toll route that cut out 66 miles compared to the non-toll route. All of these are one-way distances.[4]

Rail transportation cuts transportation emissions by about half, but severely limits available landfill options, as few landfills have rail service. Only one landfill in Florida and Georgia has rail access. This is the Taylor County Landfill in Mauk, GA, which is served by CSX.[5]

Distance was scored using the non-toll routes such that a road miles distance of 400 miles one-way would be a score of zero, and longer distances would produce a negative score up to -1.4. Shorter distances earned closer landfills a positive score up to 2.0.

Data on transportation distance, rail access, and tip fees is available in Table 3.

a) Transportation emissions

Transportation distance to reach out-of-county landfills is not a significant environmental concern, as several life cycle assessment studies have shown, because the emissions from truck or rail transport are tiny relative to the emissions from landfills themselves, and even tinier relative to the much larger emissions from incineration.[6]

For example, the following chart shows an analysis of in-county incineration vs. ten out-of-state landfill options for Montgomery County, Maryland. Transportation climate impacts (by truck in blue or rail in black) are minor compared to incineration (red) or landfilling (yellow). The last bar represents the status quo, where waste is brought 18 miles by rail from the county's transfer station to their incinerator within the county, and then the ash brought much further (112 miles) to a landfill in Virginia, also by rail. All of the rail transportation is included in the black line capping the red bar which shows the greenhouse gas (GHG) emissions from the incinerator itself. The GHG emissions from the ten landfills are all represented in yellow, with all available by truck and a few also available

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[3] Miami-Dade County Solid Waste Management Department, "Regional Transfer Stations." https://www.miamidade.gov/global/service.page?Mduid_service=ser1464808248005568

[4] When evaluating trucking impacts, the return trips are not as fuel-intensive because long-haul trucks are returning empty and weigh much less.

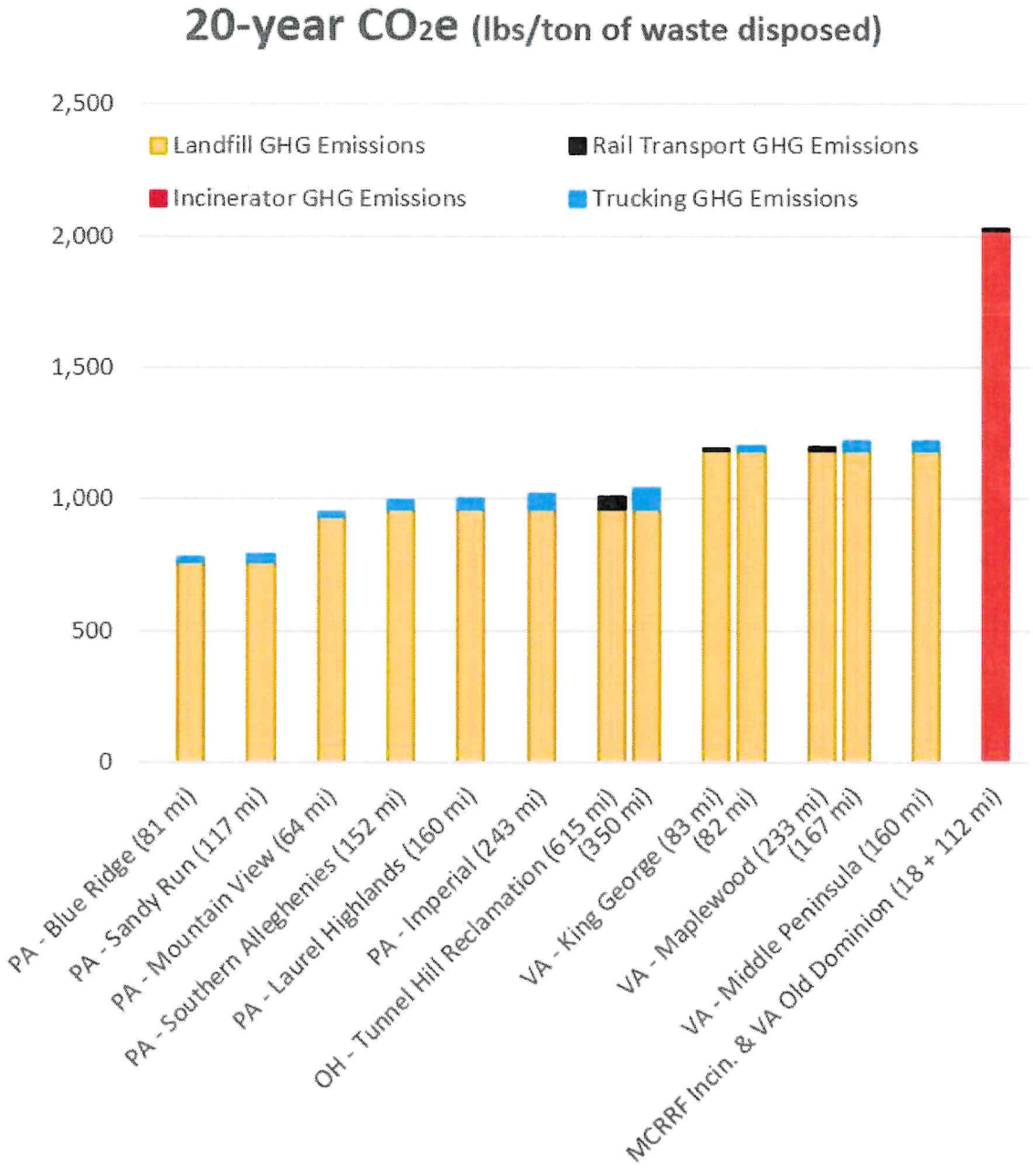
[5] https://www.csx.com/index.cfm/customers/commodities/waste/maps-locations/municipal-and-consumer-waste-map/ Note that only CSX and minor or passenger rail carriers service Miami-Dade County, so other major rail corporations offering waste disposal services are not operating in the region. See rail carrier map here: https://www.arcgis.com/apps/mapviewer/index.html?webmap=96ec03e4fc8546bd8a864e39a2c3fc41

[6] "Beyond Incineration: Best Waste Management Strategies for Montgomery County, Maryland," Zero Waste Montgomery County. See Life Cycle Assessment results in Chapter 7. https://www.energyjustice.net/md/moco

by rail. The round-trip GHG emissions from these diesel truck and train trips are represented with the blue and black lines showing slightly greater emissions for the longer distances.

The striking conclusion from this and similar studies is that no realistic transportation distance can use trucking emissions to justify incinerating in-county over transporting trash to distant landfills, as the gap between incineration and landfilling is so great that a truck would have to drive from the east coast to California and back to come close to closing the emissions gap.

Montgomery County, MD GHG analysis of incineration vs. landfill options



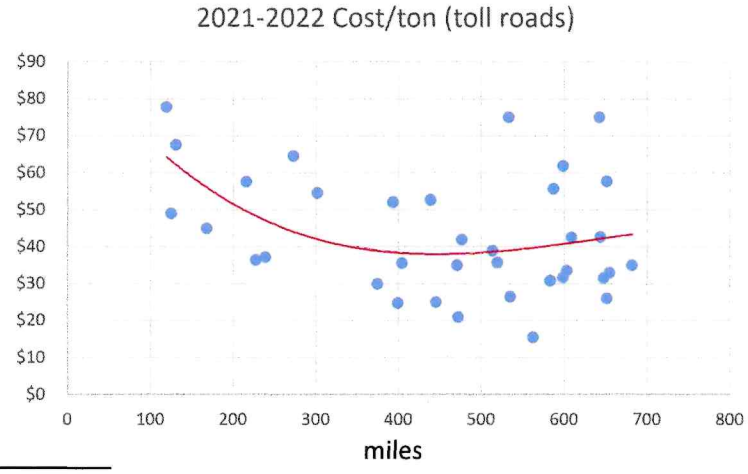
These results showing transportation impacts to be relatively minor have been reproduced in waste studies done for Delaware County, PA[7], Hawai'i County, HI[8], and Washington, DC, as well as studies of food systems.[9]

b) Transportation costs

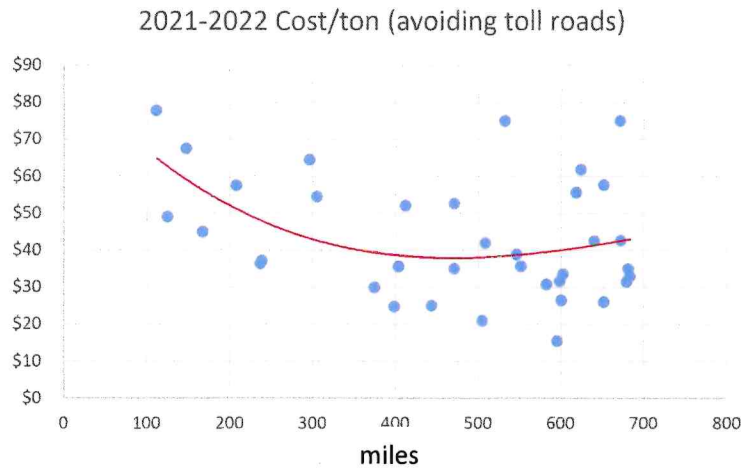
Transportation distance can be a cost concern due to fuel prices, tire and truck wear, and driver turnaround time. The cost of transportation can be about as significant as landfill tipping fees. Landfill tipping fees get cheaper in Georgia compared to Central or North Florida, though, somewhat mitigating the cost of transportation.

Unfortunately, one cannot get reliable tipping fee data for landfills without issuing a Request for Proposals (RFP). Some large waste corporations will not provide quotes and will not respond to a Request for Information, but will provide bids in response to a competitive RFP. Generally, landfills will offer lower tip fees for long-term contracts and larger volumes.

Tip fee data for some landfills can be found through the EREF Tip Fee Report.[10] There is also tip fee data for Georgia's landfills available through the GEOS system via Georgia's Department of Natural Resources, Environmental Protection Division.[11] This data is gate fee prices, which tend to be higher than what can be obtained with a long-term county contract. While the data was not complete enough to be able to assess all 30 landfills, there is a trendline where greater distance from Miami lowers the average tip fee until approaching Atlanta, where prices start to rise a bit. Using 2022 data from EREF's report and filling in gaps with 2021 data from GEOS, the tipping fee trend is apparent and linked to distance from Miami (and Atlanta). The cheapest landfills are in the 375 to 600 miles range.



[7] See summary chart in page 7 here: https://www.energyjustice.net/files/incineration/DelcoLCA.pdf
[8] Parametrix, Life Cycle Assessment Technical Memorandum, Feb. 20, 2023. https://drive.google.com/file/d/1tdhufZvfyXM64OnU7Z9Bdfts-_xoptaq/view
[9] Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. Science, 360(6392), 987-992. http://www.researchgate.net/publication/325532198 Chart from: http://www.ourworldindata.org/food-choice-vs-eating-local
[10] "2022 Tip Fee Report," Environmental Research & Education Foundation. https://erefdn.org/analyzing-municipal-solid-waste-landfill-tipping-fees/
[11] "Georgia EPD Online System (GEOS) for Permitting, Compliance and Facility Information." https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx



2. Available capacity

Available capacity is one of the most important criteria, but is also ever-changing as landfills tend to expand over time. Data from EPA's Landfill Methane Outreach Program[12] provides the design capacity for most landfills, the amount of waste already in place, the amount landfilled in 2022, and the expected year of closure. From these, remaining capacity and remaining years were calculated for all landfills. Landfills earned scores of zero to four based on tons of remaining capacity, on having projected closure years after 2050, and on having more than 30 years of calculated capacity remaining based on current rates of waste acceptance.

Pending landfill expansion data is not readily available and could not be factored in. However, it should be noted that landfills that seem like they are out of capacity soon are likely in the process of obtaining permits for expansion. For example, the landfill that scored 9th highest in this analysis (A.C.M.S. / Heart of Florida Landfill in Sumter County, FL) has a zero score for capacity with only about 11 million tons of capacity remaining, which would last 10-12 years. However, that landfill would score 3rd or 4th once their proposed 60-acre expansion is approved.[13]

Capacity data is available in Table 4.

3. Population impacted

Landfills are not the best neighbors. As with trash incinerators, landfills often bring odors, truck traffic, dust, and pests, lower property values, and release air emissions that can increase risks of cancer and other health impacts among those closeby. Landfills such as those in Broward and Miami-Dade Counties are surrounded by large populations (a few with over 100,000 residents within a 3-mile radius), while more rural landfills have very few neighbors (8 of the 30 have fewer than 250 residents within a 3-mile radius, and one – J.E.D. Landfill – has zero). Landfills with greater populations scored lower in order to avoid impacting many people, with the most urban landfill scoring -4 due to the 3-

[12] Landfill Methane Outreach Program, U.S. Environmental Protection Agency. https://www.epa.gov/lmop
[13] Heart of Florida Landfill Expansion. https://www.hoflenv.com/expansion

mile population of 158,662 people. 2020 U.S. Census Data was collected using the JusticeMap feature of EJmap.org.[14]

Population data is available in Table 6.

4. Environmental justice impacts

Title VI of the Civil Rights Act requires that a recipient of federal funds, such as Miami-Dade County must not take actions that have a discriminatory effect on racial minorities. This includes not selecting communities of color to receive millions of tons of waste annually. A decision to select such a community for an incinerator or as a landfill destination would be grounds for the filing of a Title VI Civil Rights Act complaint with EPA's Office of Civil Rights.

In order to avoid violating Title VI, and to avoid environmental justice impacts by race or class, 2020 U.S. Census data was collected for a 3-mile radius around landfills using the JusticeMap feature of EJmap.org. Environmental justice scores ranged from -2 to 1.4 based on how far racial composition and median household income varied from the national averages in the 2020 U.S. Census.

Environmental justice data is available in Table 6.

5. Environmental compliance

To measure each landfill's history of compliance with environmental laws, EPA's Enforcement and Compliance History Online (ECHO) database was used to evaluate compliance with the Clean Air Act, Clean Water Act, and the Resource Conservation and Recovery Act, as well as enforcement actions within the past five years, and the number of quarters in non-compliance over the last three years. These measures were combined into a compliance score that reduced the score by as much as 2.1 for non-compliant landfills based on the severity of their non-compliance.

Environmental compliance data is available in Table 5.

6. Landfill ownership

Outside of Miami-Dade County's own public landfills, the use of public landfills owned by other counties is a risk. Most publicly-owned landfills serve only the county that owns it, or a group of counties where it's a regional partnership. These have already been excluded through criteria #10 below, but the use of public landfills that accept out-of-county waste is risky because some have been known to abruptly close their doors to out-of-county waste due to public opposition, and the same could happen when waste disposal markets tighten and the county needs the landfill space for its own use. Privately-owned landfills can more reliably be expected to welcome waste from anywhere, so they are given preference (1 point toward the score) in this analysis. Since in-county county-owned landfills are also preferable, they're given one point as well.

[14] JusticeMap, EJmap.org. https://ejmap.org/justice/

A smaller preference in the scoring (0.5) was given to landfills owned by smaller waste corporations outside of the two large waste disposal monopolies, since supporting a diversity of players in the market enhances competition and should help keeps costs at all landfills lower than where monopolistic practices enable landfill owners to charge higher tip fees.

Ownership data is available in Table 2.

7. Landfill gas management methods

Landfill impacts can vary based on how landfill gas is managed. Landfill gas is about half methane, half CO_2, and is contaminated with hundreds of toxic chemicals. Because of the toxicity of the contaminants, modern landfills are required to capture the gas. Historically that involved flaring off the gas, but many landfills now burn the captured gas for energy. Some inject into gas pipelines or use it to fuel gas-powered vehicles.

Most landfills now collect their gas, and those which burn for energy, particularly with internal combustion engines, are far more polluting than those which flare their gas. There are also concerns with how landfills are managed when operators seek to produce energy by maximizing gas generation, and manipulating the landfill in order to increase the proportion of methane in the gas. These practices reduce gas collection efficiency and cause more gas to escape than if the landfill were simply flaring its gas and managing to minimize gas formation and maximize gas collection.[15]

Scores were assigned based on landfill gas management practices, with a negative score for those that do not have gas capture systems in place, and with varying scores for how captured gas is burned, as follows:

Scoring:

1 = Flaring
0.85 = Direct thermal combined with flaring
0.7 = Cogeneration
0.5 = Pipeline injection, vehicle fuel, or leachate evaporation
0 = Internal combustion engines, gas turbines, or steam turbines
-1 = No gas collection system installed

Landfills using leachate recirculation, which keeps the landfill wet by cycling the leachate back into the landfill, causing more gas generation, were penalized with a score of -0.5 to -1 based on the frequency of leachate recirculation.

Landfill gas management data is available in Table 5.

[15] See links to resources on landfill gas emissions in the top and sidebar at https://www.energyjustice.net/lfg and recommendations for better landfill management in the Zero Waste Hierarchy at https://www.energyjustice.net/zerowaste/hierarchy

8. Rainfall

Rainfall impacts landfill gas generation. Less rainfall means less gas generation, reduced leachate, and fewer odor problems.

Multiple rainfall maps were used to evaluate differences in rainfall for each landfill community.[16]

Scoring:

0.2 = 40.1-50 inches/year (light)
0.1 = close to the boundary between 40.1-50 and 50.1-60 inches/year (medium-light)
0 = 50.1-60 inches/year (medium)
-0.2 = 60.1-70 inches/year (high)

Rainfall scores are available in Table 5.

9. Future availability as incinerators retire

A few landfills (which wouldn't have been among the top dozen scoring landfills, anyway) were scored lower because they exist in areas where the waste market is likely to be tight due to proximity to aging trash incinerators. Except for the new incinerator at West Palm Beach, the state's nine trash incinerators are past their prime. These eight older incinerators are between 30 and 42 years old, averaging 36 years. Of the 52 commercial trash incinerators in the U.S. that have closed since 2000, their average age at closure is just 25 years.[17] It's rare that incinerators make it past the age of 40. As these incinerators continue to close as they reach their end of life, area landfill capacity will be needed to absorb that waste. Because of this, public landfills in Broward, Polk, and Manatee Counties were scored lower because the county hosts an old incinerator (-2) or sits adjacent to a county that does (-1).

Scoring for proximity to aging incinerators is in Table 3.

10. Acceptance of out-of-county municipal solid waste

Of the 63 potential landfills evaluated (all of those in Florida, and landfills in Georgia as far north as Atlanta), 33 were of them were eliminated from consideration because they are not accepting out-of-county municipal solid waste. Nearly all of these are publicly-owned landfills.

This was determined using state environmental agency databases and reports on waste types and tonnages accepted at each facility. These reports include the county-of-origin, making it possible to screen out those that are not accepting out-of-county MSW.

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[16] National Oceanic and Atmospheric Association. https://www.climate.gov/media/13728; http://upload.wikimedia.org/wikipedia/commons/d/d3/Average_precipitation_in_the_lower_48_states_of_the_USA.png; Florida Average Yearly Rainfall. https://www.eldoradoweather.com/climate/us-states/florida-average-rainfall.html; Georgia Average Yearly Rainfall. https://www.eldoradoweather.com/climate/us-states/georgia-average-rainfall.html

[17] "Incinerator Closures 2000-2024," Energy Justice Network. https://www.energyjustice.net/incineration/closures.pdf

CONCLUSIONS

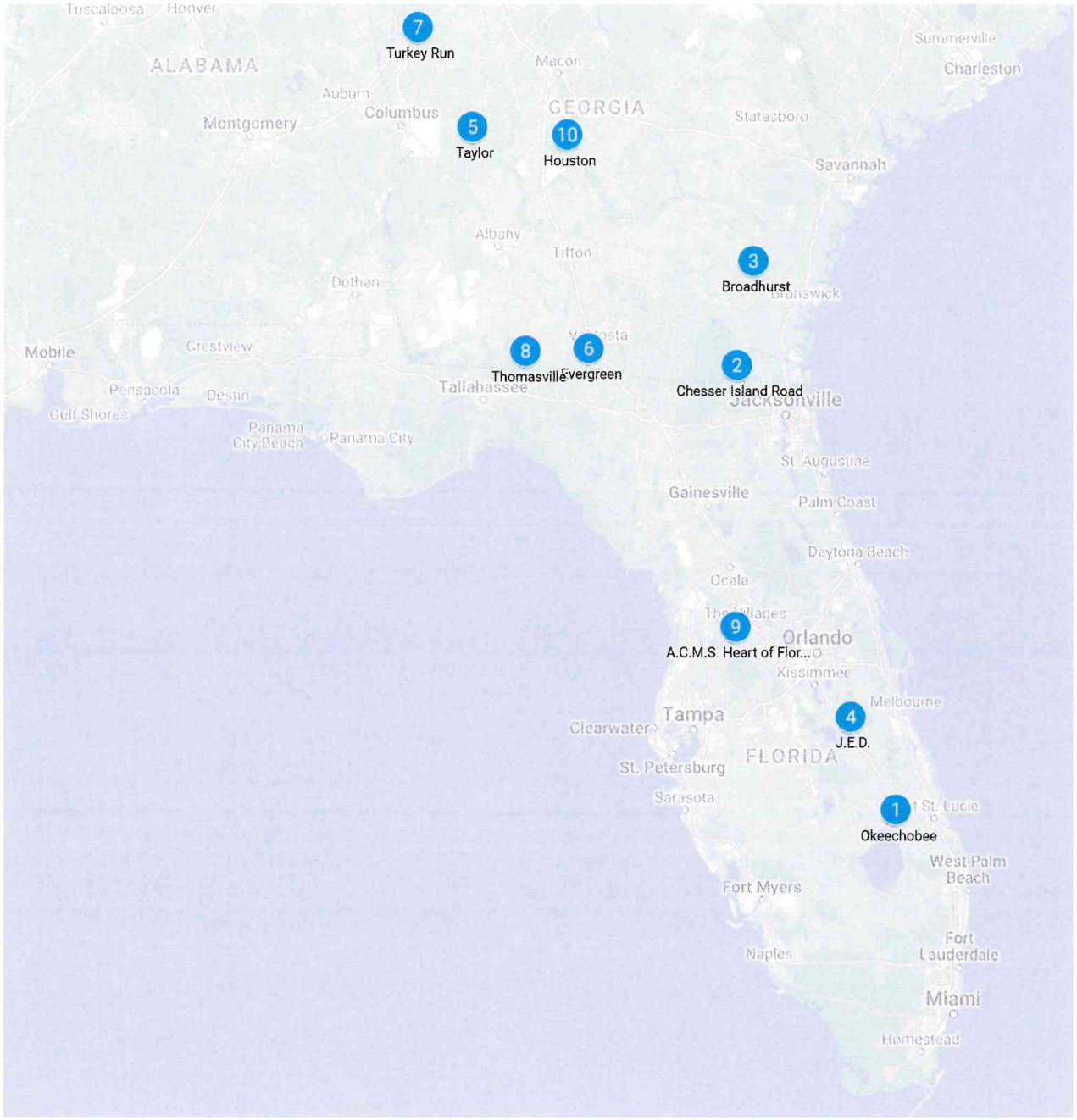
There are many viable landfills available as options for Miami-Dade County, some better than others. Okeechobee Landfill scored highest when combining all of the metrics outlined in this report, followed by Chesser Island and Broadhurst Landfills in Georgia, J.E.D. Landfill in Osceola County, FL, and Taylor County Landfill rounding out the top five. Okeechobee Landfill excelled largely due to its large available capacity, but also happens to be the closest of the top ten. J.E.D. Landfill is notable as the only one with no one living within three miles, yet it's also the one with the worst environmental compliance track record. A.C.M.S. Landfill came in 10th largely for its lack of capacity, but is in the process of expanding, which could elevate it to 3rd of 4th place among the options.

All three operating landfills in Miami-Dade County ranked poorly due to lack of capacity, proximity to large populations of nearby residents, being located in environmental justice communities (where a county decision to expand the landfill would be vulnerable to a legal complaint under Title VI of the Civil Rights Act), and/or long-term flood risk.

Below is a map of the top ten landfill options, followed Table 1, which summarizes the scores, and Tables 2-6 which provide the details on each landfill, much of which fed into the scores they received. All tables are sorted according to the scores in Table 1.

We recommend that Miami-Dade County issue separate requests for proposals (RFP) for hauling and disposal. Long-term contracts get lower prices from landfills. Criteria such as those used in this analysis should be used to score proposals for different landfills. No "put-or-pay" clause or minimum commitment of waste should be in disposal contracts, as it will stand in the way of Zero Waste efforts.

Top 10 Landfill Options for Miami-Dade County



View this map online here:
https://www.google.com/maps/d/u/0/viewer?mid=1CS9OuxPG41pOintuduLMLveFJiKKxlw

View maps of all landfills in Florida and Georgia here:
https://ejmap.org/Florida (choose layers: Landfill - Operating & Expand)
https://ejmap.org/Georgia (choose layers: Landfill - Operating & Expand)

Table 1: Top Scoring Landfills in Florida and Georgia

St	County	Landfill	Takes out-of-county MSW	RAINFALL SCORE	Close to incinerators	LANDFILL GAS MGMT SCORE	CAPACITY SCORE	OWNERSHIP SCORE	DISTANCE SCORE	RAIL ACCESS (CSX)	COMPLIANCE SCORE	POPULATION SCORE	EJ SCORE	OVERALL SCORE	RANK
FL	Okeechobee	Okeechobee / Berman Road Landfill	Y	0.2		0.5	4	1	1.4	0	0.0	0.00	0.1	7.2	1
GA	Charlton	Chesser Island Road Landfill	Y	0		1	3	1	0.0	0	0.0	0.00	1.1	6.1	2
GA	Wayne	Broadhurst Environmental Landfill	Y	0.1		1	3	1	-0.2	0	0.0	0.00	0.7	5.6	3
FL	Osceola	J.E.D. Solid Waste Management Facility	Y	0.1		-0.5	3	1.5	1.0	0	-2.1	0.00	1.0	4.0	4
GA	Taylor	WI Taylor County Disposal, LLC	Y	0.2		-1	1.5	1.5	-1.1	1	0.0	0.00	0.5	2.6	5
GA	Lowndes	Evergreen / Pecan Row Landfill	Y	0		0	2	1	-0.4	0	0.0	-0.06	-0.1	2.5	6
GA	Meriwether	Turkey Run Landfill	Y	0		0.3	2.5	1	-1.4	0	0.0	-0.02	0.1	2.4	7
GA	Thomas	City of Thomasville MSW Landfill	Y	0		1	1	0	-0.5	0	0.0	-0.08	0.4	1.8	8
FL	Sumter	A.C.M.S. / Heart of Florida Environmental	Y	0.1		-1	0	1.5	0.5	0	0.0	-0.04	0.6	1.7	9
GA	Houston	Houston County SR247 MSW Landfill	Y	0.2		-0.7	2	0	-1.0	0	0.0	0.00	0.8	1.3	10
GA	Twiggs	Wolf Creek Landfill	Y	0.2		0	2	1	-1.1	0	0.0	0.00	-1.0	1.1	11
FL	Jackson	Springhill Regional Landfill	Y	0		-0.2	2.5	1	-1.0	0	-0.1	-0.01	-1.3	1.0	12
FL	Miami-Dade	South Dade Solid Waste Disposal Facility	(N)	0		1	0	1	1.9	0	0.0	-1.43	-1.6	0.9	13
FL	Orange	Orange County Solid Waste Landfill	Y	0.1		0	1.5	0	0.8	0	-0.5	-0.36	-0.8	0.8	14
FL	Manatee	Manatee County / Lena Road Landfill	Y	0	-1	0.85	0	0	0.8	0	-1.0	-0.67	1.4	0.4	15
GA	Butts	Pine Ridge Landfill	Y	0		0	0	1	-1.3	0	0.0	-0.05	0.5	0.2	16
FL	Volusia	Tomoka Farms Road Landfill	Y	0.1		1	0	0	0.7	0	-1.8	-0.10	0.2	0.2	17
GA	Dougherty	Fleming/Gaissert Road Landfill	Y	0		0.7	2	0	-0.7	0	-1.4	-0.03	-0.5	0.1	18
GA	Crisp	Crisp County Landfill	Y	0.2		-2	2	0	-0.8	0	0.0	-0.01	0.5	-0.1	19
FL	Polk	North Central Landfill	Y	0.2	-1	-0.2	0	0	0.8	0	0.0	-0.22	0.3	-0.1	20
FL	Union	New River Regional Landfill	Y	0		-0.5	0	0	0.1	0	0.0	-0.07	0.0	-0.5	21
FL	Santa Rosa	Santa Rosa Central LF	Y	-0.2		1	1	0	-1.4	0	-1.7	-0.31	0.7	-0.9	22
GA	Atkinson	Atkinson County - SR 50 MSW Landfill	Y	0.1		-1.7	0	0	-0.3	0	0.0	-0.01	0.8	-1.2	23
GA	Camden	Camden County SR 110 MSW Landfill	Y	0		-1	0	0	0.0	0	-1.1	0.00	0.6	-1.5	24
GA	Toombs	Toombs County MSW Landfill	Y	0.2		-1	0	0	-1.0	0	-0.2	-0.03	0.2	-1.8	25
FL	Miami-Dade	North Dade Landfill	(N)	0		1	0	1	1.9	0	0.0	-3.97	-2.0	-2.1	26
FL	Madison	Aucilla Area Solid Waste Facility	Y	0		-2	1	0	-0.4	0	0.0	-0.03	-1.0	-2.4	27
FL	Broward	Monarch Hill Landfill	Y	0	-2	0	0	1	1.8	0	0.0	-2.50	-0.8	-2.5	28
GA	Lamar	Cedar Grove Landfill	Y	0		-1.5	0	0	-1.3	0	-0.1	-0.05	0.3	-2.6	29
FL	Miami-Dade	Medley Landfill	(Y)	0		0.5	0	1	2.0	0	-1.0	-3.43	-1.7	-2.6	30

Min	**-0.2**	**-2**	**-2**	**0**	**0**	**-1.4**	**0**	**-2.1**	**-4**	**-2.0**	**-2.6**	
Max	**0.2**	**-1**	**1**	**4**	**1.5**	**2.0**	**1**	**0**	**0**	**1.4**	**7.2**	
Range (weight)	**0.4**	**1**	**3**	**4**	**1.5**	**3.4**	**1**	**2.1**	**4**	**3.4**	**9.8**	

Table 2: Landfill Location & Ownership

RANK	St	County	Landfill	Landfill Owner	Ownership Type	Ownership	Smaller company	OWNERSHIP SCORE
1	FL	Okeechobee	Okeechobee / Berman Road Landfill	WM	Private	1		1
2	GA	Charlton	Chesser Island Road Landfill	WM	Private	1		1
3	GA	Wayne	Broadhurst Environmental Landfill	Republic Services, Inc.	Private	1		1
4	FL	Osceola	J.E.D. Solid Waste Management Facility	Waste Connections, Inc.	Private	1	0.5	1.5
5	GA	Taylor	WI Taylor County Disposal, LLC	GFL Environmental USA Inc.	Private	1	0.5	1.5
6	GA	Lowndes	Evergreen / Pecan Row Landfill	WM	Private	1		1
7	GA	Meriwether	Turkey Run Landfill	WM	Private	1		1
8	GA	Thomas	City of Thomasville MSW Landfill	City of Thomasville, GA	Public			0
9	FL	Sumter	A.C.M.S. / Heart of Florida Environmental	Waste Connections, Inc.	Private	1	0.5	1.5
10	GA	Houston	Houston County SR247 MSW Landfill	Houston County Board of Commissioners, GA	Public			0
11	GA	Twiggs	Wolf Creek Landfill	WM	Private	1		1
12	FL	Jackson	Springhill Regional Landfill	WM	Private	1		1
13	FL	Miami-Dade	South Dade Solid Waste Disposal Facility	Miami-Dade County, FL	Public	1		1
14	FL	Orange	Orange County Solid Waste Landfill	Orange County Utilities, Solid Waste Division, FL	Public			0
15	FL	Manatee	Manatee County / Lena Road Landfill	Manatee County, FL	Public			0
16	GA	Butts	Pine Ridge Landfill	Republic Services, Inc.	Private	1		1
17	FL	Volusia	Tomoka Farms Road Landfill	Volusia County, FL	Public			0
18	GA	Dougherty	Fleming/Gaissert Road Landfill	Dougherty County Solid Waste Department, GA	Public			0
19	GA	Crisp	Crisp County Landfill	Crisp County, GA	Public			0
20	FL	Polk	North Central Landfill	Polk County Board of County Commissioners, FL	Public			0
21	FL	Union	New River Regional Landfill	New River Solid Waste Association, FL	Public			0
22	FL	Santa Rosa	Santa Rosa Central LF	Santa Rosa County, FL	Public			0
23	GA	Atkinson	Atkinson County - SR 50 MSW Landfill	Atkinson County, GA	Public			0
24	GA	Camden	Camden County SR 110 MSW Landfill	Camden County, GA	Public			0
25	GA	Toombs	Toombs County MSW Landfill	Toombs County, GA	Public			0
26	FL	Miami-Dade	North Dade Landfill	Miami-Dade County, FL	Public	1		1
27	FL	Madison	Aucilla Area Solid Waste Facility	Aucilla Area Solid Waste Administration, FL	Public			0
28	FL	Broward	Monarch Hill Landfill	WM	Private	1		1
29	GA	Lamar	Cedar Grove Landfill	Lamar County, GA	Public			0
30	FL	Miami-Dade	Medley Landfill	WM	Private	1		1

Table 3: Landfill Location, Tipping Fees, Distance, Rail Access, and Proximity to Aging Incinerators

RANK	St	County	Landfill	2022 Tipping fee ($/ton)	2021 Tipping fee ($/ton)	Distance (toll)	Distance (non-toll)	DISTANCE SCORE	RAIL ACCESS (CSX)	Close to incinerators
1	FL	Okeechobee	Okeechobee / Berman Road Landfill			128	130	1.4		
2	GA	Charlton	Chesser Island Road Landfill	$35.61		n/a	404	0.0		
3	GA	Wayne	Broadhurst Environmental Landfill		$25.00	445	444	-0.2		
4	FL	Osceola	J.E.D. Solid Waste Management Facility			190	199	1.0		
5	GA	Taylor	WI Taylor County Disposal, LLC		$55.59	587	619	-1.1	1	
6	GA	Lowndes	Evergreen / Pecan Row Landfill		*$52.57*	439	471	-0.4		
7	GA	Meriwether	Turkey Run Landfill		$34.98	n/a	682	-1.4		
8	GA	Thomas	City of Thomasville MSW Landfill		$21.00	472	505	-0.5		
9	FL	Sumter	A.C.M.S. / Heart of Florida Environmental	$64.47		273	297	0.5		
10	GA	Houston	Houston County SR247 MSW Landfill		$15.50	563	596	-1.0		
11	GA	Twiggs	Wolf Creek Landfill		*$61.83*	599	625	-1.1		
12	FL	Jackson	Springhill Regional Landfill			565	595	-1.0		
13	FL	Miami-Dade	South Dade Solid Waste Disposal Facility			29.4	23.6	1.9		
14	FL	Orange	Orange County Solid Waste Landfill	$37.10		n/a	239	0.8		
15	FL	Manatee	Manatee County / Lena Road Landfill			239	232	0.8		-1
16	GA	Butts	Pine Ridge Landfill		$57.75	n/a	652	-1.3		
17	FL	Volusia	Tomoka Farms Road Landfill			253	259	0.7		
18	GA	Dougherty	Fleming/Gaissert Road Landfill		$38.97	514	547	-0.7		
19	GA	Crisp	Crisp County Landfill		$35.75	520	552	-0.8		
20	FL	Polk	North Central Landfill	$36.50		228	237	0.8		-1
21	FL	Union	New River Regional Landfill			n/a	389	0.1		
22	FL	Santa Rosa	Santa Rosa Central LF			655	687	-1.4		
23	GA	Atkinson	Atkinson County - SR 50 MSW Landfill	$35.00		471	468	-0.3		
24	GA	Camden	Camden County SR 110 MSW Landfill	$24.74		399	398	0.0		
25	GA	Toombs	Toombs County MSW Landfill		$26.50	535	601	-1.0		
26	FL	Miami-Dade	North Dade Landfill			n/a	18	1.9		
27	FL	Madison	Aucilla Area Solid Waste Facility			443	472	-0.4		
28	FL	Broward	Monarch Hill Landfill			n/a	38.9	1.8		-2
29	GA	Lamar	Cedar Grove Landfill		$26.00	n/a	652	-1.3		
30	FL	Miami-Dade	Medley Landfill			14.3	9.9	2.0		

Italicized prices are an average over the year.

Table 4: Landfill Open and Projected Closure Years, Capacity and Waste Acceptance Data

RANK	Landfill	Year Landfill Opened	Landfill Closure Year	Landfill Design Capacity (tons)	Waste in Place (tons)	Remaining capacity (tons)	Annual Waste Acceptance Rate (2022 tons)	Remaining years calculated	Remaining capacity	Closure year > 2050	30+ remaining years	CAPACITY SCORE
1	Okeechobee / Berman Road Landfill	1981	2078	241,553,464	37,538,675	204,014,789	2,203,649	91	2	1	1	4
2	Chesser Island Road Landfill	1992	2061	77,840,654	21,482,339	56,358,315	1,455,159	37	1	1	1	3
3	Broadhurst Environmental Landfill	1993	2165	64,334,141	14,363,827	49,970,314	338,550	146	1	1	1	3
4	J.E.D. Solid Waste Management Facility	2004	2056	86,351,655	27,923,508	58,428,147	1,277,541	44	1	1	1	3
5	WI Taylor County Disposal, LLC	1989	2037	51,117,057	18,300,772	32,816,285	360,826	89	0.5		1	1.5
6	Evergreen / Pecan Row Landfill	1992	2081	30,231,984	13,705,888	16,526,096	343,023	46		1	1	2
7	Turkey Run Landfill	2010	2056	28,973,656	6,366,244	22,607,412	696,691	30	0.5	1	1	2.5
8	City of Thomasville MSW Landfill	1975	2085	6,812,419	3,883,896	2,928,523	144,145	18		1		1
9	A.C.M.S. / Heart of Florida Environmental	2013	2035	19,337,669	5,764,620	13,573,049	995,902	12				0
10	Houston County SR247 MSW Landfill	1987	2227	21,780,180	4,120,888	17,659,292	213,369	81		1	1	2
11	Wolf Creek Landfill	1992	2064	23,191,228	7,727,092	15,464,136	374,712	39		1	1	2
12	Springhill Regional Landfill	1983	2069	52,837,321	17,443,060	35,394,261	852,060	40	0.5	1	1	2.5
13	South Dade Solid Waste Disposal Facility	1979	2036	21,184,000	20,932,186	251,814	581,817					0
14	Orange County Solid Waste Landfill	1972	2088	64,559,937	36,079,131	28,480,806	1,159,080	23	0.5	1		1.5
15	Manatee County / Lena Road Landfill	1972	2041	20,947,500	11,678,873	9,268,627	346,218	25				0
16	Pine Ridge Landfill	1997	2041	37,266,389	25,610,923	11,655,466	954,365	10				0
17	Tomoka Farms Road Landfill	1977	2029	18,214,658	16,498,244	1,716,414	623,196	1				0
18	Fleming/Gaissert Road Landfill	1983	2050	8,916,325	4,831,285	4,085,040	97,777	40		1	1	2
19	Crisp County Landfill	1973	2104	8,556,515	2,064,383	6,492,132	140,090	44		1	1	2
20	North Central Landfill	1977	2027	25,308,136	20,352,370	4,955,766	721,083	5				0
21	New River Regional Landfill	1992	2025		6,296,430		294,851					0
22	Santa Rosa Central LF	1978	2055	5,512,500	5,055,404	457,096	336,687	-1		1		1
23	Atkinson County - SR 50 MSW Landfill	1997	2042	2,832,219	1,353,412	1,478,807	100,305	13				0
24	Camden County SR 110 MSW Landfill	1992	2033	3,184,719	2,460,285	724,434	100,533	5				0
25	Toombs County MSW Landfill											0
26	North Dade Landfill	1952	2025		14,775,246		197,780					0
27	Aucilla Area Solid Waste Facility	1992	2053	3,039,272	1,463,511	1,575,761	58,719	25		1		1
28	Monarch Hill Landfill	1965	2030	84,293,492	77,055,682	7,237,810	1,516,359	3				0
29	Cedar Grove Landfill	1984	2041	5,529,420	1,907,284	3,622,136	233,421	14				0
30	Medley Landfill	1980	2030	44,636,263	35,560,166	9,076,097	1,379,566	5				0

Table 5: Landfill Environmental Compliance, Rainfall, and Landfill Gas Management

RANK	Landfill	Compliance [ECHO]	Actions in last 5 yrs [ECHO]	# of Quarters in Non-Compliance (3 yrs)	COMPLIANCE SCORE	RAINFALL SCORE	Leachate Recirculation	Leachate Recirculation Frequency (Past 10 Yrs)	Landfill Gas Collection System?	Flares in Place?	Landfill Gas Management	LANDFILL GAS MANAGEMENT SCORE
1	Okeechobee / Berman Road Landfill	0	0.0	0	0	0.2	No	Not used	Yes	Yes	Pipeline Inject.	0.5
2	Chesser Island Road Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	Flaring	1.0
3	Broadhurst Environmental Landfill	0	0.0	0	0	0.1	No	Not used	Yes	Yes	Flaring	1.0
4	J.E.D. Solid Waste Management Facility	2	1.5	7	-2.1	0.1	Yes	Several/year	Yes	Yes	Leachate evap.; LFGTE-ICE	-0.5
5	WI Taylor County Disposal, LLC	0	0.0	0	0	0.2	Yes	Several/year	Yes	Yes	LFGTE-ICE	-1.0
6	Evergreen / Pecan Row Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	LFGTE-ICE	0.0
7	Turkey Run Landfill	0	0.0	0	0	0	Yes	< Once/year	Yes	Yes	Flaring	0.3
8	City of Thomasville MSW Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	Flaring	1.0
9	A.C.M.S. / Heart of Florida Environmental	0	0.0	0	0	0.1	No	Not used	No	No		-1.0
10	Houston County SR247 MSW Landfill	0	0.0	0	0	0.2	Yes	< Once/year	Yes	Yes	LFGTE-ICE	-0.7
11	Wolf Creek Landfill	0	0.0	0	0	0.2	No	Not used	Yes	Yes	LFGTE-ICE	0.0
12	Springhill Regional Landfill	0	0.0	2	-0.1	0	Yes	< Once/year	Yes	Yes	Leachate evap.; LFGTE-ICE	-0.2
13	South Dade Solid Waste Disposal Facility	0	0.0	0	0	0	No	Not used	Yes	Yes	Flaring	1.0
14	Orange County Solid Waste Landfill	0	0.0	10	-0.5	0.1	No	Not used	Yes	Yes	LFGTE-ST	0.0
15	Manatee County / Lena Road Landfill	0	2.0	0	-1	0	No	Not used	Yes	Yes	Direct Thermal / Flaring	0.9
16	Pine Ridge Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	LFGTE-ICE	0.0
17	Tomoka Farms Road Landfill	3	0.0	5	-1.75	0.1	No	Not used	Yes	Yes	Flaring	1.0
18	Fleming/Gaissert Road Landfill	1	0.5	12	-1.35	0	No	Not used	Yes	Yes	LFGTE-Cogen	0.7
19	Crisp County Landfill	0	0.0	0	0	0.2	Yes	Several/year	No	No		-2.0
20	North Central Landfill	0	0.0	0	0	0.2	Yes	< Once/year	Yes	Yes	Vehicle Fuel	-0.2
21	New River Regional Landfill	0	0.0	0	0	0	Yes	Several/year	Yes	Yes	Pipeline Inject.	-0.5
22	Santa Rosa Central LF	0	3.0	3	-1.65	-0.2	No	Not used	Yes	Yes	Flaring	1.0
23	Atkinson County - SR 50 MSW Landfill	0	0.0	0	0	0.1	Yes	< Once/year	No	No		-1.7
24	Camden County SR 110 MSW Landfill	1	0.0	12	-1.1	0	No	Not used	No	No		-1.0
25	Toombs County MSW Landfill	0	0.0	4	-0.2	0.2		Not used				-1.0
26	North Dade Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	Flaring	1.0
27	Aucilla Area Solid Waste Facility	0	0.0	0	0	0	Yes	Several/year	No	No		-2.0
28	Monarch Hill Landfill	0	0.0	0	0	0	No	Not used	Yes	Yes	LFGTE-GT	0.0
29	Cedar Grove Landfill	0	0.0	2	-0.1	0	Yes	> Once/year	No	No		-1.5
30	Medley Landfill	2	0.0	0	-1	0	No	Not used	Yes	Yes	Pipeline Inject.	0.5

LFGTE = Landfill gas-to-energy; GT = Gas turbine; ICE = Internal Combustion Engine; ST = Steam turbine

Table 6: Landfill Community Population, Race and Income Data

RANK	Landfill	Median Household Income (census block)	3 mile population	Indigenous %	Black %	Hispanic / Latine %	White %	POPULATION SCORE	ENVIRONMENTAL JUSTICE SCORE
1	Okeechobee / Berman Road Landfill	$57,826	20	0	0	25	65	0.00	0.14
2	Chesser Island Road Landfill	$49,053	174	0	0	2.3	96.6	0.00	1.11
3	Broadhurst Environmental Landfill	$40,375	125	0.8	0	5.6	86.4	0.00	0.68
4	J.E.D. Solid Waste Management Facility		0					0.00	1.00
5	WI Taylor County Disposal, LLC	$20,781	100	1	8	5	86	0.00	0.47
6	Evergreen / Pecan Row Landfill	$73,438	2,446	0.5	36.4	5.8	53.4	-0.06	-0.09
7	Turkey Run Landfill	$39,325	880	0.6	23.9	3.5	67.8	-0.02	0.05
8	City of Thomasville MSW Landfill	$66,667	3,394	0.6	21.1	3.9	70.9	-0.08	0.43
9	A.C.M.S. / Heart of Florida Environmental	$51,707	1,673	0.8	4.2	9.9	80.4	-0.04	0.60
10	Houston County SR247 MSW Landfill	$85,469	175	0	10.9	5.1	76	0.00	0.79
11	Wolf Creek Landfill	$47,837	182	0	58.2	6.6	34.6	0.00	-0.97
12	Springhill Regional Landfill	$31,649	469	0.6	59.9	2.3	30.9	-0.01	-1.26
13	South Dade Solid Waste Disposal Facility		57,196	0.4	17.6	68.5	10.6	-1.43	-1.57
14	Orange County Solid Waste Landfill	$69,026	14,595	0.5	12.6	41.9	33.8	-0.36	-0.78
15	Manatee County / Lena Road Landfill	$138,051	26,922	0.2	3.1	10.7	78.2	-0.67	1.39
16	Pine Ridge Landfill	$54,063	2,110	0.5	7.8	7.3	77.8	-0.05	0.53
17	Tomoka Farms Road Landfill	$55,770	4,164	0.4	8.9	10.3	68.7	-0.10	0.25
18	Fleming/Gaissert Road Landfill	$56,912	1,298	0	42.8	7.6	46	-0.03	-0.50
19	Crisp County Landfill	$48,565	486	0	17.7	2.9	78	-0.01	0.48
20	North Central Landfill	$54,712	8,829	0.9	2.7	22.8	70.3	-0.22	0.29
21	New River Regional Landfill	$57,045	2,908	0.2	31.7	5.7	61.1	-0.07	0.01
22	Santa Rosa Central LF	$66,571	12,451	0.8	5.6	5.5	79	-0.31	0.70
23	Atkinson County - SR 50 MSW Landfill	$43,292	215	1.4	1.4	10.2	88.4	-0.01	0.78
24	Camden County SR 110 MSW Landfill	$42,875	157	0	8.3	4.5	84.1	0.00	0.63
25	Toombs County MSW Landfill	$36,369	1,216	0.5	9.4	13.2	74.1	-0.03	0.23
26	North Dade Landfill	$39,096	158,662	0.2	34.5	54.6	6.4	-3.97	-2.00
27	Aucilla Area Solid Waste Facility	$39,375	1,075	0.3	57.1	3.2	36	-0.03	-1.01
28	Monarch Hill Landfill	$44,420	100,002	0.4	19.2	26.2	40.1	-2.50	-0.82
29	Cedar Grove Landfill	$37,355	1,964	0.1	17.3	2.4	76.2	-0.05	0.31
30	Medley Landfill	$76,765	137,043	0.2	0.9	92	5.4	-3.43	-1.65

Presented by Eric Feinblatt for Sustainable Sullivan and Waste for Life at Legislature meeting 3/20/2025

This document summarizes a 2025 report, commissioned by The Goldstein Environmental Law Firm on behalf of the City of Miramar, Florida. The report analyzes 63 landfills in Florida and Georgia to determine the most responsible waste disposal options for Miami-Dade County. This summary focuses on the report's conclusions regarding incineration within a comprehensive waste management strategy but does not include a review of specific recommendations for additional landfill sites.

Incineration vs. Landfills: Key Points

Incineration Does Not Eliminate Landfills

- For every 100 tons of waste burned, about 30 tons of toxic ash are produced, which still requires landfilling.
- Incineration creates and concentrates toxins, making landfills smaller but more hazardous.

Environmental and Health Impacts

<u>Increased Toxicity</u>

- Enhanced bioavailability: The incineration process transforms toxic chemicals in waste, making them more easily Inhaled through air emissions and ingested through contaminated water
- Concentration of toxins: Incineration creates and concentrates toxic elements like heavy metals – dioxins and furans – and gases in the ash and air. This concentrated ash must then be landfilled, creating more hazardous landfill conditions.
- These factors combined make landfills that receive incinerator ash more toxic than those receiving unburned waste directly.

<u>Pollution</u>

- Florida's incinerators produced 1/3 of the state's industrial mercury emissions from 2011-2020.
- Mercury from incineration is responsible for 98.6% of Florida's fish consumption advisories.
-

<u>Comparative Harm</u>

- Life cycle assessments show incineration (including ash landfilling) is 2-3 times more harmful to human health and the environment than direct landfilling.

Transportation Considerations

- Even long-distance trucking to landfills is less harmful than local incineration.
- Trucking emissions are minimal compared to those from landfills and incinerators.

Recommended Approach

- Direct landfilling is preferable to incineration.
- Focus on genuine waste reduction, reuse, recycling, and composting to extend landfill lifespans.