

Reunification of North Adams and the NBSWMD



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Executive Summary

The Northern Berkshire Solid Waste Management District (NBSWMD) is made up of 13 towns in the Berkshires and provides a shared forum for municipal waste disposal and recycling. Chaired by Linda Cernik, the District provides external management to its towns. While towns have to pay for District membership, the benefits make members feel that the cost is justified.

The membership of the District's 13 towns covers nearly all of the Northern Berkshire region. The only non-member town in the region is North Adams. North Adams was once a member of the District but dropped out several years ago for political reasons. Today, however, facing skyrocketing waste disposal costs and the monopolization of private haulers in the area, merging again is on the table.

With a population of 13,330, North Adams is certainly larger than the District towns, with an average population of 2,313. A merge of the City and District would mean a 40% increase in the District's population. This would therefore be a huge increase in both District membership and in Linda's workload. A merge would also be a significant change for North Adams; membership costs would have to be budgeted and management responsibilities would be shifted. Because of these considerable implications, this decision called for deep thought and research.

Our team of Environmental Studies majors Austin Huang, Jacob Huelskamp, Summer-Solstice Thomas and Emma Ticknor investigated the factors of this decision. We researched the way that the City and the District currently operate their waste management practices, the costs involved on both ends, and the future of the waste industry. We interviewed town managers of District towns, North Adams city council members, and worked closely with NBSWMD's Linda

Cernik and North Adams's Michael Canales. We also investigated the finances of today's waste management within the District, specific District towns, and the City of North Adams.

The following report documents our findings and recommendation that North Adams should indeed join the Northern Berkshire Solid Waste Management District. We believe that North Adams would benefit from Linda's management, expertise and attention to detail. Her educational outreach programming and experience with grants would also prove hugely beneficial, particularly with the likelihood of composting legislation coming down the pike. Furthermore, as private waste hauling becomes increasingly privatized, towns in the Berkshires must unite to maintain cost feasibility. We also researched and compared the finances of joining the District or maintaining a separate transfer station. All of these factors are outlined in our report and contribute to our final recommendation of a merge.

Acknowledgments

We would like to thank all those who generously worked with us and gave us their time in the course of this work. We would especially like to thank Michael Canales, Administrative Officer for the City of North Adams, and Linda Cernik, Program Coordinator of the Northern Berkshire Solid Waste Management District, for their continued knowledge and assistance. Thank you also to Sarah Gardner and our classmates in the environmental planning workshop for their feedback and guidance. Throughout our project, it became clear how many knowledgeable, passionate people there were invested in our work. This would have not been possible without them. We hope that this report is helpful for each of them as they continue their work.



Left to Right: Austin Huang, Jacob Huelskamp, Michael Canales, Linda Cernik, Emma Ticknor, Summer-Solstice Thomas

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General Background

Waste collection, disposal, and recycling are some of the most important public services that municipal governments must make accessible for their citizens. Yet these functions—"waste management" collectively—are becoming increasingly difficult to perform without running a financial deficit to the municipality. As of 2015, Americans generated an average of 4.48 pounds of municipal solid waste per day.¹ In Massachusetts alone, this meant that 11,020,000,000 pounds of solid waste was disposed or exported from the state in the same year.² Massachusetts attempts to minimize waste diversion to landfills, so waste is often instead directed to incineration or recycling facilities that are both in-state, out-of-state, and international. The vast majority of waste management costs are from hauling waste from transfer stations and the processing costs at their destinations.³

Waste management operates at the local, state, national, and international levels. Massachusetts state policy can enforce solid waste disposal reductions that put pressure on municipalities to increase their recycling and composting rates. Furthermore, states can issue waste disposal regulations or recycling bans that push municipalities to educate their citizens or

¹ "National Overview: Facts and Figures on Materials, Wastes and Recycling," United States Environmental Protection Agency. 26 October 2018. 3. Accessed at: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#Generation>.

² "2016 Solid Waste Data Update," Massachusetts Department of Environmental Protection, Executive Office of Energy and Environmental Affairs. February 2018. Accessed at: <https://www.mass.gov/files/documents/2018/02/13/16swdata.pdf>.

³ Canales, Michael, "North Adams Transfer Station," City of North Adams, Massachusetts. 30 September 2019. PowerPoint Presentation. 5-6. Accessed at: <https://drive.google.com/a/williams.edu/file/d/1Vip2zjow4ZZXZqvVqxIko2L8NWbca8ozT/view?usp=sharing>

else be charged for noncompliance.⁴ Market forces can also disrupt waste management systems. For years, China was the biggest buyer of global recyclable materials. However, when the country announced regulations on the quality and contamination levels of scrap that it would purchase, their imports of foreign recyclables plummeted.⁵ Suddenly, many countries including the United States had to find new ways to recycle their waste profitably. When some regions could not find a replacement for the Chinese market, they resorted to simply throwing away their recyclables with the rest of the waste heading for landfills or incinerators.⁶ Despite the pressures from the global waste market, Massachusetts has remained committed to recycling. Policies encouraging continued recycling puts stress on the budgets of municipalities statewide, but Berkshire County has been fighting successfully to comply with state expectations.⁷

At the forefront of this struggle is the Northern Berkshire Solid Waste Management District (NBSWMD), a collection of thirteen towns “pool[ing] resources and obtain[ing] professional waste management services to conduct recycling and public education programs, hazardous and special waste collection and waste facility development.”⁸ The city of North Adams as the only non-member of the Northern Berkshire region.

⁴ Rosengren, Cole, “Massachusetts raises 2050 waste reduction target, may expand organics ban,” Waste Dive. 1 October 2019. Accessed at: <https://www.wastedive.com/news/massachusetts-2050-waste-reduction-organics-ban/564080/>.

⁵ Zollshan, Stephanie, “Berkshires bucking nation's downward trend on recycling,” The Berkshire Eagle. 1 April 2019. Accessed at: <https://www.berkshireeagle.com/stories/berkshires-bucking-nations-downward-trend-on-recycling,569255>.

⁶ Lieber, Chavie, “Hundreds of US cities are killing or scaling back their recycling programs,” Vox. 18 May 2019. Accessed at: <https://www.vox.com/the-goods/2019/3/18/18271470/us-cities-stop-recycling-china-ban-on-recycles>.

⁷ Zollshan, Stephanie, “Berkshires bucking nation's downward trend on recycling”

⁸ Lieber, Chavie, “Hundreds of US cities are killing or scaling back their recycling programs”

North Adams

The city of North Adams is very different from the towns that make up the Northern Berkshire Solid Waste Management District. North Adams has a population of 13,330, while the NBSWMD members have an average population of 2,313, that ranges from 8,266 in the Town of Adams to just under 100 in Monroe.⁹ As a city with a population much larger than its neighboring townships, North Adams has not needed to pool resources for waste management in the past—instead opting to handle the city’s waste management operations through its own independent transfer station. Besides these major differences in populations between North Adams and the townships, other demographic and socioeconomic factors also separate North Adams from the region.

For example, North Adams has a median household income of \$38,774 and a poverty rate of 17.8%, whereas the entire Berkshire County has a median household income of \$55,190 and an 11.3% poverty rate. Similarly, the median property value is only \$147,500 in North Adams compared to \$203,300 in the county.¹⁰ The socioeconomic status of different groups in Northern Berkshire County is relevant to regional waste management, since state funding and grants are unevenly provided to municipalities.

North Adams Transfer Station

The transfer station in North Adams is unique in its wide range of capabilities. At the transfer station, customers can dispose of municipal solid waste, construction and demolition

⁹ “Our Team,” Northern Berkshire Solid Waste Management District. 2019. Accessed at: <http://www.nbswmd.com/our-team>.

¹⁰ “Population of Berkshire County, Massachusetts,” Statistical Atlas. 4 September 2018. Accessed at: <https://statisticalatlas.com/county/Massachusetts/Berkshire-County/Population>.

waste, bulky waste and scrap metal. The transfer station also offers plastic, glass, aluminum, paper, cardboard, tire and electronics recycling. The station operates on a permit system.

Customers buy a permit yearly to use the transfer station's services, in the form of a sticker for their vehicle. Residents' permits are \$60/yr, while non-resident's are \$80/yr and commercial customers are \$85/yr. Once a customer purchases a permit they can dispose of any recycling for free and can pay per pound to dispose of trash. If a customer does not want to purchase a year permit they have the option to purchase a \$10 day pass to use the facility's services. In 2019 the transfer station sold 1184 resident permits, 488 non-resident permits and 202 commercial permits.¹¹ Assuming each permit represents a family of four or more, it is estimated that about one half of North Adams residents purchase transfer station permits. The remaining pay commercial companies to pick up and dispose of their trash and recycling.

All of the recycling services are free. This is a remnant of the income recycling used to bring due to the demand from China. With the inability for most of American recycling to meet China's new contamination limit of 10%, recycling is no longer profitable.¹² However, asking customers to pay for recycling would only encourage bad habits, as it would become more cost effective to not separate recyclables and simply dispose of them in the trash.

Any income for the transfer station thus comes from trash disposal. Customers can choose to pay per pound for trash disposal, with a rate of \$0.0633/lb or \$129.59/ton, by using the scale or they can pay per bag. Bag prices are calculated by estimating that a small bag (15

¹¹ "Data USA: North Adams, MA & Berkshire County, MA," Data USA. Accessed 14 October 2019 at: <https://datausa.io/profile/geo/north-adams-ma/?compare=berkshire-county-ma>.

¹² "Tyer Trashes Toter Plan," iBerkshires. 13 March 2018. Accessed at: <https://www.iberkshires.com/story/56868/Tyer-Trashes-Toter-Plan.html>

gallons) will hold about 15lbs of waste and a large bag (33 gallons) will hold about 35lbs of waste. Customers can bring their own bags and pay \$2.33 or \$1.12 for a large or small bag, respectively, or buy bags at the station and pay \$2.50 or \$1.25 for large or small, respectively.¹³

The table below shows the disposal cost for each item for each type of permit holder at the North Adams Transfer Station (Figure 1).

Item	Commercial	Resident	Non-Resident	Appliance	Price \$
General Refuse	\$0.0633 per lb	\$0.0633 per lb	\$0.0633 per lb	TV ≤ 27in	25
Brush/cord wood (under 4ft long)	\$6 per cubic yard	\$6 per cubic yard	\$6 per cubic yard	TV 28-42in	30
Construction & Demolition waste	\$0.0633 per lb	\$0.0633 per lb	\$0.0633 per lb	TV ≥ 42in	40
Scrap metal	\$0.06 per lb	\$0.06 per lb	\$0.06 per lb	TV w wood console	40
Appliances	\$50 per	\$50 per	\$50 per	Projection TV	60
Recyclable material	\$25 per ton	no charge	no charge	Microwave	20
Compost	no charge	no charge	no charge	Computer monitor	20
Car tires	\$4 each	\$4 each	\$4 each	Computer keyboard	5
Car tires w rims	\$6 each	\$6 each	\$6 each	Computer tower	10
Truck tires ≤ size 1100-20	\$20 each	\$20 each	\$20 each	Computer printer	15
Truck tires > size 1100-20	\$35 each	\$35 each	\$35 each	VCR/DVD	10
Truck tires w rims	add \$10 to price above	add \$10 to price above	add \$10 to price above	Video cameras	10
Noncompacting (bulky?) waste	\$15 per piece	\$15 per piece	\$15 per piece	Residential copier	25
Wood	\$0.10 per lb, min charge \$2	\$0.10 per lb, min charge \$2	\$0.10 per lb, min charge \$2	Audio components	10
Mixed	Highest category price of mix	Highest category price of mix	Highest category price of mix		
Minimum scale charge	none		\$6		

Figure 1: Disposal costs and rates, by item type, at the North Adams transfer station.

Trash and other items are priced so that the station breaks even with processing and disposal. Each item is thus priced based on the final disposal station North Adams has contracted. For example, municipal and construction and demolition waste curiously have the same price, despite the fact that construction and demolition waste usually contains toxic materials and is thus harder to dispose of. Because North Adams is contracted with a landfill that has the appropriate lining to accommodate both municipal and construction and demolition waste, the cost to dispose of each are the same. Thus, the North Adams Station charges customers the same to drop off each type of waste.

¹³ “Data USA: North Adams, MA & Berkshire County, MA”

The station does not aspire to make a profit. They specifically price their services to effectively cover the cost of the station's operations and nothing more. This keeps the cost affordable. Based on the EPA's estimate that an American disposes 4.43lbs of garbage/day, it is predicted that a family of four will discard 3.23tons/yr. To dispose of this amount at the transfer station will cost the family \$469.37/yr, including the permit purchase.¹⁴ Based on the median household income of \$38,774/yr for North Adams's residents, paying for waste disposal only consumes 1.21% of their income.¹⁵

Site Description

The North Adams transfer station is located on E Street, south of the city center. The main facilities are directly next to a capped landfill site which holds one of the largest solar arrays in Western Massachusetts, making it hard to miss (Figure 2).



Figure 2: Satellite imagery of the North Adams transfer station at 42°40'09.3", 73°05'36.2"W. Accessed on Google Maps, 23 October 2019.

The station transferred 4,000 tons of waste last year, which is significantly less than its peak tonnage of around 14,000 decades ago. For this reason, the transfer station's current site

¹⁴ Canales, Michael, "North Adams Transfer Station"

¹⁵ "Population of Berkshire County, Massachusetts," Statistical Atlas.

map and operational capacity is not a concern. This may change if the city were to start accepting organic waste separate from the general stream, although not much since the transfer station's main purpose is to divert those materials elsewhere.

The transfer station is open from 7am-2pm Tuesday-Saturday. A foreman and scale house worker are present each day to operate the scale and process the waste. On Saturday, an operator comes in from Department of Public Works to empty recycling and trash bins. Thus, the prices for waste disposal must cover not only the processing and disposal costs, but also the salary and benefits of these employees as well.

Northern Berkshire Solid Waste Management District (NBSWMD)

Makeup and Bylaws

The Northern Berkshire Solid Waste Management District (NBSWMD) is a conglomerate of thirteen towns, mostly in Berkshire County, that services its municipalities with everyday and hazardous waste disposal and recycling services. Formed in 1988 through Massachusetts General Court legislation, the NBSWMD is now coordinated by Linda Cernik, who began in her position in 2017. Linda's responsibilities include all operational and administrative tasks, like coordinating on-site programming, preparing contracts and maintaining relationships with those contractors, tracking finances and conducting cost-benefit analyses, and record keeping. She also handles networking with the community and public communications, as well as government affairs like bylaw compliance and application of relevant legislation; for this, she must keep a current working knowledge of the recycling industry.¹⁶

¹⁶ "Northern Berkshire Solid Waste Management District: About", Northern Berkshire Solid Waste Management District. Accessed 15 October 2019 at: <http://www.nbswmd.com/about>

There are five articles that make up the bylaws which Linda must follow. In Article I, the purpose of the district is listed as follows: “The purpose of the District is to provide solid waste management services for its member municipalities and the residents thereof through the District’s removal, transportation, disposal recovery, recycling, or any combination thereof, of solid wastes generated within the District.”¹⁷ Other notable by-laws in Articles II and III include a required annual meeting in which the Board elects membership, regular meetings of that Board or special meetings if so requested by Commissioners, that an agenda must be prepared for each meeting, and that each Commissioner has one vote for every hundred residents. The district’s membership is also laid out to include all the land and residents within Adams, Cheshire, Clarksburg, Florida, Hancock, Hinsdale, Lanesborough, New Ashford, Peru, Savoy, Windsor and Williamstown. More details are also laid out in Article IV for election processes and what happens in the event of a Commissioner absence or vacancy.¹⁸ Municipalities may also withdraw from the NBSWMD according to Section 4.

Community Profile

The Northern Berkshires are socioeconomically diverse. In particular, North Adams stands out as a city with a large population and low median household income compared to the surrounding townships. The North Adams median household income is \$38,774 and poverty rate is 17.8%, while the entire Berkshire County median household income is \$55,190 and poverty rate is 11.3%.¹⁹ This should be considered when proposing price changes to the permit or pay as

¹⁷ “Job Description- Program Coordinator”, Northern Berkshire Solid Waste Management District. January 2016, Print.

¹⁸ “Job Description- Program Coordinator”, Northern Berkshire Solid Waste Management District.

¹⁹ “Data USA: North Adams, MA & Berkshire County, MA,” Data USA.

you throw system. However, as previously noted, NBSWMD does not have or enforce a unified pricing system. This means that the city of North Adams will continue to be able to set prices that reflect affordability for their its constituents. Besides socioeconomics, no demographic patterns in the region should be relevant to waste management. Local news sources that cover waste management price and policy changes illustrate some community passion behind this subject. For example, just south of NBSWMD in Pittsfield, a multi-year campaign by the mayor to revamp the city's waste collection system ultimately failed because of the city council's concerns with investment costs and residents' outcry about issues with the proposed system.²⁰ Cases like these, in addition to stories that cover less inflammatory news about the NBSWMD and North Adams transfer station themselves, provide a great opportunity for anticipating how the community will react to sudden changes to the waste management system.

Site Description

The Northern Berkshire Solid Waste Management District has other transfer stations dispersed throughout the county, but these are all markedly smaller and offer less services than the North Adams transfer station (Figure 3).

²⁰ "Tyer Trashes Toter Plan," iBerkshires. 13 March 2018. Accessed at: <https://www.iberkshires.com/story/56868/Tyer-Trashes-Toter-Plan.html>

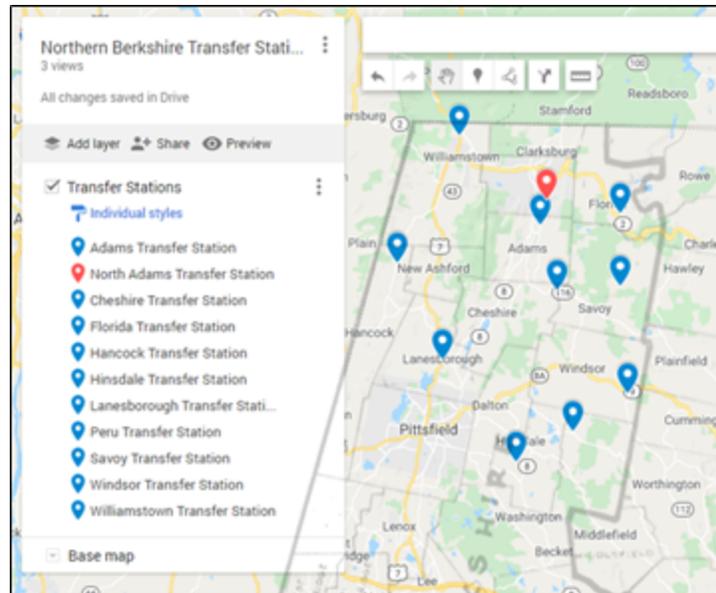


Figure 3: Waste transfer stations in the Northern Berkshire region. Blue waypoints indicate members of NBSWMD, while the red waypoint indicates the North Adams Transfer Station.

Residents of towns in the Northern Berkshires either take their waste to their local transfer station or pay for private haulers to pick up their garbage. Considering the different distances one would have to travel to use different services from the various transfer stations is important when considering how NBSWMD is supposed to unite the region's resources. However, since all of these transfer stations cover basic waste and recyclable drop-off services, it is fair to assume that residents will choose whichever station is most convenient for normal use. The extra distance traveled to reach the North Adams transfer station is justified by the facility's unique services and the low frequency of situations where one acquires and has to dispose of hard-to-dispose materials.

District History

The relationship between North Adams and the Northern Berkshire Solid Waste Management District goes back decades. The city used to be part of the district but decided to leave for a number of reasons. Firstly, and most importantly, the waste management and

recycling market landscapers were vastly different all those years ago. China was still the biggest buyer of recyclables globally. Local competition between waste collectors, haulers, and processors kept transfer costs down and profits high for a middle-man operation like the North Adams transfer station. At its peak, the transfer station was moving around 14,000 tons of materials and making a \$300,000 profit annually.

Things have changed dramatically since then. China's new regulations shocked the global recyclables market and made it much more expensive for municipalities in the United States to recycle materials.²¹ In response, local private waste management companies vertically integrated. The strongest example of this is Casella Waste Systems Inc., which has acquired several smaller companies and has a large network of facilities in New England.²² Altogether, these facilities meet each stage of the waste management process. This means that the region is less reliant on transfer stations which only serve as a stopping point along the chain of waste disposal and recycling. These major shifts in the waste management industry, along with North Adams' continued population decline (Figure 4), has drastically reduced the use and profitability of the transfer station in recent years.

²¹ Lieber, Chavie, "Hundreds of US cities are killing or scaling back their recycling programs," Vox. 18 May 2019. Accessed at: <https://www.vox.com/the-goods/2019/3/18/18271470/us-cities-stop-recycling-china-ban-on-recycles>.

²² "Casella acquires TAM Inc, three solid waste businesses," Vermont Business Magazine. 6 June 2019. Accessed at: <https://vermontbiz.com/news/2019/june/06/casella-acquires-tam-inc-three-solid-waste-businesses>

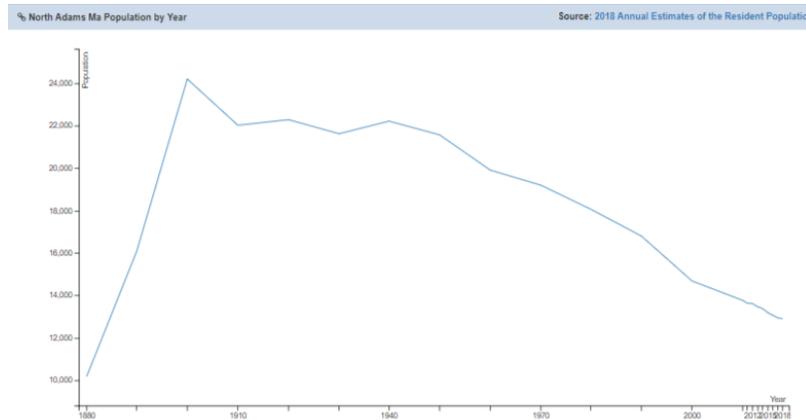


Figure 4: Population decline in North Adams. Accessed 23 October 2019 at: <http://worldpopulationreview.com/us-cities/north-adams-ma-population/>

Last year, the transfer station only moved 4,000 tons of materials and ran at a \$26,000 loss. The city originally made the smart decision to leave NBSWMD when profits were high, and the transfer station could stand alone without wasting resources on the larger region. However, many of those initial reasons for leaving the district are no longer valid. Pooling resources may help reach more potential users and prevent the facility's further decline.

Currently the transfer station only utilizes a single employee on weekdays and has two people work on Saturday to account for the large volume of waste brought in from residents. Enforcement of procedures is a major issue, as people interfere with the weighing process or use noncompliant bags for their trash. However, increasing compliance through enforcement would require more staff and higher operational costs. In addition, the city of North Adams does not currently have a city official who is solely focused on waste management. This makes it difficult to properly explore options for raising the station's profitability by enhancing compliance.

The Northern Berkshire Solid Waste Management District's approach to dealing with the new waste management landscape has been to bring municipalities together and pool resources

for common services that benefit the region. All transfer stations in the district have unique arrays of services and full discretion to determine their payment and enforcement systems, which has allowed NBSWMD to respond to municipal needs despite the district's large scope. Most payment systems end up using similar permit or bag tag systems, in addition to pay-as-you-throw, so using different district facilities has plenty of consistencies.

NBSWMD Services

The disposal services provided by the NBSWMD are invaluable to its residents. In 2018, 873.69 tons of paper, glass, cans and plastic were recycled throughout the district. 360,000 pounds of scrap metal was also recycled in 2018. The disposal of unusual waste products is one of the most important initiatives directed by NBSWMD. Their annual one-day hazardous waste collection event is really popular among residents. In 2018, 145 households participated in this waste disposal event, costing NBSWMD \$6,550.83. Linda writes, however, "Peace of mind for residents ~ priceless!"²³

NBSWMD also holds annual bulky & electronic waste collection days. Town volunteers help Linda out to hold these events. The events are very popular and get many visitors who drop off scrap metal, furniture, electronics and other hard-to-manage waste items. In calendar year 2018, Linda conducted three of these events, one each in Adams, Clarksburg and Lanesborough. These were all equally as successful as the hazardous waste collection events.

Both of these disposal opportunities are clearly really valued by residents as the attendance numbers are quite high.²⁴ Because the special collection days don't require

²³ "BY-LAWS", Northern Berkshire Solid Waste Management District. Print.

²⁴ Ibid

preregistration, Linda estimates what the 2019 attendance numbers will look like; she predicts 150-200 visitors to Adams, 100 to Lanesborough, and 50 to Clarksburg's 2019 Bulky Waste Collection days.

Adams, Chesire, Williamstown, Peru, Hinsdale and Windsor also all have their own Universal Waste Collection sheds. They can collect items containing mercury, lightbulbs, thermostats and batteries at these locations. There are also six Mercury Product Sheds within the district for member towns to use, which are funded by the MassDEP. Paint is also a special focus of the NBSWMD, and six collections were held in 2018. Paint is a really expensive waste to handle, so it's a bit of a budget drain for NBSWMD.

The 2020 proposed budget for the NBSWMD allots \$89,753.47 in expenses and anticipates \$89,928.47 in revenue. Most of the expenses come from salary (\$40,585.97) and other employee benefits, with actual program expenses totaling about \$25,000; hazardous waste disposal costs the most at \$15,000. The rest of the budget is allocated to administration and other office expenses. Most of the revenue (\$87,528.47) is from assessments. Adams, with the largest population of the districts at 8,485 according to the 2010 census, brings in the most in assessments at \$24,306.30. Williamstown is next on both counts with a population of 7,754 and revenue of \$22,212.26. Monroe, with a population of 121, is smallest, and contributes \$346.62 (14). The payment system for NBSWMD users is by permit, although there is no fee for residents to recycle. Adams sold the most permits in 2018 at 460, followed by Williamstown at 930 and then Chesire at 840. Monroe sold just 73 permits in 2018.²⁵

²⁵ "Proposed FY'20 Budget", Northern Berkshire Solid Waste Management District. Print.

Linda also dedicates significant time to educational outreach and to grant applications. Seven towns in the NBSWMD received “Small Initiative Grants” of \$500 from the MassDEP in 2018, while NBSWMD itself received \$1,500. The MassDEP Recycling Dividends program also awarded grants to NBSWMD towns Williamstown, Cheshire, Windsor and Savoy. In total, grant dollars awarded to NBSWMD in 2018 equaled \$23,900. For Linda’s educational outreach on recycling and waste disposals, these funds are really valuable. She has recently started working with local middle and high school children to conduct waste audits and increase community education regarding proper recycling techniques. These children hope to make their communities more efficient at recycling by participating in the NBSWMD’s programming.

[Visit to Williamstown Transfer Station](#)

On Tuesday, October 22, we attended the Northern Berkshire Solid Waste Management District’s annual inspection at the Williamstown Transfer Station. The Williamstown transfer station is up Route 7 towards Pownal, tucked away near the Hoosic River and behind other town facilities. We met Linda and her friend Jan, the coordinator for Franklin County Solid Waste Management District who also conducted the inspection. We accompanied Jan around the station as she marked off notes on a checklist that covered safety features, cleanliness, and waste options. She noted that the station manager’s office did not have a sign labelled “In Case of Emergency, Call 911”, which is required at all transfer stations. Jan had extras and pinned one up in the office. There were no other notes about the Williamstown transfer station, as the sheds had all been cleaned out recently and so were in good order.

Attending the Williamstown transfer station inspection was a good opportunity both to learn about what standards are expected from a transfer station and to spend some time at the

transfer station and see how visitors operate in the space. One thing to note was the Universal Waste Shed. It allows transfer stations to store dangerous waste, like lamps that contained mercury. Williamstown is one of just a handful of towns within the NBSWMD that has a Universal Waste Shed, so residents of other towns might stop by to dispose of their mercury items. A similar shed existed for users to put paint remnants in. There were also huge metal trailers where visitors could put their paper recycling and household trash. Several visitors disposed of paper recycling by stacking boxes neatly in the trailer when we were standing near it. We also saw a visitor come in with a Jeep filled with brush, which they disposed of by putting it into the relevant pile next to the Universal Waste Shed. One last recycling opportunity we witnessed at the Williamstown transfer station was a small red hut for book recycling! Linda explained to us that people can take books out of the hut, and it operates like a “swap shop” unless the books are in bad condition, in which case they are recycled. Other recycling capacities for the Williamstown transfer station include clothing, tires, bulky household items and scrap metal.

MassDEP

Transfer Station Operation

The relevant laws governing the operation of a transfer station provide regulations for its operation, inspection, and its recycling, composting and conversion activities. Transfer stations are required to provide an annual report on the compliance of the station to MassDEP. In addition, Massachusetts statute 310 CMR 19.018 requires that they have annual third-party inspections regarding operation and management and regarding waste ban compliance. In order to expand the use of a transfer station to accept additional types of waste, they must also submit a

review for MassDEP approval. Annual recertification for recycling, composting, and digestion is also required under 310 CMR 16.03-16.05.²⁶

Organic Waste

In the draft of Massachusetts 2030 Solid Waste Master Plan, the state identifies food materials as having the greatest diversion potential, 570k tons per year. Their plan to improve organic waste reduction seeks to reduce disposal by 500k tons per year by 2030. To do so, they will continue to fund programs working on source reduction and donation; expand capacity for inspections, compliance assistance and outreach; and increase their targeted grant and loan support. They also as, Khrysti mentioned in our interview with her, plan to reduce the threshold of the commercial organics ban. For small businesses and residential food waste, the report does not suggest plans to implement an organics ban within the next ten years.²⁷

The major stakeholders for organics are waste generators (individuals and businesses), haulers, processors, recovery organizations, and landfills. The concerns for waste generators with an organics ban would increase the costs of disposing of their waste. Food waste hauling and equipment are the main additional costs. To reduce these costs, generators can reduce use or divert more through donations. An organics ban would also reduce the frequency and amount of non-food waste disposal that generators undertake. This could if combined with reduction of use and diversion reduce the total cost of disposing of waste.

²⁶ “MassDEP Solid Waste Forms.” Mass.gov. Accessed October 24, 2019. <https://www.mass.gov/service-details/massdep-solid-waste-forms>.

²⁷ “Solid Waste Master Plan.” Mass.gov. Accessed October 24, 2019. <https://www.mass.gov/guides/solid-waste-master-plan#-the-draft-2030-solid-waste-master-plan->.

An organics ban especially expands the demand for organic haulers. The traditional haulers will have initial cost to make infrastructural improvements but will also benefit from the increase in demand. The capacity of haulers is very tied to the capacity of processors. Organic waste varies from traditional waste and recycling as there are higher costs to transferring it large distances. An organic waste disposal would require that processing site be sufficiently close to areas of generation. In Massachusetts and especially in the Berkshire County area, the number and capacity of processors is low and would likely not be able to take on the increase in waste from an expanded ban. An organics ban would help create the financial incentives for the emergence of new processors, but they are faced with the challenge of siting the facility, which may have concerns over odor, noise, and leaching, as well as handling the amount of food waste as a ban is expanded. The final two major stakeholders are food recovery organizations, who would benefit from an organics ban, and landfills, who would lose business from a ban.

Important considerations for the expansion of an organics ban, touched upon in discussion of the stakeholders, are capacity, transport, contamination, compliance, enforcement, and buy-in. Contamination, compliance, and buy-in are concerns that education can be helpful in addressing. Enforcement of a commercial ban is more plausible than enforcement at a residential level. Enforcement mostly occurs at an individual inspection level, but North Adams, or any of the municipalities in the NBSWMD, would likely not have the capacity to do individual inspections of residents or even businesses. In light of this limitation, education may be the best alternative.

In May of 2012, Vermont passed Act 148, the Vermont Universal Recycling Law. The law required a phase transition to require all producers of food waste to dispose of their food

waste separately from all their other solid waste. The transition was separated into five periods, each of which expanded the scope of those covered under the law based on how much food waste they generated per year with the final period, 2020, encompassing all producers. They added a distance exception for the years leading up to 2020, which exempted producers who were not within 20 miles of a certified organic processing facility. The more general timeline of the law was that recyclables were mandated by July 1, 2015. Leaf and yard debris were mandated by July 1, 2016 and food waste by July 1, 2020.

The law requires parallel collection and pay-as-you-throw pricing. Parallel collection is having both solid waste collection facilities, transfer stations, and curbside collection, haulers. This flexibility is meant to facilitate compliance. The pay-as-you-throw pricing bases the disposal of organics on a per weight unit. This is intended to make trash disposal more expensive than recycling or food waste disposal, thereby incentivizing those practices.

Sustainable Materials Recovery Program Grants

The MassDEP Sustainable Materials Recovery Program (SMRP) Municipal Grant funding is intended to help municipalities with recycling, composting, reuse, and household hazardous waste diversion programs. Grants are available for “recycling and composting equipment; mattress recycling; pay-as-you-throw programs; education & enforcement coordinators; school recycling; waste reduction enforcement; and organics capacity development.” The Recycling Dividends Program (RDP), which allocates funds based off of “a point system indexed to various waste diversion categories and the number of households served by the municipal trash program,” falls under SMRP. In 2019, North Adams received \$9,900 from RDP. The city also received a grant for the transportation and recycling of discarded household

mattresses of approximately \$36,500 to be spent over the two year grant period beginning in 2019.

SMRP has to date required all municipal buildings to have recycling programs except schools. Starting in 2021, to qualify for SMRP grants, municipalities will have recycling programs in all of its school and will have to certify that all municipal buildings, including schools, are in compliance with MassDEP waste disposal bans. They also will have to ensure that paper, cardboard, bottle and can recycling programs are in place. Not all North Adams schools currently have recycling programs. Therefore, implementation of these programs by the next grant application cycle is essential to ensure that North Adams continues to receive SMRP grant funding.

Analysis

North Adams Pricing System

First, it was determined that the North Adams pricing system, namely the disposal of waste by weight on the scale, price per item or by pre-paid bags, does not have to change upon merging with the NBSWMD. All the Transfer Stations within a district carry their own disposal pricing method. For example, Williamstown adheres to a system very similar to that of North Adams. Residents can purchase a permit for \$120/yr for use of the Transfer Station and pre-paid bag stickers (at an identical price to those in North Adams) to place on bags used to dispose trash.²⁸ Adams on the other hand offers the yearly permit to residents at a price of \$50. Municipal

²⁸ The Town of Williamstown. "Transfer Station." Accessed October 23 2019. <https://williamstownma.gov/transfer-station/>

trash is disposed of by tying bag tags to residents' own trash bags. Bag tags come in a sheet of four and cost \$1.20 each.²⁹

The income from the permits each resident is required to purchase each year to use the transfer station's services covers the capital costs of the transfer station and the Department of Public Works at large, from replacing front loaders and trucks, to buying new containers and other equipment. If the North Adams Transfer Station and the NBSWMD were to merge, permit costs would slightly increase to cover the lost revenue from non-resident permit costs (as these would be void, as all members of the district would pay the same amount to use the station). Residential permits, which would now include customers residing outside the City of North Adams, would increase from \$60/yr to \$65/yr. Commercial permits would increase from \$85/yr to \$90/yr. With no change in the number of permits purchased, this would reduce the income from permits from \$127,250 to \$126,860.³⁰ However, with the projected 10% increase in residential permits upon the merge, the revenue from permit sales would increase to \$130,045. This would provide the station with more capital to properly maintain their services, while only slightly increasing the costs of permits to locals and businesses.

Most years the Transfer Station is able to effectively cover their costs. However last year they fell \$26,000 short and had to pull from the city's budget to pay for the proper disposal of the station's waste. It is unclear whether this will start to become a pattern and if the transfer station

²⁹ Town of Adams. "Annual Application for Residential Permit." Transfer Station/Recycling Center. Accessed October 23 2019. https://www.town.adams.ma.us/sites/adamsma/files/uploads/fy20_transfer_station_application.pdf

³⁰ Canales, Michael, "North Adams Transfer Station," City of North Adams, Massachusetts. 30 September 2019. PowerPoint Presentation. 5-6. Accessed at: <https://drive.google.com/a/williams.edu/file/d/1Vip2zjow4ZXXqvVqxIko2L8NWbca8ozT/view?usp=sharing>

will have to increase costs to customers. Certainly the 10% increase in residential permit purchases predicted with the merge could help to alleviate some strain if such becomes common.

Comparison of NBSWMD Town Transfer Stations

When we began speaking with Michael at the beginning of this project, he expressed concerns that North Adams would have to change their payment system to match what the rest of the District’s towns were doing. We have since then been working to compile a comparison of these towns’ transfer station operations. Below is this list of payment methods.

Town	Payment Method
Adams	1 year, residential permit is \$50. Bag Tags are \$1.20 each and come in pack of five (\$6.00 per sheet)
Cheshire	1 year permit is \$100 for sticker and \$150 for 52 bags (Not sure of size)
Clarksburg	No transfer station
Florida	\$10 for a permit (bags are free!)
Hancock	Stickers cost \$10, bags are free
Hinsdale	\$65 permit, \$1 per bag tag (sold in 10)
Lanesborough	No trash services, residents have to use curbside; recycling is free at station though
Monroe	Monroe provides residents with curbside pickup
New Ashford	Recycling at transfer station but residents have to just use private haulers for trash
Peru	Year long permit is \$75 with 150 bag tags included
Savoy	1 year permit is \$10, 10 bags for 12.50
Windsor	\$75 for annual permit; must use specific green bags that cost \$25 for 50x 13-gallon bags or 25x 33-gallon bags
Williamstown	Vehicle stickers/permits are \$120/year or \$20/month; bags are \$2.50 each for 30-gallon and \$1.25 each for 15-gallon

Figure 5: Payment methods of NBSWMD towns

Generally, we’ve found that most of the District towns do, in fact, offer a similar system. With variations in price and markers, most towns sell year-long permits and then charge additionally by bag when users drop their waste off. As finances were also something Michael wanted us to look at, we broke down District town comparison even farther and evaluated their waste disposal costs. Next, we calculated how much a resident of each of those towns would spend per year on their waste disposal (annual permit fee + estimated 2 bags/week). Finally, we found the median

annual household income in each town and calculated what percentage of that salary would go towards waste disposal.

Town	Permit price	Bag price	Cost/year (2 ba	Median income p	% salary t
Adams	\$50.00	\$1.20	\$174.80	\$48,313	0.36%
Cheshire	\$100.00	\$2.88	\$400.00	\$73,189	0.55%
Clarksburg	n/a	n/a	n/a	\$57,600	n/a
Florida	\$10.00	\$0.00	\$10.00	\$43,000	0.02%
Hancock	\$10.00	\$0.00	\$10.00	\$67,188	0.01%
Hinsdale	\$65.00	\$1.00	\$169.00	\$42,500	0.40%
Lanesborough	n/a	n/a	n/a	\$46,496	n/a
Monroe	\$0.00	\$0.00	\$0.00	\$25,500	0.00%
New Ashford	n/a	n/a	n/a	\$51,250	n/a
Peru	\$75.00	\$0.00	\$75.00	\$44,531	0.17%
Savoy	\$10.00	\$1.25	\$140.00	\$41,477	0.34%
Windsor	\$75.00	\$1.00	\$179.00	\$51,389	0.35%
Williamstown	\$120.00	\$2.50	\$380.00	\$70,750	0.54%

Figure 6a: Annual Costs and Median Income of NBSWMD towns

For comparison purposes, we then averaged all of these District town’s annual costs and the percentage of salary used for that. While North Adams allows both by weight and bag count drop off, we used the bag count pricing for North Adams to compare to the same system in other District towns. These statistics are listed for North Adams below, underneath the District averages.

District averages	\$51.50	\$0.98	\$153.78	\$51,014.08	0.27%
District medians	\$57.50	\$1.00	\$154.50	\$48,313.00	0.34%
North Adams	\$60.00	\$2.25	\$294.00	\$38,774	0.76%

Figure 6b: Annual Costs and Median Income of NBSWMD towns and North Adams

While the permit price and bag prices are comparable, North Adams has one of the lowest median household incomes compared to other towns in the district. Monroe, Savoy, and

Hinsdale, which are the next lowest in median income, have much lower bag prices. The average District member resident spends about 0.3% of their annual salary on waste disposal; the average North Adams resident could spend 0.75% if they use the bag drop system.

Another comparison we worked on was of hours and charm disposal options. Throughout the District, this is much less consistent. It would then be a major benefit to both District towns and North Adams to be able to pool their open hours and recycling resources. The comparison is below.

Town	Transfer Station Hours	Earth machines?	Paper + Cardbo	Plastic + Glass	Universal Waste	Tires	Grass, Leaves, / Scrap Metal	Electronic Recy	Bulky Househol	Textile Clothing	Swap Shop	Books
Adams	Weds 9-1, Sat 8-3	X	X	X	X	X	X	X				
Cheshire	Weds 12-5, Fri 12-5, Sat 8-5	X	X	X	X	X	X	X	X	X		
Clarksburg	N/A											
Florida	Wed 9-5, Sat 7-3		X	X		X	X	X	X	X		
Hancock	M-F 6-7 PM, Sat 12-2	X	X	X		X	X	X	X	X		
Hinsdale	TR 2-6, Sat 9-3	X *also subsidized \$25	X	X	X		X	X	X	X	X	
Lanesborough	Sat 9 - 3	X	X	X			X			X		
Monroe	N/A		X	X								
New Ashford	Sat 8 - 3	X	X	X								
Peru	Weds 9-1, Sat 8-3	X	X	X	X		X		X			
Savoy	Weds 4:30-8:30, Sat 8 - 1 PM	X	X	X	X	X	X	X	X	X	X	
Windsor	Weds 6-7:45, Sat 8-12:45	X	X	X	X	X	X	X	X	X	X	
Williamstown	T-F 7:30-3:30, Sat 7-3		X	X	X	X	X	X	X	X		X

Figure 7: Transfer Station Hours and Disposal Options

Comparing Transfer Station Prices to Private Haulers

Every private hauler that operates within North Adams has to be approved by the Board of Health. After talking to Missy Martin of the North Adams Board of Health we were able to obtain the list of fourteen registered haulers. After calling each of them, we discovered that only four of them do residential municipal waste and recycling pick up, while the rest focuses more on construction or project waste or hauling general junk. And the four commercial haulers will soon be three, as Casella has bought out TAM and they are currently working on merging operations.

Micheal Canales, as the City Administrator, plans the transfer station budget and controls the sticker and disposal prices. To compare the costs of private haulers and the transfer station,

we used a price prediction made by Mike in anticipation of the merge. Namely, he is planning to raise the residential permit sticker price from \$60/yr in 2019 to \$65/yr in 2020. This, plus the rise in the commercial sticker price from \$85/yr to \$90/yr, is expected to offset the drop in price from non-residential stickers from \$80/yr to \$65. After joining the district, because non-residents are district members, the sticker prices will have to be identical for residents and non-residents.

Based upon the expected 10% increase in non-resident sticker purchases, as well as the adjustments to sticker prices, stickers are expected to bring in \$116,135 in 2020, compared to the \$113,165 revenue in 2019.

Additionally, to offset the rising prices in waste, and especially recycling, disposal, Mike plans to raise the rates of trash disposal from \$116.44/ton in 2019 to \$126.59/ton in 2020. This equates to a change in small bag prices from \$1 in 2019 to \$1.25 in 2020 and large prices from \$2.25 in 2019 to \$2.50 in 2020. Together, these changes in price rates for both yearly stickers and trash disposal, contributes to a larger predicted expenditure for trash disposal in 2020.

We found the rates for the four commercial haulers by calling them. Because haulers adjust the price based on the area being served, they don't publish prices on their website. In fact, some of the junk haulers refused to "give out business information" to students like us. We found this a bit skeptical and hope they don't selectively charge certain people or businesses more or less for trash pick-up.

Below is a table comparing the rates for trash disposal for the transfer station compared to that of private haulers.

	North Adams Transfer Station			
	2019 Resident	2019 Non-Resident	2020 NBSWMD Member	
Total trash cost	\$376.56	\$376.56	\$409.38	
Permit	\$60	\$80	\$65	
Yearly Cost	\$436.56	\$456.56	\$474.38	
	Commercial Haulers			
	SCS	Delmolino & Sons	TAM	Casella
Weekly pick up	\$8.50/pu	\$9.50/pu	\$36/mo	\$43/mo
Biweekly pick-up	\$8.50/pu	\$13/pu; mixed recycling \$4/pu	\$26/mo	\$29/mo
Yearly Cost: Weekly	\$442	\$598	\$432	\$516
Yearly Cost: Biweekly	\$221	\$442	\$312	\$348

Figure 8: Commercial Haulers vs. Transfer Station MSW Rates

Comparing the private hauler's rates to the sticker price and scale rate for the transfer station, it is at first surprising how similar the costs are. However, upon closer analysis it becomes clear that commercial haulers are usually the more expensive option. First, when looking at the average trash production rate of each American household (3.2339 tons), which is how the Transfer Station rate is estimated, the average household would have to subscribe to weekly pick-up to accommodate such a disposal rate. 3.2339 tons is equivalent to 6468 lbs, which is about 125lbs per week. All the commercial haulers explained that they provided customers with 96gal trash bin, which can hold about 102lbs. So we can largely eliminate the cheaper biweekly price from comparison, due to the fact that the transfer station cost is based on this average rate of trash production.

Additionally, the two cheaper commercial options, SCS and Delmolino, are local companies. Casella and TAM (which soon will become one) have much more expensive rates. Yet due to the fact that they are larger companies we can assume they have a greater prevalence

within the community's subscriptions. Upon this comparison, it becomes evident that bringing one's trash to the transfer station is the cheaper option, even with the price increases planned for 2020. However, given how close the commercial and transfer station rates are, it is crucial that North Adams keeps this in mind when adjusting prices in the future to ensure that they are not driving customers to the commercial side.

Turning to interviews with junk haulers, it again becomes apparent that bringing items to the transfer station is cheaper than commercial options. Not only do commercial haulers accept less types of waste (most I talked to did not haul the diversity of items that the transfer station accepts), but often the disposal rate is much greater. Below is a table comparing these rates.

	NA TS	Commercial Haulers	
Appliance	Price \$	Price \$	
TV ≤ 27in	25	35	
TV 28-42in	30	50	
TV ≥ 42in	40	60	
TV w wood console	40	60	
Computer monitor	20	20-60	

Figure 9: Commercial Haulers vs. Transfer Station Junk Rates

Estimations of Commuting Barriers

Car ownership in North Adams is about 2 cars per household, very close to the national average.³¹ There's no reason to believe that car ownership will be a major barrier to accessing the transfer station's services for the majority of households in the city, and district at large, since automobile commuting is commonplace in rural areas. The type of vehicles that one owns is likely to determine the convenience of using transfer stations, which favor pickup trucks for transporting waste, but the city's choice of waste management organization cannot impact individual car ownership choices. The average commute in North Adams is 17.7 minutes, and the average distance between NBSWMD transfer stations and the North Adams transfer station is 23.9 minutes. As noted above, nonresidents of North Adams will likely only be making the trip to the North Adams transfer station for special collection events or hard-to-dispose material collection days. Therefore, this relatively small difference between average commutes and average expected commutes to reach the North Adams transfer station is not expected to deter people in the district from accessing North Adams' services if they are made available.

	Distance from NA TS	Commute Time to NA TS
Adams	3 miles	6 minutes
Cheshire	7 miles	14 minutes
Florida	10 miles	16 minutes
Hancock	17 miles	28 minutes
Hinsdale	24 miles	39 minutes

³¹ "Data USA: North Adams, MA & Berkshire County, MA," Data USA. Accessed 17 November 2019 at: <https://datausa.io/profile/geo/north-adams-ma/?compare=berkshire-county-ma>.

Lanesborough	15 miles	28 minutes
Peru	21 miles	37 minutes
Savoy	15 miles	25 minutes
Windsor	18 miles	27 minutes
Williamstown	9 miles	19 minutes
Average	13.9 miles	23.9 minutes

Figure 10: Generally expected commuting distances and times, based on distances between the ten transfer stations of current NBSWMD member towns and the North Adams transfer station.

Data via google maps at: [https://www.google.com/maps/d/drive?](https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221-OMgNSbMvxXF6CSXJQIN9sPWUTubauXt%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22103106501848010038568%22%7D&usp=sharing)

[state=%7B%22ids%22%3A%5B%221-](https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221-OMgNSbMvxXF6CSXJQIN9sPWUTubauXt%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22103106501848010038568%22%7D&usp=sharing)

[OMgNSbMvxXF6CSXJQIN9sPWUTubauXt%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22103106501848010038568%22%7D&usp=sharing](https://www.google.com/maps/d/drive?state=%7B%22ids%22%3A%5B%221-OMgNSbMvxXF6CSXJQIN9sPWUTubauXt%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22103106501848010038568%22%7D&usp=sharing)

Case Study: Greenfield and the Franklin County Solid Waste Management District

The City of Greenfield is the seat of Franklin County, Massachusetts. Yet, it is not a member of the Franklin County Solid Waste Management District (FCSWMD). Much like North Adams, Greenfield was part of their regional management district until leaving in 2005 because the booming recyclables market allowed the city to profit off waste management without pooling resources regionally.³² However, both cities have been struggling with waste management profitability in recent years.

These similarities between North Adams and Greenfield, although great, are accompanied by stark differences in waste management styles between the two cities. Greenfield's current management system resembles that of most large cities or urban centers, while North Adams has a more rural approach. Greenfield has offered a city-wide curbside pickup program to all

³² Interview with Amy Donovan. 29 October 2019.

residents since the late 1980's.³³ In addition, Greenfield and Franklin County are simply years ahead of North Adams and the NBSWMD when it comes to food waste collection, composting systems and infrastructure. This is important with respect to the near future of waste management in Massachusetts, where the state has lofty goals of capping landfills and reducing the waste stream through improved recycling and composting rates.

Unless North Adams has the financial ability and community support to overhaul the entire municipal waste collection strategy to make it resemble the urban model shown in Greenfield, strengthening the rural approach is advised.

For a more comprehensive analysis of this case study see Appendix A.

Interviews with NBSWMD Town Commissioners

The thirteen town currently in the district have different reasons for being part of the district. For some, it would be too cost-prohibitive to run a transfer station without the district; while for others, the towns benefit from the educational programming. Speaking to each of the towns was able to give us a sense of the various considerations that towns are making in being part of the district and provide testimony/qualitative evidence to support the arguments that we are putting forth in our recommendations.

The following are the questions that we asked each of the towns:

- 1) How was municipal waste/transfer station managed before joining the district?
- 2) What do you see as the benefits of being part of the district?
- 3) What, if any, are the drawbacks of being part of the district?
- 4) Is being part of the district a cost savings for your municipality or an additional cost?
- 5) Did the quality of operation of the transfer station change after joining the district? If so, in what ways?

³³ Interview with Janine Greaves. 14 November 2019.

- 6) What is your opinion of the educational services that the district provides? Is it adequate? Could there be more? Could it be improved? If so, how? Could it be more effective if targeted at different populations?
- 7) Have you seen any effects of the education in the wastestream? In the recyclables?
- 8) Are there any additional services that it would be helpful for the district to provide?
- 9) Do you think the City of North Adams would benefit from joining the district? How might it improve the district's waste system?
- 10) Could you explain the payment system that residents use when they dispose of waste at the transfer station? Do you have any thoughts on how well that system works?
- 11) How are hard-to-dispose-of waste items (i.e. furniture, appliances, e-waste) currently disposed of in your municipality?
- 12) Do you think your residents would use North Adams for disposal of their hard-to-dispose-of waste items?
- 13) Do you have any other thoughts, concerns or suggestions about this subject?

We were able to speak with six of the thirteen towns. As many towns had joined the district well in advance of when the individuals we spoke to had become local officials, some did not know how municipal waste or the transfer station were being managed before joining. Adams and Windsor stated that they had a landfill before the transfer station. New Ashford and Hancock did not have any system, so residents engaged in informal waste disposal (i.e. burn barrels in the backyard) or illegal waste disposal (i.e. dumping). When Williamstown joined the district, it already had its transfer station running, and the district actually used the contracts that they had as models for new contracts for the district.

The towns cited various benefits when responding to question two. There were four topics that emerged in several interviews: contracts/cost, education, administrative management, and collection days. For contracts/costs, education, and collection days, three of the six towns cited these as benefits in their response to question two. Two towns cited administrative management. Responses to this question, rather than reflecting all the benefits that the district provides each town, reflect the most important benefits that each town views that they get from

the district. Even though only three towns cited education as a benefit in their answers to this question, all the towns had positive responses to the question five which asks specifically about the education provided by the district.

In terms of drawbacks, most towns said that they did not see any drawbacks. The one town that did state drawbacks was Williamstown. They stated that they could probably run the transfer station themselves and that being part of the district in terms of operation of the transfer station itself was a cost. However, they qualified this by saying that the shared services of the district and some of the responsibilities that Linda takes on are additional to the town and would otherwise require hiring an additional town employee. They also made the case that it was important to them to support the district as one of the larger and wealthier towns in it.

The question of cost savings and additional costs reflected the responses to the previous question. For all towns except Williamstown (and Peru for where the person we spoke with did not know the answer), being a part of the district was a cost savings or cost neutral. The cost of being part of the district is a short-term cost. However, the services that Linda provides and the cost-reduction from joint contracts are beneficial enough for the town to want to stay in the district.

Many individuals did not know how the transfer station was run before joining the district as it was before they were involved in local government. For New Ashford, the transfer station did not exist before the district. Other responses were that it improved awareness of citizens and that there may have been some increase in the number of people who use their transfer station from more out of town users.

All the towns thought that the educational services that the district provided were positive. The programming in the schools were the most cited form of education. Several people also mentioned distribution of materials through the website and in person at the transfer stations. While there is some outreach to citizens other than students, it is limited, and one town suggested that the district could hold more public forums, like the ones that the Northern Berkshire Community Coalition host.

Some towns drew an explicit connection between education and improvement in the wastestream; while other towns were more hesitant to draw a direct connection but noted the general improvement in wastestream quality and reduction in illegal disposal. Tangential related to the benefits of education on the wastestream, Windsor noted that the district was able to purchase compost bins in bulk and reduced the cost from \$100 to \$43. The town originally purchased 50 bins. They expected the bins to sell out in a year. They sold out in a week. This was given as an example of the cost-reduction from an aggregated system and also speaks to the importance of education as people become more interested in composting.

There were not many suggestions as to additional services that the district could provide. Williamstown stated that when they joined they envisioned the district being bigger and that they could hire and offer their own transportation rather than the private haulers. This could potentially be explored if North Adams were to join the district and could be a cost savings for people in the towns.

Those whom we interviewed understood that many of the benefits of North Adams joining the district were to the smaller towns in the area who do not currently have the capacity to dispose of many of the items that the North Adams transfer station can. The benefit to North

Adams that was suggested most often was that greater bid capacity would reduce the costs of contracts for all the towns.

The payment systems at towns' transfer stations varied. Most use permit systems in addition to pay-as-you-throw costs. For hard to dispose of items, most towns use the special collection days currently to dispose of their waste. Williamstown and Hancock have the ability to handle much of the bulky waste, but use the special collection days for hazardous waste. Most towns expressed that they thought their citizens would use the North Adams transfer station to dispose of their hard-to-dispose-of-items. Some cited the amount of their citizens who use the collection days and how far they travel to those collection days as evidence of this. Closer towns, such as New Ashford, stated that their residents often go to North Adams anyways, so it would not be inconvenient for them to also use the North Adams transfer station.

2019 North Adams City Elections:

On Tuesday November 5th, 2019, North Adams voters took to the polls to decide the fate of all nine city council seats, as well as the position of Mayor. About 22% of the city's 8,517 registered voters turned out, or about 14.4% of the entire 12,970 population.³⁴ The six running incumbent councilpersons, as well as the Mayor Thomas Bernard, were all reelected. The remaining council seats went to one newcomer and two former councilmembers.³⁵

Mayor Bernard has not made any public statements about waste management in North Adams recently, and he seems to be primarily focused on moving the city forward with economic

³⁴ Stafford, Scott. "North Adams City Council: 2 former councilors and a newcomer win seats with incumbents," The Berkshire Eagle. 5 November 2019. Accessed 17 November 2019 at: <https://www.berkshireeagle.com/stories/north-adams-city-council-2-former-councilors-and-a-newcomer-win-seats-with-incumbents,589413>

³⁵ Ibid

and real estate revitalization. Still, in general city-wide context, he has noted the importance of community engagement is essential to good governing.³⁶ The mayor's office is also closely watching the budget and staffing since "the city doesn't have a lot of wiggle room," but they are optimistic about their financial plan for the future.³⁷

Many in the city council expressed a degree of hesitation, or outright opposition, to the idea of a plastic bag ban in the city. However, they do not come off as unsympathetic to the recycling cause. Instead, all emphasize the need for a community culture and awareness around plastic reduction, rather than forcing things through legislation. Many also cite protection of small business owners since they would be disproportionately impacted by the bag ban due to limited resources to buy alternatives.³⁸ Both of these considerations, the need for community awareness before regulatory change and the need to protect small business owners, are crucial to the regional approach to waste management. In its capacity to expand community/school outreach and negotiate composting infrastructure for schools and small businesses, joining the NBSWMD should appeal to many city council members.

For a summary of each new councilmember's experience and positions as they relate to North Adams waste management, refer to Appendix B.

Evaluation Matrix

³⁶ Stafford, Scott. "North Adams mayoral race: Incumbent Bernard has unfinished business to tend to," The Berkshire Eagle. 26 October 2019. Accessed 17 November 2019 at: <https://www.berkshireeagle.com/stories/north-adams-mayoral-race-incumbent-bernard-has-unfinished-business-to-tend-to,588521>

³⁷ Ibid

³⁸ "North Adams Council Candidates on Green Initiatives," iBerkshires. 26 October 2019. Accessed 17 November 2019 at: <https://www.iberkshires.com/story/61069/North-Adams-Council-Candidates-on-Green-Initiatives.html>

Sector	Benefits	Costs
City Administrators (+9, -1)	<ol style="list-style-type: none"> 1. Linda's experience should improve North Adams waste management and transfer station function and provide much-needed educational resources 2. A consolidated County will transition more easily to state-mandated composting 3. Residents will need to be educated in order for NA to successfully comply with state-mandated composting, which Linda can provide 4. Linda can apply for MassDEP grant funds 5. Better waste disposal options and management would reduce illegal dumping and littering 6. The NA transfer station could cut its hours and operation costs by utilizing other District stations 7. An increase in traffic to the NA transfer station would be a stabilizer in these rocky recycling times. 8. Annual station inspections cost thousands, but District stations pay \$150 9. Hazardous waste currently costs \$10,000/year and membership would wipe these costs 	<ol style="list-style-type: none"> 1. It will cost North Adams more to be a part of the District (\$20,000) than it does to operate their transfer station individually 2. Hiring a part-time waste educator would cost less (\$18,000) than joining the district

<p>North Adams residents (+3, -2)</p>	<ol style="list-style-type: none"> 1. If/when composting becomes mandated, Linda can provide resident education 2. Money from grants that Linda can apply for will be circled back into the community and put towards education 3. More flexibility for residents in where and when they drop waste with all of the District's stations 	<ol style="list-style-type: none"> 1. We cannot be sure that members would be readily informed of how and when they could use District stations 2. It will cost North Adams more to be a part of the District than it does to operate their transfer station individually, which may impact residents
<p>Transfer station employees (+4, -1)</p>	<ol style="list-style-type: none"> 1. Linda's resources and experience will improve general station function 2. Similarly, Linda's experience will ease station transition to composting 3. Linda's compost education for residents will make the station employee's job easier 4. With more station options, traffic would be diluted, so employees would manage fewer customers at a time. 	<ol style="list-style-type: none"> 1. Labor for station staff would increase through increased traffic, and enforcing proper station operation is already an issue currently

<p>Nonresidents: District member users of the North Adams transfer station (+4, -1)</p>	<ol style="list-style-type: none"> 1. North Adams' central location makes it an accessible station for smaller District towns 2. Residents of smaller District towns can take advantage of NA's better charm recycling capacity 3. With more stations in the District, members have more flexibility in where and when they drop waste. 4. NA's size and contributions should offset District costs for smaller member towns 5. <u>Composting</u> 	<ol style="list-style-type: none"> 1. We cannot be sure that members would be fully aware of how and when they could use District stations
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<p>District administrators (+7, -1)</p>	<ol style="list-style-type: none"> 1. A united District will be better prepared to adjust to state-mandated composting 2. A united District will be better prepared to adjust to private hauler monopolies 3. A united District will be better prepared to adjust to harder recycling requirements 4. North Adams' central location makes it an accessible station for other District towns, improving overall functioning 5. North Adams' high charm capacity provides District members with more opportunity to recycle charms 6. With more stations in the District, members will have more flexibility in waste disposal (when/where) 7. District expenses would be offset by this larger town's contributions 	<ol style="list-style-type: none"> 1. Linda Cernik, coordinator of NBSWMD, would be taking on a massive increase in responsibility
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We believe this modified planning balance sheet (PBS) of nonmonetizable impacts is best for our project since it acknowledges potential impacts without relying on informal estimations and subjective weighting to clearly establish a preferred option. It is “modified” since it considers the types of costs and benefits (private, social, real, transfer, technological, pecuniary) and their distributions across different interest groups, but does not frame them in a quantified “transaction” framework between producers and consumers.

In reality, many factors of North Adams joining the NBSWMD cannot be estimated too far into the future due to the unpredictable nature of the waste management industry. Renewed waste hauling and processing facility contracts adjust to state legislation and the global marketplace, which highly dynamic in recent times. For example, China's waste contamination regulations shocked the U.S. recycling system less than 2 years ago, and the number of capped landfills in Massachusetts continues to increase-- forcing longer interstate hauling routes. In addition, it is not our place as researchers to weigh how intense different potential impacts will be for North Adams or try to weigh which sectors can/should bear the most burdens or receive the most benefits. These tasks ultimately come down to the elected representatives of the city of North Adams, who can look at how the presented list of intersectoral costs and benefits aligns or conflicts with their duties as public servants.

We've collected data on the cost for residents at each transfer station in the district, as well as the cost for using various private haulers in the region. Although we could create a monetized cost benefit analysis for residents in the regions, we have two specific reasons to avoid this. First, the main reason that residents choose to use private haulers instead of the transfer station is because many households find curbside pickup to be more convenient. A cost benefit analysis would not be able to monetize convenience and would not increase transfer station profitability since its use depends on convenience more than cost. Secondly, such an analysis is not in the purview of our project. Making an argument to decrease private hauler's business in favor of popularizing the transfer station could be problematic with business owners and hauler contract negotiations.

Reasons for Merging

Cost of Joining the District

To join the district, every municipality must pay \$2.86/person every year. This cost is adjusted every year based on budget planning on part of the district. For example, in 2018 the cost for each municipality was \$2.87/person and 2019 it was adjusted to \$2.86/person. While this may be a marginal difference, it shows the available flexibility. At current rates, if North Adams were to join the district, it would cost them \$36,905. However, the cost is expected to be close to \$30,000 once the population of North Adams is considered in setting the 2020 budget.³⁹ Their added population of 12,904, would increase the district's total population by 39%. This equivalates to a 39% increase in the district's budget supplied by the member municipalities. Yet, at the same time, the district does not predict much increase in expenditure upon North Adam's inclusion. Thus, they will likely be able to lower the per person costs.

Savings of Joining the District

Not only is joining the district essential to a sustainable future for North Adams waste management, but it also can save the city money. Every year, North Adams has to pay around \$10,000 to collect and dispose of household hazardous waste such as paint and oil.⁴⁰ Upon joining the district, NBSWMD would cover this cost for them. Additionally, a few times a year North Adams has to pay extra to dispose of recyclables. Normally, a load of recycling costs \$557 to dispose of, but if it is too contaminated (from residents not washing out their recyclables or

³⁹ Interview with Linda Cernik and Michael Canales. 21 November 2019.

⁴⁰ Interview with Michael Canales. 21 November 2019.

throwing trash in the recycle stream) it can cost up to \$1200 to dispose of.⁴¹ This is evidence that more education for North Adams residents on how to recycle properly is direly needed, not only to reduce costs but also to raise sustainability awareness. The fact that North Adams' transfer station semi-frequently produces contaminated loads is evidence that residents need to be informed about how proper recycling can save costs for both themselves and the city. As global warming and other environmental disasters continue to worsen, it is crucial to raise awareness of every resident in every city. This is a major reason why joining the district is necessary. The district provides comprehensive outreach and education by applying for state grants. Not only will this outreach extend to North Adams residents upon joining the district, but the boost to the district's population will only increase the grant money coming into the district, which will increase the quality of the educational outreach. Additionally, this service provided by the district will save money, for if North Adams wanted to hire their own part-time educational coordinator, it would cost about \$18,000/yr plus additional expenses for executing the outreach programs.⁴² Moreover, the city will save about \$1000-2000/yr in inspection costs because the district covers the annual inspection expenses.

The district's grant funding has increased by 48.5% in the past two years, from \$23,900 to \$35,500.⁴³ These grants are awarded to individual municipalities as well as the district as a whole, originating from the Massachusetts Department of Environmental Protection's

⁴¹ Email exchange with Michael Canales. 19 November 2019.

⁴² Interview with Michael Canales. 21 November 2019.

⁴³ "Northern Berkshire Solid Waste Management District CY18 Annual report." Accessed 2 December 2019 at: <http://www.nbswmd.com/media/5c93b5544cfb8.pdf>; and "FY 20 SMRP Small Scales Grant Allocations." Accessed 2 December 2019 at: https://drive.google.com/a/williams.edu/file/d/1ewsK9khdIj1NKx_DnsBk8HYWyM8sRDXe/view?usp=sharing

Sustainable Materials Recovery Program (SMRP) and Recycling Dividends Program (RDP).

These programs award grants based on a municipality's success in implementing waste reduction and recycling programs, so the increased grants indicate healthy progress in the district.

Furthermore, this grant money can be used for anything related to further improving waste services, such as "buying new recycling equipment, procurement of environmentally preferable cleaning supplies, improvements to infrastructure, or even printing promotional materials to encourage waste reduction."⁴⁴ This means that NBSWMD's grant funding is projected to continue rising as the state continues to fund the programs that it rewards. The district's experience and efficiency with writing grant proposals will surely extend to North Adams, where the larger population will increase grant rewards even more. In this cycle, both North Adams and the NBSWMD can expect the state of Massachusetts to support the merging process.

The savings to the city upon joining the district will only increase with time for multiple other reasons. Increasingly progressive environmental legislation continues to increase the cost and labor associated with waste disposal. For example, a new law increased the processing required for brush composting, which led North Adams' brush disposal cost to increase from \$12,000 in 2018 to \$23,000 in 2019.⁴⁵ As part of the district, such labor could be consolidated by creating a central place for brush disposal, increasing the processing efficiency.⁴⁶ Moreover, as part of the district, brush disposal costs could be further negotiated between the towns and overall decreased if the district members agree to give North Adams financial support as a

⁴⁴ Snoonian, Jeff. "Northern Berkshire Solid Waste Mulls Possible Expansion," iBerkshires. 13 October 2019. Accessed 2 December 2019 at: <https://www.iberkshires.com/story/60993/Northern-Berkshire-Solid-Waste-Mulls-Possible-Expansion.html>

⁴⁵ Interview with Michael Canales. 21 November 2019.

⁴⁶ Interview with Linda Cernik. 21 November 2019.

consolidated brush collection site.⁴⁷ Such environmental regulations are likely to keep coming down the pipeline as the state nears deadlines to reach its waste reduction goals.

Similarly, Vermont recently passed a new law that banned recyclables, yard waste and food scraps from resident's trash bins. Consequently, many Vermonters have to figure out how to compost all of their organic waste. Being so close to Vermont, and of similar political orientation, it would not be surprising if Massachusetts adopts a similar law in the next few years. As part of a district, it will be much more simple and inexpensive to figure out a centralized residential organics program, than the city's transfer station on their own. As more expensive and logistically confusing laws are passed in the future, it is advantageous for North Adams to join the district to increase collective efficiency and reduce costs.

Lastly, joining the district will give North Adams more buying power when it comes to renegotiating hauler contracts in the upcoming fiscal year. Cassella Waste Systems has been acquiring local competitors and their assets, such as TAM Waste Management and Republic Services, which were previously contracted with both North Adams and the NBSWMD.⁴⁸ With local competition stunted between private haulers, consolidating resources is in the best interest of North Adams and all of the northern berkshire townships. While not a direct cost savings, merging with the district would vastly lower the chances of North Adams being stuck in exploitative waste collection, hauling, and processing contracts with Cassella. Trying to make contracts with other companies will be difficult and inefficient, increasing costs simply due to the distance between other available haulers and North Adams.

⁴⁷ Interview with Linda Cernik. 21 November 2019

⁴⁸ "Meet Our Parnters," Northern Berkshire Solid Waste Management District. Accessed 2 December 2019 at: <http://www.nbswmd.com/Partners>

Conclusion

We recommend that the City of North Adams joins the Northern Berkshire Solid Waste Management District.

In conversations with the town managers of other District towns, we heard nothing but positive remarks about District membership and the guidance of Chair Linda Cernik. Her dedication, experience and attention to detail makes waste management easy for her towns. Furthermore, the educational outreach that she offers through school visits and handouts for station visitors is a benefit that likely would not happen without her efforts. These education opportunities would also prove invaluable if composting were to become legally required, which is a definite possibility in Massachusetts given the recent legislation added in Vermont. Linda also has a proven track record of earning grant money for her towns, which is an obvious benefit to the membership. Lastly, given the instability of the current recycling market, and that the North Adams transfer station is currently operating significantly under its capacity, the extra material that would come in through increased non-resident traffic would be nice padding. Going forward, we may also see waste disposal become increasingly difficult or costly; the sharing of contracts for disposal within the District will give North Adams and all of the NBSWMD towns a bit of insurance and cost stability. In the words of councilman Paul Hopkins, ‘We have no islands in North Berkshire’.

Michael expects a 10% increase in non-resident household waste permit purchases, but the costs of District membership (~\$30,000) will offset this revenue. Although North Adams would be spending more money to join the district than in operating their transfer station individually, we believe that the benefits of Linda’s attentive management, her education efforts

and her grant-winning abilities would make these costs worth it. Membership would cost a similar amount as the cost of hiring someone part-time to handle waste education in North Adams. Linda's personality and work ethic is an added benefit, however, as is the value added for the larger North Adams community. The City would also save money on annual inspection costs, which the District offers for a fraction of the cost that individually operating transfer stations must pay.

The benefits to the community are also unparalleled. In investigating the private hauling options around the region and their costs, we found that waste disposal at transfer stations is much cheaper than private hauler use. Therefore, following that most District residents will use their transfer station services, we must prioritize the management of these stations. For small towns to keep their costs down, District unity is key; the larger entity of the District is able to forge better contracts for disposal than individual towns would be able to. The District would have a 38% increase in buying power with the inclusion of North Adams residents in its numbers. This is particularly important in the context of the privatization and monopolization of the private hauler industry; Casella has purchased TAM as well as many of the final destinations for waste. Therefore, with monopoly over the steps in the process and over the customer's choice of brand, Casella also has free reign over the price range of private waste hauling. A more united District will be able to present a viable alternative to this monopoly; it is therefore in the best interest of the community at large to strengthen itself as a region against this force.

Another massive benefit to the community would be the accessibility of the North Adams as a CHARM (Center for Hard to Recycle Materials). Centrally located within the Northern Berkshire region, we can expect other District member residents to travel to North Adams to

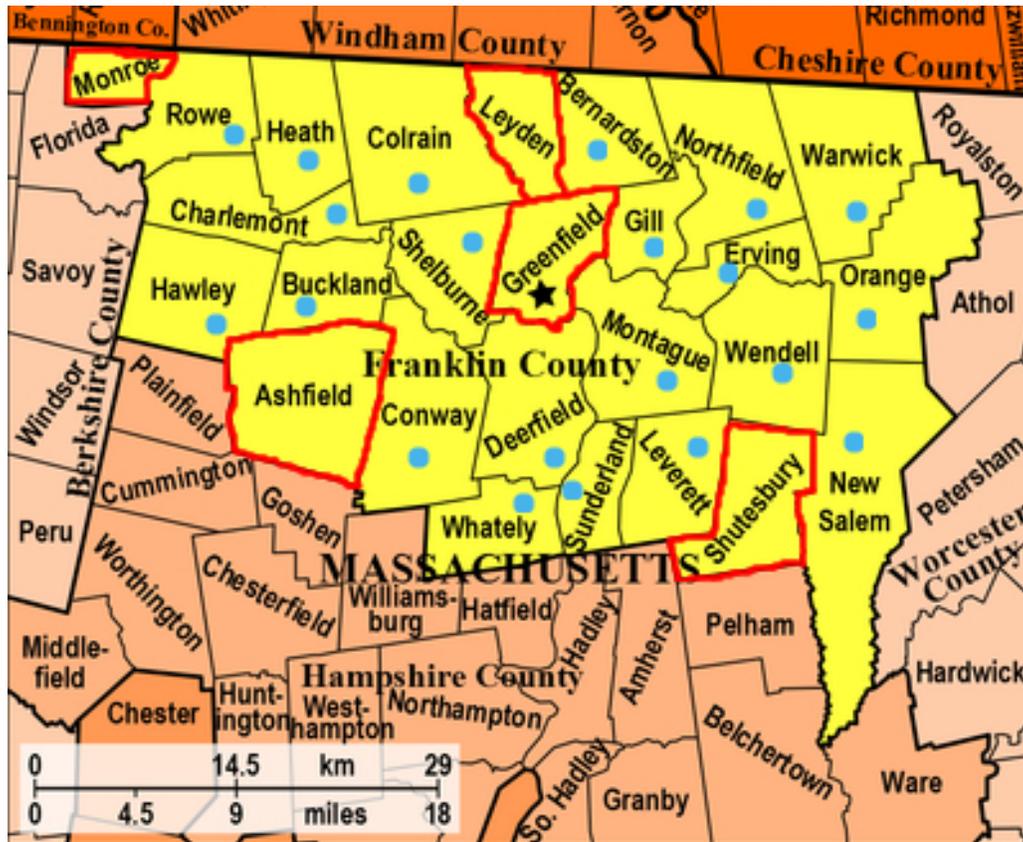
utilize its wide range of recycling options. With a larger transfer station operating at significantly less than its capacity, the North Adams transfer station could offer a valuable way for Berkshire residents to dispose of their hard-to-recycle items more frequently than they currently are able to, given the smaller size of most towns and transfer stations around the District. Lastly, this would hopefully contribute to efforts to decrease the amount of illegal dumping around all of the Berkshires.

In final analysis, we recommend that the City of North Adams merge with the Northern Berkshire Solid Waste Management District. It will cost North Adams more to be a member, but the costs will pay themselves off easily in Linda's management and educational outreaches.

We thank Michael Canales, Linda Cernik, Sarah Gardner, and all of the town managers with whom we spoke for their help in completing this report.

Appendices

Appendix A: Case Study (Greenfield and the Franklin County Solid Waste Management District)



Map of Franklin County, Massachusetts. Townships with a blue dot are members of Franklin County Management District, and nonmembers are outlined in red.

The City of Greenfield is the seat of Franklin County, Massachusetts. Yet, it is not a member of the Franklin County Solid Waste Management District (FCSWMD). Much like North Adams, Greenfield was part of their regional management district until leaving in 2005 because the booming recyclables market allowed the city to profit off of waste management without pooling resources regionally.⁴⁹ North Adams is a small city with a population of 13,763--adjacent

⁴⁹ Interview with Amy Donovan. 29 October 2019.

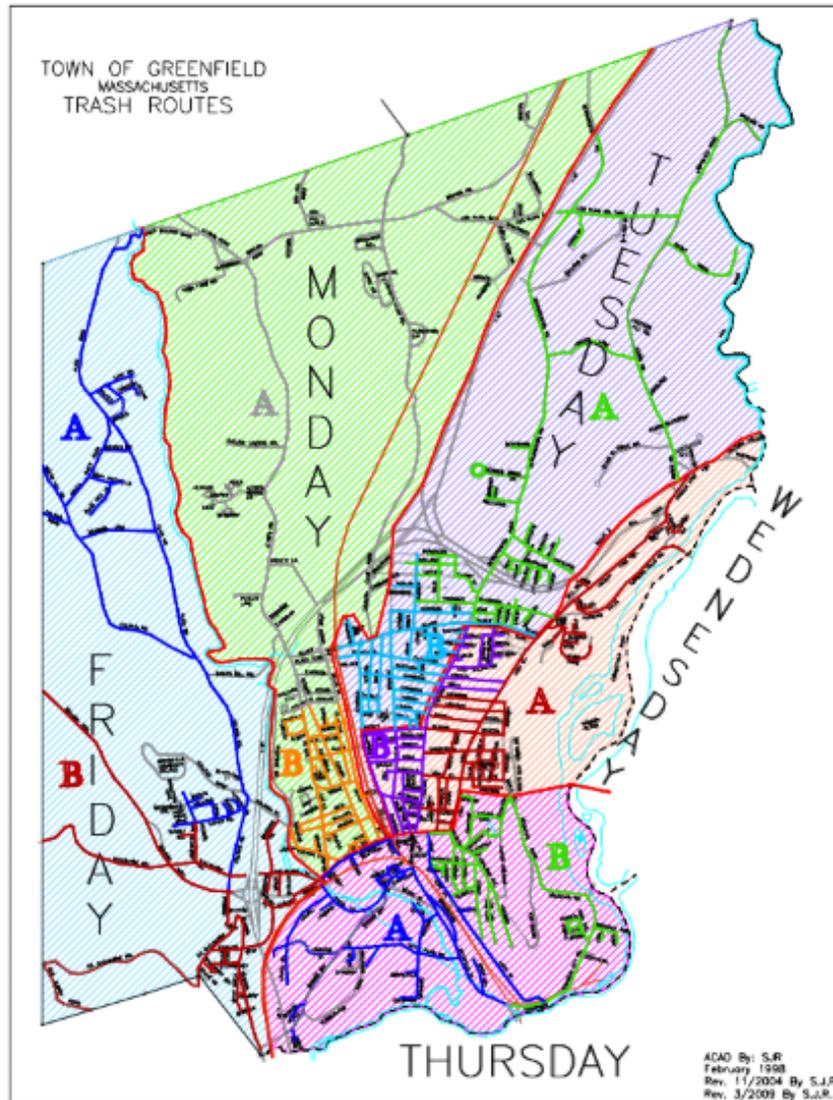
to Adams, a smaller town with 8,494. Greenfield is a small city with a population of 17,565-- adjacent to Montague, a smaller town with 8,455. Lastly, both cities have been struggling with waste management profitability in recent years. Greenfield's revenue from recycling has plummeted by approximately 80.4% since 2006. This trend is expected to continue now that the Springfield Materials Recycling Facility (MRF) started charging for the recycling services that it had previously provided to a large majority of Western Massachusetts.⁵⁰

These similarities between North Adams and Greenfield, although great, are accompanied by stark differences in waste management styles between the two cities. Greenfield's current management system resembles that of most large cities or urban centers, while North Adams has a more rural approach. Most obviously, Greenfield has offered a city-wide curbside pickup program to all residents since the late 1980's.⁵¹ This is in stark contrast to North Adams, where residents can either bring their waste to the transfer station or pay for curbside pickup from a private hauler. This centralized system, especially considering its long history with residents, gives Greenfield the advantage of a centralized outreach and education platform. Since everyone uses the city's curbside pickup, everyone receives the same instructions and is on the same page when prices or procedures have to change. Additionally, Greenfield has its own fleet of trucks to run the curbside collection system. Waste is picked up in marked pay-as-you-throw (PAYT) bags

⁵⁰ "Recycling Totals by Tonnage," Greenfield Department of Public Works. 2019. Accessible at: <https://drive.google.com/a/williams.edu/file/d/1-z7Pj0Q6yRXW-UK7qBTYy-L1HcVwthQc/view?usp=sharing>

⁵¹ Interview with Janine Greaves. 14 November 2019.

every week, and dual stream recycling is picked up bi-weekly.⁵² This system is convenient for residents, while incentivizing a reduced household waste stream.



Map of greenfield municipal trash collection routes. Accessible at: https://drive.google.com/a/williams.edu/file/d/1sjsKfQxXUejagwn2zhMuOTPoo_sxqjwR/view?usp=sharing

Greenfield's existing waste management networks and existing assets are large reasons why FCSWMD and the city are not considering a reunion in response to the past decade's tumultuous changes in the waste management industry. Unless North Adams has the financial ability and

⁵² "Trash and Recycling," City of Greenfield. 6 August 2019. Accessed 18 November 2019 at: <https://greenfield-ma.gov/p/736/Trash-and-Recycling>

community support to overhaul the entire municipal waste collection strategy to make it resemble the urban model shown in Greenfield, strengthening the rural approach is advised.

In addition, Greenfield and Franklin County are simply years ahead of North Adams and the NBSWMD when it comes to food waste collection, composting systems and infrastructure. This is important with respect to the near future of waste management in Massachusetts, where the state has lofty goals of capping landfills and reducing the waste stream through improved recycling and composting rates. Greenfield works with the Compost Co-operative and Martin's farm to divert food scraps from residential and commercial waste streams back into the topsoil of Greenfield's own farms.⁵³ Keeping things hyper-local keeps hauling costs to a minimum. Meanwhile, the FCSWMD has built food waste collection into 10 of its member towns' transfer stations thanks to grant funding over several years. The district also sells subsidized kitchen and home composters to encourage household composting.⁵⁴ Funded by USDA grants and in collaboration with the Northeast Recycling Council. Franklin County was the subject of an intensive case study for rural and small-town implementation of source-separated organics. The case study offers an excellent model to replicate on a regional scale in the Berkshires, as they report thousands of dollars in annual cost savings due diverting food material.⁵⁵ Grant funding for piloting innovative programs and educational outreach campaigns is easier to obtain when

⁵³ "About the Compost Co-op," The Compost Cooperative. Accessed 18 November 2019 at: <https://www.thecompostcooperative.com/about-us>

⁵⁴ Donovan, Amy. "Waste Reduction and Composting in Franklin County," Franklin County Solid Waste Management District. PowerPoint presentation. Accessed 18 November 2019 at: <https://drive.google.com/a/williams.edu/file/d/1H0x9y8X6cBI7az-T9lnO2s0k8ewlq2CE/view?usp=sharing>

⁵⁵ "Rural/Small Town Organics Management Case Study Franklin County Solid Waste Management District, Massachusetts," Northeast Recycling Council. 3-4, 8-9. Accessed 18 November 2019 at: <https://drive.google.com/a/williams.edu/file/d/1xsX8pqxO6n20n21muKxsyXVJ2HuWVeNx/view?usp=sharing>

that funding serves more people, which partly explains why the FCSWMD has been able to expand composting and outreach to an extent not found in the NBSWMD.⁵⁶

North Adams is in a tight spot because the transfer station currently sends materials to a Casella Waste Systems facility (formerly owned by TAM Waste Management) in Shaftsbury, VT.⁵⁷ An alternative such as the Springfield MRF would be cheaper up-front since the facility is owned by the Massachusetts Department of Environmental protection and operated by Waste Management Recycle America (WMRA) under contract.⁵⁸ However, the state-supported facility in Springfield is about twice as far as the private facility in Vermont. High costs of longer hauling distances keep the city's options very restricted to the Northern Berkshire and Southern Vermont regions, where Casella Waste Systems is buying out smaller competitors. An integration strategy similar to Casella's would bolster the city's negotiating power when faced with potentially price-gouging monopolies.

⁵⁶ Interview with Amy Donovan. 29 October 2019.

⁵⁷ "Casella acquires TAM Inc, three solid waste businesses," VermontBiz. 6 June 2019. Accessed 18 November 2019 at: <https://vermontbiz.com/news/2019/june/06/casella-acquires-tam-inc-three-solid-waste-businesses>

⁵⁸ "Operations," Springfield Materials Recycling Facility. Accessed 18 November 2019 at: <http://springfieldmrf.org/operations>

Appendix B: Summary of Public Comments of City Councilmembers

Blackmer

- Local government experience as a town administrator and assistant town accountant
- Private sector experience includes management, event planning, state and federal compliance duties, budgeting, and more.
- “I would like to see and be part of a collaborative and cooperative approach between the council, administration, boards, staff, regional and state officials to address the challenges we face in zoning and planning, funding [and] legislation”⁵⁹

Bona

- When asked how the city could improve composting and recycling to reduce their waste stream, Bona looked at the schools as the logical starting point. He said that a lot of food goes to waste each day in the public schools, so improving the waste stream there would teach children about composting and waste. He cites the Drury High School Greenhouse program as a potential site for diverted compost, although this option could require some capacity-building, depending on the scale of diverting efforts.⁶⁰
- “The city needs to do a better job on educating about recyclables in the schools, to its staff and residents. The city should be a role model to its residents.”⁶¹

Harpin

- Supports “community composting”⁶²
- “From a financial perspective,” she added, “the biggest hurdle we need to jump is to find successful paths to increase our population, which in turn will increase our tax base and valuations. To be competitive we need to be adaptable and embrace change without losing our community culture and rich history.”⁶³

Hopkins

- Wants to look into single-stream recycling, believes it will encourage more recycling
- “When all the information is in, I suspect I will support North Adams joining the Northern Berkshire Solid Waste District. We have some big challenges ahead when it comes to solid waste disposal and recycling, and it's generally better to approach those problems with allies.”
- “Education is always a plus” and supports a “public awareness campaign on composting”

⁵⁹ Stafford, Scott. "North Adams City Council: Profiles of five of the candidates," The Berkshire Eagle. 18 October 2019. Accessed 17 November at: <https://www.berkshireeagle.com/stories/north-adams-city-council-profiles-of-five-of-the-candidates,587814#top-carousel>

⁶⁰ "North Adams Council Candidates on Green Initiatives," iBerkshires. 26 October 2019. Accessed 17 November 2019 at: <https://www.iberkshires.com/story/61069/North-Adams-Council-Candidates-on-Green-Initiatives.html>

⁶¹ Ibid

⁶² Ibid

⁶³ Stafford, Scott. "North Adams City Council: Profiles of five of the candidates"

- “Greater opportunities to recycle electronics and appliances, and greater opportunities to get rid of hazardous waste. But let's be clear — those things cost money and we need to know where the money will come from. I'd love to see more composting; let's get students involved in that. Perhaps it's time again to focus on the 'Reduce-Reuse-Recycle' philosophy ... it reduces waste but also reduces cost.”
- He notes that visiting the North Adams Transfer Station has left him surprised by the amount of trash produced by “one small city”
 - This is interesting, since the site's capacity is much larger. Moreover, the transfer station probably doesn't account for more than half of the city's municipal waste.⁶⁴
- Served on Public Services committee in most recent term

LaForest

- “The Barrett, Alcombright and Bernard administrations and the city councilors serving with them, together with our state reps and senators, have worked hard with the people of North Adams to revitalize our city and economy at a time when many small rural communities have struggled. It is critical that we continue to build on that foundation and move North Adams and the Northern Berkshires forward.”⁶⁵

Lamb

- “I think linking with the breadth of regional and state resources that support improved composting and recycling is key.”
- Experience/success with piloting programs for on-street recycling collection downtown
- “On the composting side, I am definitely in favor of finding ways to integrate both small and large scale composting within the region and in North Adams.”
- “I think there is a lot of potential to build habits with our youth to then trickle up a more comprehensive approach to composting and waste reduction behaviors. A commercial scale compost program (ideally supported with a fleet of no-emission transports) would be an aspirational goal to see in North Berkshire”
- “Finally, I'd love for us to pilot and potentially adopt innovative practices that are seeing benefits in other communities. I think we are great at trying things out and being comfortable with novel approaches and potential failures, but I don't know that we've approached green initiatives in that same way.”⁶⁶
- His vision for North Adams “is one of sustained growth, community pride, improved opportunities for individuals to thrive, and a strategic revitalization of our core infrastructure to support resilience as we head deeper into the 21st century.”⁶⁷

⁶⁴ "North Adams Council Candidates on Green Initiatives"

⁶⁵ Stafford, Scott. "North Adams City Council: Profiles of four of the candidates," The Berkshire Eagle. 19 October 2019. Accessed 17 November at: <https://www.berkshireeagle.com/stories/north-adams-city-council-profiles-of-four-of-the-candidates,587889>

⁶⁶ "North Adams Council Candidates on Green Initiatives"

⁶⁷ Stafford, Scott. "North Adams City Council: Profiles of four of the candidates"

Appendix C: Interview List

Khrysti Smyth Barry, *Customer Solutions Specialist*, The Center for EcoTechnology
Amy Donovan, *Program Director*, Franklin County Solid Waste Management District
Mary Stucklen, *Program Manager*, Berkshire Zero-Waste Initiative
Jason Hoch, *Town Manager*, Williamstown
Jenny Dunning, Green North Adams
Veronique Blanchard, *Municipal Assistance Coordinator, Western District*, MassDEP
Janine M. Greaves, *Office Manager*, City of Greenfield Department of Public Works
Tony Schifano, *CEO*, Antōs Environmental
Susan Waite, *Recycling Coordinator*, Northampton
Jim Bush, *Selectman*, Adams
Douglas McNally, *Board Commissioner*, Town of Windsor
Richard DeMyer, *Board Commissioner*, New Ashford
Timothy Kaiser, *Board Commissioner*, Williamstown
John Quimby, *Board Commissioner*, Hancock
Barry O'Keefe, *Board Commissioner*, Hinsdale