Construction and Demolition Recycling Legislation for Philadelphia: A Policy Guide

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How to Read This Document

This policy paper was designed to be a thoroughly-researched and comprehensive yet brief and persuasive vehicle to explain to legislators and policy makers how to craft straightforward and effective legislation to increase construction and demolition debris recycling among the building trades and waste hauling sectors in Philadelphia.

Although this paper’s intended audience are legislators and policy makers, Circular Philadelphia’s team designed this paper to ensure that a wider array of stakeholders, including the business community and everyday consumers, can also understand clearly what is being proposed and why it has been proposed. This paper has been structured in four parts.

Part I: Current State of Affairs shares with readers the impact of construction and demolition debris with reputable statistics on both the waste and litter of Philadelphia as well as on the impact to our national and global ecosystems. This section also explores the current regulations in Philadelphia and Pennsylvania regarding construction and demolition debris disposal in addition to the impact statements from business and industry stakeholders. The intent of this section is to show the reader why we need to act and what exists readily at our disposal for this legislation in the Philadelphia region today.

Part II: Possible Solutions to Address This Problem takes the reader on a journey across the United States to see how cities and states are using legislation to address the issue of construction and demolition debris recycling. The Circular Philadelphia team also examined solutions of diverse demographic and economic regions across the US to better understand how communities with a variety of different circumstances and motivations are all taking action to ensure construction and demolition materials are being recycled.

Part III: Circular Philadelphia’s Recommended Solution lays out the full legislative proposal that this team is recommending to address this solution. This has been structured as a robust, step by step guide on how to tangibly make this legislation a reality. A framework of three critical questions was applied to the legislation proposed:

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

The Circular Philadelphia team felt that if these questions could not be answered confidently, then any proposed legislation or policy would not be successful. The intention for this section is to help the reader personally understand the possible challenges of enacting this legislative proposal and the comprehensive viability of its success.

Part IV: Conclusion ends the paper with a clear-eyed analysis of the public and private investment necessary to make this legislation successful. As the saying goes, all long journeys start with a first step. To begin the multi-year journey required to develop actual legislation and move it through Philadelphia City Council for ratification, those first few steps that a legislator should take to start the process have also been provided here.

The Circular Philadelphia team thanks you for taking the time to read this paper and consider its findings.
Executive Summary

Construction and demolition materials entering landfills and incinerators are a major threat to both the health of our global and local ecosystems. Specifically in Philadelphia, the issue of these materials being illegally dumped is also a threat to the health of our city. Circular Philadelphia's Built Environment Working Group sees the lack of reliable data on both construction and demolition recycling as well as the illegal dumping of construction and demolition materials as two sides of the same issue—a poorly regulated industry. Many cities, states, and countries around the world are finding legislative and economic solutions to address this issue. Circular Philadelphia's Built Environment Working Group has researched these examples thoroughly, in addition to exploring the unique conditions in Philadelphia, to propose the following legislation to increase recycling and decrease illegal dumping of construction and demolition materials in Philadelphia.

The intention is that legislators, policy developers, business owners, and everyday people will read this paper and acknowledge two things: first, that the problem of construction and demolition materials entering landfills, or being illegally dumped, requires immediate action; and second, that what is proposed here is a common-sense approach to ensuring building trade and hauling businesses have robust support and consistent rules to comply with such an ordinance. The Philadelphia City government has many of the tools already in their toolbox to make a Construction and Demolition Ordinance successful in Philadelphia.

Part I: Current State of Affairs

According to the current Pennsylvania definition 271.1, Construction and Demolition waste is defined as "solid waste resulting from the construction or demolition of buildings and other structures, including, but not limited to, wood, plaster, metals, asphaltic substances, bricks, block and unsegregated concrete."1 This does not include uncontaminated soil, rock, stone, gravel, brick and block, concrete, used asphalt, or waste from land clearing, grubbing and excavation such as trees, brush, stumps and vegetative material as long as it is separate from other waste and used as clean fill. Although it is impossible to build without inflicting any environmental damage, the amount of total waste generated in the United States has more than quadrupled in the last 30 years.2

In 1990, the US was responsible for generating 135 million tons of construction and demolition waste. But in 2018, the

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1 Pennsylvania Department of Environmental Protection, n.d.
2 Moxon 2012
Environmental Protection Agency estimated that the US produced 600 million tons of construction and demolition waste—more than twice the amount of the nation’s municipal solid waste.\(^3\) Considering 90% of this waste is generated by demolition, it’s evident that there is a flaw in the act of dismantling the built environment. Since the City of Philadelphia’s Licenses and Inspections Department oversees the contracts for half of the demolitions in the City (with the other half being done by privately permitted demolition companies), if we mandate that debris from demolished buildings is recycled, this would add another layer of oversight to these contracts and would ensure that a substantial amount of waste is kept out of our landfills.

Philadelphia is fortunate to have multiple construction and demolition recycling facilities within the city limits and in the surrounding area, and these facilities are used by the building trades. According to Philadelphia Recycling Office numbers, out of the 393,328 tons of construction and demolition waste reported in 2020, a total of 356,358 tons were recycled (a 90.6% recycling rate).\(^4\) However, these are self-reported numbers from the recycling facilities and there is no calculation by the City Recycling Office on the total amount of construction and demolition waste generated. Even though these recycling systems are effective when the material actually enters the facility, with approximately 64,000 building permits being issued each year in Philadelphia\(^5\) a potentially large amount of construction and demolition materials may never make it to these facilities and instead goes straight to landfills or incinerators.

In 2017, Philadelphia set a goal of Zero Waste by 2035 by eliminating the use of landfills and incinerators for waste generated across Philadelphia.\(^6\) It will be impossible to meet this goal without taking some sort of action on construction and demolition materials. The Zero Waste and Litter Cabinet initiated this work and was also tasked with addressing related issues like illegal dumping that have long been connected to the way the City handles its waste.

To address illegal dumping, the Zero Waste and Litter Cabinet created a five part strategy. The first part of this strategy ensured that illegal dumpers were held accountable through law enforcement, but other parts of the approach focused on better regulation of the waste hauling industry overall. In the almost four years of the Zero Waste and Litter Cabinet’s existence, Philadelphia was able to decrease illegal dumping from over 10,000 tons collected throughout Philadelphia in 2016 to just over 6,000 tons by 2020—a 40% reduction.\(^7\)

Due to Covid related budget cuts, the Kenney administration disbanded the Zero Waste and Litter Cabinet in 2020.\(^8\) In 2021, the Streets Department paid $8.3 million to remove 7,771 tons of illegally dumped materials, plus 83,600 tires, from 1,309 sites—that’s up from 6,377 tons and 30,800 tires from 2,152 sites in 2020.\(^9\) With a new administration in city government forthcoming at the time of this paper’s publication we have an opportunity to reverse this trend.

The anti-litter advocacy group Keep Pennsylvania Beautiful estimates that an illegal dumping clean up for a City costs approximately $600 per ton.\(^10\) If it were possible just to get the City back down to the 2020 levels, Philadelphian taxpayers would save almost $750,000 per year in illegal dumping costs.

On the national level, out of the 600 million tons of construction and demolition waste created in 2018, approximately 145 million tons were sent to landfills.\(^11\) A critical issue with landfills is that they are finite. On a national scale, Bryan Staley, PhD, PE, president and chief executive officer of the Environmental Research & Education Foundation (EREF), estimates that the United States “has about 62 years of landfill capacity remaining in its current facilities.”\(^12\) The space varies by region, where seven states are projected to run out of landfill space in the next five years. When states run out of landfill space, it is common practice to export trash to areas with more landfill space or alternative methods of disposal, such as incineration. Sending waste further from the point of generation will invariably

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3 United States Environmental Protection Agency 2023  
4 City of Philadelphia, Streets Department 2020  
5 Shields and Zhong 2022  
6 City of Philadelphia, Zero Waste and Litter Cabinet 2017  
7 City of Philadelphia, Zero Waste and Litter Cabinet 2019  
8 Jaramillo 2020  
9 Russo 2022  
10 Keep Pennsylvania Beautiful, n.d.  
11 United States Environmental Protection Agency 2023  
12 Karidis 2015
force waste processors to increase tipping fees for waste haulers at facilities.

One of Philadelphia’s long standing alternative methods for waste disposal is incineration. Incineration is generally known as “healthier than landfilling and is praised by energy efficiency proponents as ‘waste to energy’” However, an incinerator only operates because waste is combined with valuable, flammable, and most often recyclable materials, such as paper and plastic. “Since these materials were never designed to be safely burned, they can release dioxins and other toxins when incinerated.”

America’s largest trash incinerator is located in Chester, Pennsylvania. "Covanta, one of the country’s most prominent waste-to-energy companies, began operating the plant in 2005. It also operates facilities in Camden and Conshohocken, but the Delaware Valley Resource Recovery Facility in Chester is its largest.” This facility is also “consistently ranked amongst the highest emitters for pollutants like sulfur dioxide, and often lacking the most basic pollution control measures.” According to the U.S. Census, Chester is 72% Black, with nearly 32% of the 34,000 people in Chester currently living below the poverty line. Compared to both national and state levels, almost 38% of children in Chester have asthma. Out of the trash that results in this dangerous pollution, only 2% comes from Chester itself.

The state of Pennsylvania has permits specifically designed for construction and demolition waste landfills. Construction and demolition waste makes up approximately 17.5 percent of Pennsylvania's municipal waste stream. Current Pennsylvania Act 101 Code states that “General permits may be issued on a regional or statewide basis for C&D processing and beneficial use. The processing facilities and the waste to be processed in the category must be substantially similar. Persons may be authorized to operate under an existing general permit via a registration or determination of applicability.” There may be fees associated with C&D processing if the consumer is attempting to process materials that are exempt from Pennsylvania's state definition of construction and demolition waste. This includes materials such as soil, stone, concrete, brick, gravel, and vegetative material.

As of October 1, 2019, Philadelphia City Code requires that all permit applications for new construction, alterations and complete demolition that require the submission of plans are required to complete a Waste Hauler Form that identifies the waste hauling company on the project. Copies of all tipping receipts and evidence of proper disposal must be retained for audit upon request for three (3) years after the building permit is finalized.

But even with all of these regulations on the state and city level, architects and contractors who work in Philadelphia discussed the issue of lack of enforcement around recycling serving as a significant barrier to successful implementation. Without incentives for recycling debris, contractors and haulers have little reason to make this a priority in their process. A study from the National Library of Medicine found that there is no professional assigned to handle waste issues in 75% of construction companies in the US. The study also showed that construction waste becomes a challenge for almost 96% of ongoing construction projects. However, only 57% of the construction companies have recorded and measured the volume of material waste. The study also indicated that project cost overrun, pollution of the environment, reduction in profit, excessive consumption of raw materials, and public health and safety risks are ranked as the five major impacts of construction waste, respectively.

Antonio Zachary, who owns Driven Hauling and Handyman Services in Philadelphia that manages waste for construction and demolition projects, believes that legislation addressing construction and demolition debris disposal could help people like him who are running legitimate businesses. "I'm for regulation if it means I don't have to compete with haulers not following the rules and undercutting my business by dumping on a lot.”
Part II: Possible Solutions to Address This Problem

Construction and demolition debris recycling is a waste management issue that has been addressed in state, county, and municipal governments across the United States. Regardless of politics, size, or regional economics, many communities across the US have enacted legislation mandating that construction and demolition debris be recycled. Below is a diverse compilation of where these types of ordinances exist, along with some of the advantages and disadvantages to each.

California

In 2002, California passed AB 939 and SB 1374 mandating that all CA municipalities must enact policies and programs to divert a minimum of 65% of construction and demolition materials from landfills. To meet this need, 47% of California Counties (representing 88% of the total state population) have implemented C&D diversion initiatives based on the required minimums and guided by model legislation drafted by the state. The State legislation applies to permitted new residential and non-residential building construction, to demolition, and to certain additions and alteration projects to recycle and/or salvage for reuse a minimum 65 percent of the nonhazardous C&D debris generated during the project. However, California Counties are permitted to craft local legislation that goes above and beyond the required minimum. Below are a few examples:

- Alameda County, CA (2016) has nine local municipalities who have required 100% C&D concrete and asphalt diversion and 50% diversion of other C&D material
- San Mateo, CA (2002) requires 100% diversion for select C&D materials and 50% diversion of the rest of C&D materials
- Palo Alto, CA (2019) city council voted to approve an ordinance that eliminated demolition entirely and mandated deconstruction only

The advantage of this statewide law is that it sets a baseline for what all municipalities can do; but some, as in the cases above, have the leeway for even more stringent laws such as Palo Alto, CA, which completely banned demolition and focused instead on deconstruction. To achieve uniform collection of submitted information throughout the state to monitor success of the legislation, most municipalities make use of Green Halo, which is a tracking system for C&D diversion that most contractors getting building permits seem to utilize. To assist municipalities and counties in successfully implementing this legislation, there is funding on the state level for the offices that need to monitor and enforce these requirements.

The crux of California’s success is centered around the fact that this is mandated throughout the state and is funded by the state. Although the Shapiro administration has recently made the environment a priority in Pennsylvania, lack of state over-
sight and funding could make it hard for Philadelphia to fully model our legislation after California’s. Also, the introduction of the Green Halo technology was a major component of the legislation. Although the City of Philadelphia could contract with a company like Green Halo, this could pose an additional expense to contract and then require all contractors to use this tool. These technology City contracts can also be complicated. Therefore, it may be better to work through the existing Eclipse system with the Department of Licenses and Inspections (L&I) or identify an alternative solution designed by Philadelphia’s Office of Innovation Technology.

Seattle, Washington

Starting in 2012, all new construction, alterations and demolition projects in Seattle over 750 sq. ft. or $75,000 in sales price were required to obtain a salvage assessment.24 This assessment must be executed by a verified third party and forms the beginning of the record for the legislation. The City then directs haulers to 6 different sites around the city that can take C&D material. The following materials are banned from disposal in Seattle:

- Asphalt Paving, Bricks, and Concrete
- Metal
- Cardboard
- New Construction Gypsum Scrap
- Unpainted and Untreated Wood

The disposal bans do not include materials that are painted, have hazardous constituents, are difficult to separate from others (such as wood or foam block adhering to concrete), or are present in very small quantities.

A contractor then must submit a waste report based off of the salvage assessment and the dump receipts for the materials. If the report is not filed, the contractor can pay a $250 fine or face a statutory court summons.

The salvage assessment is a very thorough way to track the materials that can be recycled or salvaged from a site, as well as specifically encouraging salvage. The Seattle program also greatly benefits from the support of using the city sanitation centers to act as a transfer for these materials. This legislation also seems to have reasonable exemptions based on contractor, hauler and recycling processor feedback.

But once again, given the conditions of Philadelphia’s economy, it could be really expensive to force contractors to have a third party perform a salvage assessment. Although many people consider Philadelphia developers to be wealthy, there is an increasing focus on supporting lower-income, community-based developers, and this additional precondition could create an undue burden of entry into the market.

But if the goal is to use economic levers to increase compliance, the fines in the Seattle law seem incredibly low. It doesn't appear like there is much that is stopping a contractor from not complying and then simply paying the $250 fine. It seems like court is the remedy, but once again that could prove to be a challenge for lower-income developers without legal representation, as opposed to corporate developers that do have representation. And on the City side, it doesn’t seem like Philly’s Law Department would even have the capacity to take so many non-compliant people to court.

Madison, Wisconsin

Since January 1, 2010, the City of Madison has required the recycling of debris from construction, roofing, and remodeling projects.25 Madison also requires that demolition contractors report the results of their recycling efforts. The ordinance was the result of over one year of work by members of the Solid Waste Advisory Committee and representatives of the construction and remodeling industries.

New construction projects that use concrete and steel support must recycle 70% of their construction debris by weight. New construction projects that make use of wood framing, as well as remodeling projects with a value in excess of $20,000, must recycle the following materials: clean wood, clean drywall, shingles, corrugated cardboard, and metal.

Projects seeking a demolition permit must file a reuse and recycling plan with the Recycling Coordinator. The requirements for diversion range from construction materials to appliances.

The advantages of Madison's approach are that the plans are very wide ranging and that they cover a lot of different jobs. It's also admirable that they go beyond just recycling and also push reuse centers as part of the program. And the government's list of facilities that contractors can take C&D to is very accessible and easy to use.

However, the fines are not very well defined, and there is not a lot of information readily available on the website for non-compliance. Also, much of this program is managed by Madison’s Recycling Office and does not seem to be managed by the building inspection unit, which could cause issues around inter-departmental communications and streamlined inspections.

24 City Of Seattle, Seattle Public Utilities, n.d.
25 City of Madison, Streets and Recycling 2010
Lee County, Florida

This ordinance passed in 2008\(^{26}\) and is part of their overarching commercial recycling law. The ordinance mandates that residential and commercial new construction projects over $90,000 and residential and commercial alterations over $10,000, projects requiring electrical and plumbing permits, and all demolition permits must:

1. Fill out a county created “Construction and Demolition Materials Management Plan” to take an inventory of all of the recyclable materials on the job site. This document estimates how much material will be generated from the job site and where it’s going, in addition to mandating permit holders to keep records of where those materials were ultimately recycled.
2. They must use county-approved construction and demolition recycling facilities to dispose of waste.
3. Once the project is complete, the contractor must show the receipts and prove that they match as closely as possible to the original materials management plan and explain any discrepancies if they don’t match.
4. If the county deems that the records don’t match or no receipts are provided, they can withhold the certificate of occupancy.
5. To then get the certificate of occupancy, the contractor needs to pay a fee for all materials that were recorded on the job site, i.e. roofing, full commercial building, full residential building, etc.

Lee County’s legislation is the closest model to what Circular Philadelphia’s team identified as the proposed future path for Philadelphia. The calculation of how much material is generated through the Materials Management Plan which is then cross-checked with the receipts of the diversion serves as a very precise way to ensure compliance. They’ve also increased the likelihood of compliance by ensuring that the recycling receipts are from county-approved facilities. And finally, the mechanism of withholding the certificate of occupancy for non compliance exists as a very effective tool.

However, there are two important distinctions between Lee County and Philadelphia that must be considered. First, from 2019 to 2021, Lee County issued approximately 19,000 residential building permits and 1,200 multifamily building permits.\(^{27}\) In 2019 alone, Philadelphia issued 64,000 building permits.\(^{28}\) Unless there is a major increase in staffing at L&I, it does not seem feasible to require these plans for all construction projects.

Second, the diversion fees for non-compliance seem extraordinarily low. For example, a commercial building project of 10,000 sq. ft. or below only needs to pay a penalty of $500 for non-compliance. However, tipping fees alone for C&D recycling on such a project would be much more than $500.

Lake County, Illinois

Lake County, IL passed an ordinance in 2014 that requires 75% diversion of construction and demolition debris for projects over 1,500 sqft.\(^{29}\) This is part of the county’s overall recycling law. The contractor is responsible for filling out a materials management plan prior, and if not in compliance, the contractor can be fined $500 per day or be taken to court. Their Construction and Debris Recycling Compliance Report requires:

- Permit number
- Weight of C&D generated
- Weight of C&D diverted
- Calculated percentage of diversion
- Attached receipts and a signed declaration that what the contractor is saying is accurate

Lake County’s legislation also closely reflects Circular Philadelphia’s proposed legislation, and the documentation is also very similar to current documentation already required by L&I for identifying a permitted project’s waste hauler. The additional materials management plan and declaration of compliance are very straightforward and do not seem to require much work on the contractor or inspector’s behalf, which could be easily adapted into Philadelphia’s model. The projects that are responsible for this are also very straightforward and easy to calculate (1,500 sq. ft. or more regardless of commercial or residential).

But, like shortcomings of other pieces of legislation, aside from the $500 fine per day there is no other mechanism to halt the project, it seems hard to enforce, and people will end up in court. The legislation also doesn’t seem to mandate that contractors operate through county- or state- approved facilities, which could also create a challenge in tracking the waste that went to a facility that ultimately recycles the material.

\(^{26}\) Lee County 2007  
\(^{27}\) Malt Realty 2022  
\(^{28}\) Shields and Zhong 2022  
\(^{29}\) Solid Waste Agency of Lake County Illinois 2005
As demonstrated in the research conducted on extant solutions, a majority of governments that have successfully implemented C&D recycling mandates have done so through the legislative process. Therefore, Circular Philadelphia is proposing that Philadelphia’s C&D recycling policies be enacted and enforced through legislation that originates from the mayoral administration, city council, or a collaboration between both legislative chambers.

Given the rates of illegal dumping and the City’s mandate to achieve zero waste by 2035, this legislation will be pivotal in providing more direction as to how developers, contractors, and haulers should handle waste in Philadelphia and ensure that these materials are properly recycled, specifically in regards to the construction industry. A key indicator of this legislation’s success (aside from compliance) would be measured decreases in illegal dumping and increases in material going to area construction and demolition recyclers. It is suggested that a study of these metrics be included in the legislation to show the impact of the policy.

Based on best practices identified around the country—including the current state of existing construction and demolition recycling policies, procedures, and capacity in Philadelphia—Circular Philadelphia purposes the following four step solution to ensure that contractors performing residential or commercial alterations, new construction, and demolition recycle as much of their construction and demolition debris as feasible.

Part III: Circular Philadelphia’s Recommended Solution

**Step 1:** Licenses and Inspections Creates a Publicly Accessible List of Verified C&D Recyclers in the Philadelphia Region

In order to ensure that haulers take construction and demolition materials to recycling facilities, haulers need to know where these facilities exist. Therefore, a major component of this legislation is for Philadelphia Licenses and Inspections to work with the Pennsylvania Department of Environmental Protection (PADEP), New Jersey Environmental Protection Agency (NJ-EPA), and Delaware Department of Natural Resources and Environmental Control (DEDNREC) to create an accessible database. This list will be published both on L&I’s website as well as in the Eclipse System, and it will be updated in real time to list all of the construction and demolition recycling processors in PA, NJ, and DE. NJ and DE are to be included in this database given proximity to Philadelphia, as well as the fact that some waste...
hauliers may be coming from NJ or DE to do jobs in Philadelphia.

This searchable list must be made prominently available on both the L&I website and as well as in the L&I Eclipse system’s backend for future verification. With access to this list, this will limit barriers to haulers not knowing of the available locations to recycle construction and demolition waste.

Step 2:
L&I Inspectors Conduct a Recycling Assessment and Permit Holders Must Ensure All Recyclable Material Goes to a C&D Recycler

Permits for new construction, alterations, or demolition already require permit haulers to list their waste hauler’s information in the Eclipse System when obtaining a permit. The proposed legislation will build off of this existing process to ensure that the hauler on the permit is complying and using one of these L&I-verified recycling facilities.

Following the existing process, only the hauler’s business information will need to be listed on the initial permit. In addition to this information, an estimation on how much material could possibly result from the job site will also need to be verified on the waste disposal form. This formula will be co-created by L&I and building industry experts, such as by the firms who already do estimations for construction and demolition contracting. L&I and these experts will also have to use both industry expertise and input from the area recyclers to create a list of materials that fall under this legislation. As shown in section 2 of this paper, there are already standard lists of this material that can be applied to Philadelphia buildings. The L&I inspector on a job site will then work with the contractor’s building plans to pre-determine how much and what type of material will need to be accounted for on the site. In the end, the new waste hauling form will now include what is commonly referred to in the industry as a basic Construction Waste Management Plan. Some common questions that make up these plans are:

- What kinds of materials are expected to be generated on the project?
- Will materials be commingled or separated on site?
- How many tons of waste will be generated?
- Where will the materials go?

Once the job is complete, the contractor must fill out a newly created form in the Eclipse system that documents the materials that were sent to the C&D recycler from the job and the total weights of all materials. This information must reflect what was identified on the original waste hauling form. If this information does not match, an affidavit must be filed explaining why it does not. Also included on this form should be dump receipts from the L&I-verified recycling facilities that provide weights and documentation that confirms the specific materials dumped by the hauler and that they were for the permitted job.

Given that haulers may choose to use different recycling facilities, when the permit is closed the hauler will need to choose from a drop-down menu of L&I verified recycling facilities to which the hauler took materials. An L&I recycling specialist or someone in the Philadelphia Recycling Office will cross check and verify this info.

And finally, this legislation will require true assessments of exact waste hauled from specific projects, and contractors and haulers must coordinate to ensure proper documentation of waste is captured—especially if a truckload of C&D contains materials from multiple job sites. When going to a recycling facility, the hauler must ask for the job address and permit numbers for the job to be printed on the dump receipt to verify the load. The dump ticket from the recycler could look like this:

ABC Hauling Company
Permit for: 1234 Main St. Philadelphia PA 19100
Permit Number: XXXXXXXX
8 tons of material

Circular Philadelphia understands that this system will require clear instructions for haulers and recycling facilities on what information needs to be provided, and it is recommended that a concerted effort of outreach and education accompany this legislation.
Step 4:
L&I Inspectors Confirm That All Recyclable Materials Were Recycled and Issues a Certificate of Occupancy or Closes the Permit

Once the cross check of the initial permit information (including the recycling assessment) with the final information and dump receipts is completed by either L&I or the Philadelphia Recycling Office and is accepted by an L&I inspector in the Eclipse system, the waste hauler requirement of the building permit will be satisfied and the permit holder will be able to move forward to the certificate of occupancy or closing of the demolition permit, as long as other pre-existing requirements for the permit (other open permits) are met. If there are any discrepancies in the submitted data or if the information is not submitted, the City of Philadelphia has the authority to hold the certificate of occupancy until all requirements are met. If waste hauler information requirements cannot be met, and there is no affidavit reasonably explaining why those requirements were not met, then the contractor will be forced to pay a $2,000 fine to release the certificate of occupancy.

Making the Case for this Legislation

As demonstrated in Parts I and II above, the Circular Philadelphia team has explored in detail the current landscape of construction and demolition recycling in Philadelphia, in addition to finding examples from other US cities, counties and states on best practices for crafting this ordinance.

Following the vetting model used by many organizations, including the former Philadelphia Zero Waste and Litter Cabinet, the feasibility of the proposed legislation was tested by asking the 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 the desired outcome?

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:

- There is already an existing system in L&I for filling out a waste hauler form in Eclipse for all permits. The form just needs to be updated to collect new information, which makes the programming in Eclipse much easier.
- According to Philadelphia code, a Class 3 violation includes failure to comply with a demolition permit30 and the maximum fine for a Class 3 violation is $2,000.31
- The Philadelphia Recycling Office and L&I already collaborate on violation notices when it comes to failure to recycle. We could easily house a new position in the Recycling Office to do all of the cross checks and, if trained properly, even the material assessments.
- The states of PA, NJ, and DE currently regulate facilities that recycle construction and demolition permits. Although PA’s and DE’s information is harder to find publicly, New Jersey considers all C&D recycling facilities as Class B facilities and lists them publicly on a website.32

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30 Philadelphia Charter Commission 2005
31 Ibid.
32 State of New Jersey, Department of Environmental Protection 2023
There is an existing mechanism for L&I not issuing a certificate of occupancy due to permit violations or open permits.

Recycling facilities interviewed for this paper already have processes for capturing all of the required information proposed in this paper.

**Will It Work?**

- Given that much of the existing infrastructure and systems exists and is in place already, this proposed ordinance doesn’t reinvent the wheel; rather, it works within those existing systems to enact this policy.
- As shown in Part II of this paper, the ordinance being proposed exists in some shape or form in at least five different cities, states, or counties throughout the United States. However, this paper kept a major focus on keeping bureaucratic red tape to a minimum in favor of working within existing systems to achieve the simple goal of ensuring that as much construction and demolition material makes its way to these recyclers.
- As shown in Part I of this paper, almost 40% of material entering landfills nationwide is construction and demolition waste. But the good news is that, on average, the Philadelphia region has more options than many other cities and regions of the country when it comes to C&D recycling facilities. And with the new awareness of all of these different facilities, there could be a benefit to expanding use of these facilities in the region and therefore helping to build the sector.
- Although the City’s recycling office and the PADEP does ask Philadelphia area C&D recyclers for their total amount of materials recycled, these numbers rely on self-reporting. With better oversight, this ordinance will help increase the accuracy of reporting these numbers.

Jon Wybar from Philadelphia construction material recycling company Revolution Recovery voiced concerns about haulers not having accounts and not being organized to ask for job addresses on dump receipts. But in his view, this could actually lead to a more professional hauling sector in Philadelphia and in his words, “We could use this to really understand how much C&D is being generated in the City.”

**Is It Worth It?**

- According to the EPA, 145 million tons of C&D waste entered landfills in 2018. Although the Philadelphia Recycling Office and the State DEP does request recycling information from PA C&D recycling facilities and haulers, it’s hard to have an accurate tonnage of C&D entering landfills and incinerators if it isn’t known exactly what’s being generated. Given that the City of Philadelphia has a zero waste goal to discontinue the use of landfills and incinerators, this legislation will be a necessary step forward to reach that goal.
- According to the City of Philadelphia’s data, in 2021 the Streets Department paid $8.3 million to remove 7,171 tons of illegally dumped materials in addition to 83,600 tires from 1,309 sites.33 That’s up from 6,377 tons and 30,800 tires from 2,152 sites in 2020. Professionalizing the construction debris waste hauling sector through this legislation and having a better paper trail will result in reduced illegal dumping, which could save Philadelphia taxpayers millions of dollars in illegal dumping clean up fees.
- It’s estimated that recycling creates 9 times the amount of jobs as compared to landfills or incinerators. According to staff at Philadelphia recycler Revolution Recovery, their 3 facilities and hauling operations employ 120 people.34 By mandating that haulers use these recycling facilities, it can exponentially expand the industry, thus creating a net gain of jobs in the region. And because many of these facilities are located in Philadelphia, this can mean more jobs for Philadelphians.

As expressed by Jon Wybar, this ordinance could do a lot to help professionalize this industry. This is not only a goal of policymakers or recycling professionals; people running hauling businesses in Philadelphia also see the benefit. Local hauler Antonio Zachary of Driven Hauling and Handyman Services didn’t know about many of his options when he first started. And when he’s out of his normal geography, he doesn’t know where to go—and even when he finds a place, he doesn’t know the specific regulations of that location. But in his words, “this legislation would help people like me who are running legit businesses.”

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33 Russo 2022
34 Eco-cycle, n.d.
Part IV: Conclusion

The City of Philadelphia has a lot to gain from enacting the legislative strategy proposed in this paper. Philadelphia can champion this policy while minimizing the incremental impact to L&I’s budget. In the long run, though, there could be a requirement to add additional headcount depending on complexity and scale of the enacted legislation. Funding to support this program will come from existing budgets of L&I and/or the general fund if necessary. There could also be considerations to leverage the Department of Streets’ budget, since this issue is tangential to waste collection and processing. In theory if C&D waste is processed properly and enforcements are sound, then the expenditures on cleaning up illegal or short dumping should decline in the long-term, freeing up additional budget space to allocate to this program. While calculating a precise quantitative ROI is beyond the scope of this paper (as it will be highly subject to the legislative and implementation strategy), there are a number of broad benefits that will contribute to positive ROI in the long run. These include but are not limited to: promoting local economic development through the creation of green jobs, reducing costs of managing illegal dumping, and demonstrating an ongoing commitment to a cleaner, healthier, and safer Philadelphia while simultaneously meeting the goal of zero waste by 2035.

The objective here is simple: enact the proposed legislation and provide key stakeholders both inside and outside of City Hall with the resources to effectively and efficiently dispose of C&D waste. By accomplishing this feat, Philadelphia has the opportunity to be a leader in creating a City in which all aspects of life and community can flourish. While implementing such a drastic change can appear daunting, there are simple steps which can be taken today in order to create meaningful action tomorrow. The first step is to engage with the policy team at Circular Philadelphia to begin discussions on the optimal strategy for crafting a piece of legislation that is informed by this policy paper.
References


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**Project Managers:**
Blake Carroll
Nic Esposito

**Researchers:**
Madalyn Beban
Justin Copenhaver
Nic Esposito
Leslie Hendricks
Abby Hoffer

**Stakeholder Interviewers:**
Nic Esposito
Leslie Hendricks
Abby Hoffer

**Paper Writers:**
Blake Carroll
Nic Esposito
Leslie Hendricks
Abby Hoffer

**Paper Reviewers:**
Fern Gookin
Bernie Laber
Daniel Marzec

**Copy Editing:**
Harrison Mace

**Design and Layout:**
Samantha Wittchen

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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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