Expanding Access to Construction and Demolition Debris Recycling in Philadelphia: A Policy Guide

June 2023
How to Read This Document

This policy paper is designed to be a thoroughly-researched, concise, and persuasive vehicle to explain to legislators and policy makers how to craft straightforward and effective policy that creates the opportunity for small-scale haulers to recycle construction and demolition (C&D) debris in Philadelphia.

Although the intended audience for this paper is lawmakers in the City of Philadelphia, Circular Philadelphia also considered a wide array of stakeholders when developing the content. The local business community and everyday consumers, for example, must clearly understand what is being proposed and why.

This paper is structured in four parts.

Part I: Current State of Affairs shares with readers a data-driven summary of how C&D debris impacts waste and litter in Philadelphia and our national and global ecosystems. This section also explores C&D disposal regulations in Philadelphia and Pennsylvania and includes impact statements from business and industry stakeholders. Finally, this portion reveals just how challenging it is for small-scale haulers to properly manage C&D debris in Philadelphia. The intent of this section is to show the reader why we need to act and what is already at our disposal to enact this policy in Philadelphia today.

Part II: Possible Solutions to Address This Problem takes the reader on a journey across the globe and right here in Philadelphia to see how governments are using proactive engagement—rather than punitive reaction—to ensure that small-scale haulers have ample opportunities for C&D debris recycling and viable alternatives to illegal dumping. Although Circular Philadelphia does not condone illegal dumping, we do take the approach that we must meet people where they are to solve major municipal issues.

Part III: Circular Philadelphia’s Recommended Solution lays out the full policy proposal recommendation to address this solution in a robust and structured framework. This is made up of three critical questions that are applied to the proposed policy:

- Can we do it?
- Will it work?
- Is it worth it?

If those questions cannot be answered confidently, then we feel that any proposed policy would not be successful. The intention for this section is to help the reader plainly understand the possible challenges of enacting this policy and the comprehensive viability of its success.

Part IV: Conclusion ends the paper with a clear-eyed analysis of the public and private investment that is necessary for the success of this policy. As the saying goes, every long journey starts with a first step. While this policy could take effect in a reasonable time frame by a Mayoral directive to the Sanitation Division of the Philadelphia Streets Department, there are many smaller steps that must be taken to ensure efficient and effective enactment.

Thank you for taking the time to read this paper and consider its findings.
Executive Summary

Illegally dumped C&D debris threatens the health of global and local ecosystems and are an environmental justice issue in Philadelphia. The Built Environment Working Group, a committee of Circular Philadelphia, views the lack of recycling opportunities and illegal dumping of C&D debris as two sides of the same issue for a poorly regulated—and rarely engaged—industry. Cities, states, and countries around the world are identifying political and economic solutions to address this issue. The Built Environment Working Group thoroughly researched these solutions and explored the unique conditions in Philadelphia to formulate the proposed policy recommendations. Our intention is for legislators, policy makers, business owners, and the public to acknowledge two things when they read this paper: 1) immediate action is required to address the problem of C&D debris entering landfills and incinerators or being illegally dumped in historically red-lined and disadvantaged communities, and 2) this policy is a common-sense approach to provide building, trade, and small-scale hauling businesses with robust support and consistent guidance to encourage C&D debris recycling—and the City of Philadelphia already has many of the tools it will need to successfully implement the policy.

Part I: Current State of Affairs

Illegal dumping is an issue that has long plagued Philadelphia. A cursory online search of the key phrase “addressing illegal dumping in Philadelphia” returns articles dating back to former Philadelphia Mayor John F. Street administrations’ pledge (circa 2000-2008) to rid Philadelphia of the issue. Cleaning up illegal dumpsites was a priority, but the Street administration knew that proactive measures were needed to address the root issue and were the way to create lasting change. As part of the Neighborhood Transformation Initiative (NTI), the Street administration created the Vacant LandCare Program with the Pennsylvania Horticultural Society to turn vacant lots into positive green spaces in Philadelphia and to decrease illegal dumping and violence.

Almost two decades, and two mayoral administrations, later, this approach was validated by the University of Pennsylvania in a randomized control trial study which found that cleaning and greening lots not only reduced trash, but also had the potential to reduce gun violence by 29%\(^1\). It was this principle of proactive strategy and an on the ground approach that led Mayor Jim Kenney to launch the Zero Waste and Litter Cabinet in 2016.

By identifying and expanding upon the proven success of long-term proactive strategies and immediate response, the

\(^1\) Branas et al. 2018, 2950
Zero Waste and Litter Cabinet created a five-part action plan that began with holding illegal dumpers accountable through law enforcement. Other priorities in the plan included regulating the waste hauling industry and increasing the number of clean and green vacant lots. The Zero Waste and Litter Cabinet was active for just four years, but during that time the amount of illegal dumping decreased by almost 40% in Philadelphia—from about 10,000 tons in 2016 to 6,377 tons in 2020.²

Due to pandemic related budget cuts, the Kenney administration disbanded the Zero Waste and Litter Cabinet in 2020.³ In 2021, the Streets Department paid $8.3 million to remove 7,171 tons of illegally dumped materials and 83,600 tires from 1,309 sites. Those numbers are up from the 6,377 tons and 30,800 tires removed from 2,152 sites in 2020.⁴ Needless to say, Philadelphia is once again heading in the wrong direction as yet another mayoral administration comes to an end.

The anti-litter advocacy group Keep Pennsylvania Beautiful estimates that the City pays approximately $600 per ton to clean an illegal dumpsite.⁵ If it were possible to get the amount of illegal dumping in the City back down to 2020 levels, Philadelphia taxpayers would save almost $750,000 annually in cleaning costs. The Streets Department is so outmatched by the volume of illegal dumping that it needs to double its removal capacity from one crew to two crews and has requested an additional $2 million in the FY2023 budget to do so, which is more than double what it would cost if we just reduced illegal dumping.

It’s not just dollars and cents that are at risk when dealing with illegal dumping in Philadelphia. According to the 2019 Litter Index Report, construction material was the most illegally dumped material appearing on 3,084 blocks in the city.⁶ The neighborhoods with the worst dumping were located in north and southwest Philadelphia, which is home to about 10% of the City’s population and predominantly occupied by people of color.

Using survey data that was collected by the Lenfest Institute for Journalism, the Philadelphia Inquirer reported that illegal dumping was rated as a top issue for Black and brown Philadelphians. Out of 1,200 respondents, 60% said that illegal dumping is a top issue. When the responses are filtered to only include Black and Latino respondents, 70% said that illegal dumping is a top issue.

“Let’s just be real, there are places you can go where there are no dumping in Philadelphia, because they don’t stand for it,” said Dallas Herbert, a Lawncrest resident who has been fighting illegal dumping in his neighborhood for years. “They’ll do it in the Black and brown neighborhoods. We know that’s where it’s concentrated.”⁷

Even with the documented hardship and indicators that we are headed in the wrong direction, Philadelphia still maintains its goal of “zero waste” entering landfills and incinerators by 2035. It was shocking to read in the City’s Five Year Plan (2023-2028) that the recycling rate in Philadelphia is down from 22% in 2019 to a mere 8% in 2022.⁸ However, the next mayoral administration has a key opportunity to reverse these negative trends and put Philadelphia on a better path. One way to do that is to increase the amount of C&D debris being recycled in the City of Philadelphia.

More regulation and oversight of the waste hauling industry and increased enforcement has been proven to reduce illegal dumping on vacant lots. The Environmental Protection Agency (EPA) estimates that 40% of material (weight) entering landfills...
is C&D waste. Therefore, creating proactive policies to ensure that C&D debris is recycled and not illegally dumped could go a long way to progressing Philadelphia toward a zero waste and litter-free future.

To enact such proactive measures, the City must meet the Philadelphia hauling sector where it is to create more inclusive policies that consider the needs of small-scale haulers in Philadelphia.

Small vehicle C&D hauling is a highly underregulated industry in Philadelphia. There was a time when the City required waste haulers to get a municipal permit—that code and legislation language should be revisited. With the passage of Act 90 in 2002, however, the Commonwealth of Pennsylvania became the sole regulator of waste transport in the state. Act-90 only requires trucks and tractor-trailers weighing greater than 17,000 lbs. (gross vehicle weight) and trailers weighing greater than 10,000 lbs. (gross vehicle weight) to obtain a valid Waste Transporter Authorization. For many small-scale haulers using pickup-trucks or vans, their vehicle weight does not meet the Pennsylvania threshold. They are in regulatory limbo.

Even when small-scale haulers play by the rules, the economics of the business can put them at a financial disadvantage. Although many smaller vehicles can’t carry one-ton loads, some area C&D debris recyclers require an average of $120/ton for C&D and impose minimum tonnage fees upwards of $100. These recycling companies also rent out dumpsters for an average of $600 per week—which is more economical in the long term—but will levy an extra charge after the first ton.

Even though C&D haulers and recyclers charge for their services—processing waste for resale to become newly manufactured, upcycled, or downcycled goods—they are integral parts of the zero waste and circular economy sectors. If quality material can be captured, then recyclers can make a profit on the materials and fuel the growth of the recycling sector in Philadelphia. It’s estimated that the recycling industry creates nine times more jobs than landfills or incinerators.

There are four main C&D recyclers in Philadelphia and additional C&D and scrap metal recyclers located throughout the region. The City of Philadelphia also operates six local Sanitation Convenience Centers. Residents may drop off regular household items once a day and oversized items once a week with proof of Philadelphia residency. They can use personal or commercial vehicles, but the vehicle must weigh less than 6,000 pounds. Currently, C&D debris is not accepted at the Sanitation Convenience Centers and commercial contractors and vehicles carrying commercial loads are not permitted to use the facilities.

In addition to waste and single stream recycling, the centers also take:

- Automotive tires (limited to four per day)
- Bulk items, large metal household items or appliances, or items containing refrigerants (limited to two a day)
- Christmas trees
- Trash (up to six receptacles or 12 bags)
- Electronic waste, including computers, monitors, and televisions
- Latex or water-based paint cans (must be solidified by adding an absorbent material such as cat litter or newspaper)
- Mattresses and box springs, unwrapped
- Recyclable materials
- Yard waste (must be free of contamination and contained in paper bags only)
- Fluorescent light bulbs, and lithium, rechargeable, and lead-acid batteries.

While the centers don’t currently accept C&D debris, the City does have the capacity for processing a variety of materials through a waste disposal and processing contract. The City holds a contract with Castor Materials Inc. worth $2.57 million for “Recycling/Disposal of Construction Debris/Waste” of up to 50,000 tons per year. The Castor Materials contract is a four year agreement with the option to renew for up to two additional one-year periods and one additional period ending on 11/30/2025, according to the specifications in the Invitation to Bid.

According to the terms of the contract, the vendor must

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9 US Environmental Protection Agency 2023
10 City of Philadelphia, n.d.
11 Eco-Cycle, n.d.
12 RFP 1.2, City of Philadelphia 2021
provide the City of Philadelphia with recycling/disposal services for construction debris and plan and operate in a way that diverts the most amount of waste away from landfills as possible. The contract requires handling of the following materials:

- Concrete, asphalt, bricks, concrete masonry units, and land clearing debris
- Clean dimensional wood, plywood, OSB, industrial metal, particle board and gypsum wallboard
- Cardboard, paper, metals, plastic, glass, beverage containers; carpet, paint, and rigid foam insulation.

The vendor must also provide a current price per ton for recyclable materials.

Circular Philadelphia understands that this contract is under-used by City departments. Between the hauling contract and current capacity of the six sanitation centers, there are multiple opportunities for the City to engage Philadelphia’s C&D waste hauling sector to increase recycling and reduce illegal dumping.
Part II: Possible Solutions to Address This Problem

Around the world and right here in Philadelphia, municipal governments have acted to engage small-scale haulers in identifying and creating solutions for waste diversion. Circular Philadelphia found three compelling ideas that have not only proven to be successful, but that also make the case that engaging with smaller haulers is a viable and effective tool for reducing the mismanagement of waste and boosting recycling. These examples also show that engagement is a positive pathway towards increased entrepreneurism. With Philadelphia’s poverty rate at 22.3% (U.S. Census, 2021), the proposed policy could be a powerful tool for job growth and poverty reduction.13

King County, Washington

In January 2016, King County, Washington, passed ordinance 18166 that requires haulers to take C&D waste to a designated and privately-operated recycling and/or transfer facility.14 Home to Seattle, the fifteenth largest city in the U.S., this policy has a major impact on keeping construction and recycling debris out of landfills and incinerators in the Pacific Northwest.

King County officials saw an opportunity to meet small-scale haulers and home remodelers where they are to ensure that construction debris was being handled correctly. To accompany ordinance 18166, King County also enacted a policy to allow small-scale haulers (or vehicles not equipped with dumping mechanisms) to unload C&D materials at King County Solid Waste Division transfer stations.15

The King County Solid Waste Division also has agreements with recycling facilities in Washington that require vendors to recycle all recyclable materials. These facilities are also banned from landfilling select materials, such as clean wood, cardboard, metal, gypsum scrap, asphalt paving, bricks, and concrete. As markets develop, King County may also consider banning other C&D materials from landfills.

In this case study, King County leadership knew that they could not successfully implement such an ambitious policy without including incentives for smaller haulers. They set a policy that allowed independent C&D material haulers with commercial permits but with no mechanical means of disposing waste (i.e. a small truck) to transport recyclable loads from their job sites to County-run facilities. The County facilities would then transport the materials to a recycling facility. King County also developed a program called GreenTools that provides technical assistance to haulers and a model ordinance for cities to use.

The pros of this policy are that it very clearly defines what types of vehicles are allowed to use the County-run facilities—trucks with no dumping mechanism, such as hydraulic lifts or compactors, that can push material out of the back of the truck. This is a very important aspect of the policy as it sets an objec-

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13 US Census Bureau 2022
14 King County, Department of Natural Resources and Parks 2019
15 King County, Department of Natural Resources and Parks 2019
tive standard for what type of material is accepted. Like Philadelphia, there are six sanitation facilities in King County that are accessible to non-municipal waste haulers. Because Seattle is smaller than Philadelphia—geographically and population wise—the number of County-run facilities is a major factor in providing increased access to C&D recycling in King County. The GreenTools program acts as a useful assistant to small-scale haulers rather than a punitive watchdog, which is the kind of positive engagement that we need in Philadelphia.

One of the most important takeaways from this case is that Philadelphia must consider the ratio of population size and land to the number of sanitation centers. Seattle and King County also have much more robust laws for C&D material recycling that Philadelphia could benefit from enacting. Finally, as the GreenTools program shows, a hauler-focused strategy works best when coupled with intentional communications and outreach.

Accra, Ghana Informal Waste Sector

Although Accra is the capital and largest city in the West African nation of Ghana—and becoming increasingly industrialized—it is still considered a developing city within a developing nation. This status is clearly evident in the waste management sector. Due to industrial, technological, and economic challenges, Accra has lacked enough private and public infrastructure for the type of weekly waste collections that are commonplace in the United States, resulting in only 48% of Accra's waste being collected by local waste management companies.

However, this lack of infrastructure also gave way to an informal waste sector made up of unregulated parties and small businesses capable of managing the other 52% of material. These entrepreneurs found value in waste materials like metals and other precious minerals. Rather than suppress the informal sector in favor of the formal commercial waste management system, the Greater Accra Resilient and Integrated Development (GARID) made the recommendation to Accra city government to partner with the informal sector. This endorsement led the government of Accra to support the informal network of workers and provide resources, education, and worker-protections to ensure the sector will continue to meet the city's waste management needs.

This case study is a powerful example of how to create economic opportunity for actors within informal waste sectors by partnering with local government. Since Philadelphia no longer requires small-scale haulers to register for a special operating license, and because large scale haulers are regulated by Pennsylvania, Philadelphia has its own informal—and underregulated—hauling sector. As you will read in the next case study about the Fairmount Park Organic Recycling Center Case, a public-private partnership like the one in Accra is possible between the City of Philadelphia and the informal waste hauling sector.

However, there are many differences between the government structure, economy, and demographics of Accra and Philadelphia that must be taken into consideration when evaluating Accra's program. Although Accra still lacks the level of waste management infrastructure that exists in Philadelphia—and across the U.S.—they have created a strong model for how to utilize the full potential of municipal systems and infrastructure to address a challenge.

Fairmount Park Recycling Center

To see an example of a municipal facility accepting debris from private haulers, one should look no further than the Fairmount Park Organic Recycling Center. Managed by the Philadelphia Parks and Recreation (PPR) department, the Organic Recycling Center is equipped with a scale house and employee-run point of sale (POS) system and accepts organic debris. The center regularly receives yard-waste materials from landscapers and sells mulch and compost material back to those landscapers.

PPR requires all disposed organic materials to be clean and delivered separately. For a tipping fee, commercial businesses can dispose of leaves, grass clippings, brush, herbivore manure, and wood chips. The center staff have the right to refuse the disposal of any materials that do not meet their criteria.

16 Greater Accra Resilient and Integrated Development Project 2021
17 City of Philadelphia 2022
The first—and arguably most exciting—aspect of this example is that there is already a government-run facility and POS system in place for City employees to manage waste disposal at a publicly-accessible site. This program and facility operations also provide a blueprint for other City departments and sites to use. The rate for organic waste recycling/disposal at the center is well under market rate, thus providing value to the small-scale haulers that use this facility. Circular Philadelphia also found it compelling that haulers are required to register with the recycling facility to ensure a level of accountability. If a similar hauler registry was proposed for C&D debris recycling, for example, the City could easily link the new registry information with existing hauler data and view any permits they hold for new construction, alterations and demolition.

Like all policy examples, some consideration must be given to how operating styles and procedures can differ between City departments. There are 65,000 building permits issued in Philadelphia every year by the City’s Licenses and Inspections (L&I) department. Circular Philadelphia anticipates that there will be more C&D debris than organic/landscape debris generated from these projects. Small-scale C&D debris haulers will manage less waste than larger haulers in Philadelphia. Therefore, the capacity of the City sanitation centers to collect and transport C&D debris would need to be addressed. On the bright side, there are six sanitation centers that are available to utilize for C&D debris—as opposed to just the one organic recycling center in Fairmount Park.
Part III: Circular Philadelphia’s Recommended Solution

Circular Philadelphia believes that the best policy is informed by lessons learned from other cities and regions and considers the diverse needs of stakeholders. Policy is only as effective as it is feasible to enforce across the City—both fairly and consistently. A policy should be simple, yet thorough, and based on achieving a clearly-defined and measurable goal. Borrowing from the solutions explored in Part II, Circular Philadelphia proposes a four step policy approach to expand access for C&D debris recycling in the City of Philadelphia.

Step 1: Leverage the existing contract to place C&D debris recycling containers at sanitation centers.

Using the existing C&D recycling contract, the City can place C&D debris recycling dumpsters from that company at sanitation convenience centers. The City could use either the suppliers on the existing contract or choose to open the contract up to additional bidding from local suppliers. In the re-bid, the new contract could stipulate the number of small and minority-owned businesses that are required, creating additional economic benefits for local businesses and providing more equitable access to City contracts. Regardless of the approach chosen, the City will need to ensure appropriate quality control measures are in place to avoid recycling contamination and other factors which could limit the future reuse of recycled material.

Step 2: Allow vehicles no larger than a pickup truck or van to dispose of C&D debris.

Once the dumpsters are placed at sanitation centers, the City will permit the disposal of C&D debris for vehicles that fall under the 10,000 pound state-limit and do not have a dumping mechanism. Concrete rubble and hazardous materials are not permitted to be disposed of at the sanitation center and will need to be taken to private facilities, per state law.
Making the Case for this Legislation

Circular Philadelphia has gone to great lengths to comprehensively understand the current landscape of C&D recycling in Philadelphia and beyond. Parts I and II explore how this process can be improved while remaining cost neutral.

Following the vetting model—or rigorous reinvestigation—that was used by the former Zero Waste and Litter Cabinet, the feasibility of the proposed legislation has been tested by asking three crucial questions:

1. **Can It Be Done?**: Do we have the legal, operational, and political capabilities to actually enact this legislation?
2. **Will It Work?**: Even if we do have the technical ability to do this, will the legislation achieve what we hope it will?
3. **Is It Worth It?**: Even if we can do it and we believe it will work, is the legislation worth the political, social, and financial capital needed to achieve our goal?

Below are the results of asking those key questions.

Can It Be Done?

A number of quantitative and qualitative indicators show that expanding C&D debris recycling can be accomplished in Philadelphia:

- The Fairmount Park Organic Recycling Center currently charges contractors to drop off organic debris and allows them to purchase mulch and wood chips. Trained employees use a POS system to run this program.
- There is precedent for this policy code and legislation because the City used to require all waste haulers to obtain a permit\(^\text{19}\).
- Interviews with residents, small-scale haulers, and C&D recycling processing facility operators indicate broad support among key stakeholder groups.
- There are six City-run Sanitation Convenience Centers that accept a variety of recyclable goods and could accommodate C&D debris recycling.
- There is an existing organizational structure to support the oversight of this program through the City’s recycling office. The City could add a C&D recycling coordinator to this office, should it be deemed necessary.

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\(^{18}\) ~ 0.5 tons hauling capacity per vehicle * 50% * 120 $/ton

\(^{19}\) City of Philadelphia, n.d.
Will It Work?

Effects of similar policies in other cities and a general alignment on the usefulness of a C&D recycling ordinance demonstrate that this program will work:

- Feedback from small-scale haulers has consistently indicated broad support for the use of City-run facilities to recycle C&D debris with a sweeping consensus that this change will reduce illegal dumping. One stakeholder indicated that providing disposal access to small-scale haulers at a reasonable cost could result in lower costs for their customers (developers), particularly if tipping fees and associated tonnage are also reasonable.
- Setting clear guidelines, processes, and expectations will streamline communication among all parties and make it more effective for small-scale haulers to service developers.
- Seattle, which implemented a similar policy solution, saw a 76.3% C&D diversion rate in 2021.20

Circular Philadelphia acknowledges that no policy implementation is without risk. However, strategic steps can be taken to ensure effective policy execution:

1. **Define Vision** - What will success look like for this policy?
2. **Design and Plan** - What are the tactical steps required to achieve success? What metrics will be used to track and monitor progress and proactively identify potential roadblocks? What risks are anticipated and how can they be mitigated?
3. **Deploy** - Execute on the predefined plan, incorporating stakeholder feedback along the way and adjusting milestones accordingly. What is going well? What is not? Why?
4. **Monitor and Adjust** - Track key performance indicators and risks to ensure the project is meeting expectations, on time, and within budget.

Is It Worth It?

- **Cost Neutral**: Even if the $30 tipping fee doesn’t fully cover the cost of the underutilized C&D recycling contract, the difference will still be less than the $8.3 million that was spent cleaning up illegal dumping in 2021.
- **Creates Economic Opportunity**: This policy will create new entrepreneurial opportunities for small-scale haulers to capture and recycle debris from demolition and renovation sites, the latter of which the City is encouraging and incentivizing over full demolition.
- **Addresses Environmental Justice Issues**: The policy touches on a political and quality of life issue for all Philadelphia residents, but it is especially critical for low-income and minority communities. Illegal dumping is a serious issue in Philadelphia, and creative, decisive action must be taken to demonstrate a commitment to solving this problem. This proposed policy is a proactive approach—rather than a punitive or reactive measure—that addresses illegal dumping by opening new markets for and creating economic incentives to properly dispose of or recycle C&D debris.

Circular Philadelphia met with Taneesha Maxwell, who is an entrepreneur in the small-scale hauling business and the owner of T Maxwell Junk Removal and Cleanouts, to discuss the policy. "This could actually allow me to offer better prices if these tipping fees are more reasonable," Ms. Maxwell said. "I could charge less if I was able to take a smaller load and not have to pay the ton minimum."
Part IV: Conclusion

The policy strategy described in this paper is not just innovative and strategic, but it is also an extremely viable and affordable solution to one of Philadelphia’s most notorious issues.

A pilot program could be run at a Sanitation Convenience Center located in a community with a high rate of illegal dumping, such as the southwest location on 63rd Street or the Strawberry Mansion location on Glenwood Avenue. The pilot program would be operated by City staff or a contracted partner who provides on-site staffing. The first pilot scenario resembles the current Fairmount Park Organic Recycling Center operations (described in Section II) where City staff manage the site entrances, POS system, loading or unloading materials, and overall maintenance of the site. The second pilot scenario would either place the contractor in charge of the sanitation center operations or there would be one C&D container on-site that is owned and serviced by the contractor, including hauling, sorting, and/or processing the material.

The contractor pilot scenario is similar to the integrated public-private partnership at the Organic Recycling Center, where a local non-profit organization operates a tree recovery service. It also resembles the Biosolids Recycling Center that’s operated by a private company and is located on Philadelphia Water Department property in southwest Philadelphia. In both examples, a contracted partner cohabitates a space with a City department and is responsible for the material intake and output.

The pilot scenarios described above will require administrative staff, such as a contract or program coordinator, and access to a City accounting clerk. Regardless of whether the program and site will be staffed by City workers or a contractor, the operation should cost about $1.3 million in the pilot year. If just 50% of the nearly 7,200 tons of C&D debris that was illegally dumped in 2021 were diverted to this center instead, the sum of the program revenue and abatement cost savings would net the City over $1.9 million.

In the spirit of the vetting model, the program pilot results will be examined at a predetermined period. The program evaluation data would include weight collected at the facility, reduction in illegal dumpsite cleanup costs, increase in landfill diversion of C&D debris, and any perceived changes that residents see in the cleanliness of their community, which could be measured through surveys that are circulated at the beginning and end of the pilot phase. Most of these indicators could be tracked across a variety of geographic data, including zip code, Council district, and City services district. The evaluation data could inform future City budgets or operations, empower communities impacted by this issue, and substantiate the viability and expansion of the pilot.

Cost projections and estimates in this document were generated using the City of Philadelphia civil service pay scales, active contracts and bids, and relevant costs provided by local hauling or recycling companies. There are multiple methods by which the program could be operated and administered, each with nuanced cost structures, but a fully matured program could produce an annual savings of $3.75 to $4 million. If the pilot site were replicated across three or four sanitation centers in the City, the program would have the highest likelihood of eliminating all illegal dumping of C&D waste, providing a return on investment for avoided abatement costs from the City and creating more economic opportunities for small-scale C&D debris haulers to access legitimate recycling or disposal locations.

The economic sustainability of this program is partially due to the revenue earned through the proposed $30 flat fee described in Section III. Its success is also attributed to the avoided dumpsite cleanup and disposal costs. The flat fee revenue makes up roughly 4% of the potential economic benefit while the avoided cleanup costs comprises the other 96%. After the initial purchase of necessary equipment, conducting community outreach, and satisfying staffing or contracting needs, this program could capture more C&D waste by volume than what is currently collected from illegal dumpsite cleanups by City crews.

The City has several potential resources to launch the initial program pilot and a subsequent roll-out to additional sites. This paper has documented a more efficient use of the funds currently earmarked for a major C&D disposal contract that the City has renewed for multiple terms. Choosing not to renew or renegotiate this contract would more than cover the cost of the proposed pilot, which adds up to roughly half of the value of the annual contract. The City has other funds like the Operations Transformation Fund and various line items within the Sanitation Division of the Streets Department budget that could be reallocated for this program, which would fall under recycling operations, illegal dumping removal, and community outreach.

Beyond those funding sources within the City, there are state entities such as Keep Pennsylvania Beautiful and regional foundations like the William Penn Foundation who have vested interests in innovative strategies to improve environmental and community health in an equitable manner. Finally, there are several funding opportunities emerging under the Biden administration and from the federal bi-partisan Inflation Reduction Act (IRA) and Environmental Protection Agency (EPA) Environmental Justice (EJ) grants. The IRA and EPA EJ grants include funding to support equity, industry, and health, all of which can be tied to the impacts of C&D dumping.

Ultimately, this document has affirmed that illegal dumping
is a prevalent issue that disproportionately impacts Black and brown neighborhoods, that C&D waste is a significant portion of illegally dumped material, and that there is a more effective and affordable response that can be enacted. This document has also illustrated that the proposed strategy is incredibly flexible. It can share ownership and operation with the contracted business to varying degrees, scale to different lengths and at different speeds, and involves varying requirements for participation in terms of tipping fees and vehicle classification.

What is consistent across all of the proposed variations is that this strategy will save funds in the City budget while improving outcomes for Philadelphia communities. If even 20% of the current levels of illegal dumping are recovered through this program at maturation, with multiple sites running across the City, the program will be more than cost neutral.

If readers of this document believe that the proposed concept has the potential to produce the intended effects, they can take several actions to drive its implementation:

First, share this white paper with people in your network who have a professional or personal passion for understanding the causes, impacts, and solutions for illegal dumping. This is a great way to both raise awareness of the issue and grow interest in this particular solution.

The next immediate goal is to propose a deeper feasibility study around this approach. All of the mechanics, costs, and deliverables of this strategy have been assembled using a variety of research practices. A fully funded study could solidify these claims and identify new ways to strengthen the design in just three months. It is within your power to make this recommendation to a/the relevant authority that you have a relationship with.

Assuming that advocacy for this approach has produced a full feasibility study, the first action plan for the program administrator will be to identify areas in the existing budget that can be reallocated to fund a pilot. The reallocation could come from the intended cost saving, projected underspend, or a portion of funds that are already earmarked for community health, sanitation, quality of life, or other related outcomes.

The next step towards full implementation is to explore the external funds referenced earlier in this section. Whether the funds are from the state, county, federal, or private or public grants, identifying multi-year funding streams for several sites is a key piece to a successful proposal and proper program operation.

Once the feasibility study and multi-year plan are complete, the full three-year budget should be added to the City’s program-based budgeting as an addition to the Sanitation Division of the Streets Department budget, or the appropriate managing department, and include funding for the initial pilot and a financial plan for growth to full capacity.

Finally, the managing authority should work with the City’s Procurement and Law Departments to develop and release a Request for Proposals with a scoring preference for local businesses that have capacity for recycling the majority of the program’s C&D debris.
References


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About Circular Philadelphia

Circular Philadelphia’s mission is to drive growth of a thriving circular economy in the greater Philadelphia region through advocacy, education, infrastructure development, and collaboration. We promote smart policy, innovation, and action to transform Philadelphia’s linear economy to an efficient and resilient circular economy of the future.

We are materials management and circular economy professionals who bring together individuals, businesses, manufacturers, institutions, local government, and policy makers to lead the shift to a circular economy in the region.

About the Built Environment Working Group

The Built Environment Working Group is a committee of Circular Philadelphia and is chaired by Nic Esposito. The working group focuses on circularity throughout the building process including construction and demolition recycling, building deconstruction, using recycling building products, and advocating for adaptive reuse of buildings and materials. This committee works with contractors, developers, architects, planners, designers, advocates, preservationists, salvage companies, demo companies, recycling companies and city government to achieve our goals.

Please direct inquiries to Nic Esposito, Director of Policy and Engagement, at nic@circularphiladelphia.org.

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