INDIANA MATERIALS Management Plan 2026~2046

Prepared June 2026

Advancing waste reduction *throughout* **Indiana.**

Indiana Department of Environmental Management
www.IDEM.IN.gov

Report Prepared By

Eunomia Research & Consulting, Inc.

Project Team

Iris Liu

Caitlin Harrington-Smith

John Carhart

Winn Cowman

Approved By

Winn Cowman

Project Director

Eunomia Research & Consulting, Inc.
61 Greenpoint Ave
Ste. 407
Brooklyn, NY
11222

Tel +44 (0)117 9172250
Fax +44 (0)8717 142942
Web www.eunomia.eco

Executive Summary

The Indiana Materials Management Plan (MMP) outlines a 20-year framework (2026 – 2046) to advance waste reduction, recycling, and responsible materials management across the state, consistent with the statutory framework and requirements set forth in Indiana Code Title 13. This MMP was developed through funding from the US Environmental Protection Agency (EPA)'s Solid Waste Infrastructure for Recycling (SWIFR) grant.

Statutory Context

This MMP is developed pursuant to Indiana Code (IC) § 13-21-1-1 and § 13-21-1-2, which establishes the requirements for the development and adoption of a statewide solid waste management plan. Consistent with these provisions, the MMP addresses the establishment of voluntary statewide goals, reviews alternatives to final disposal, and provides information relevant to the siting, operation, and long-term management of final disposal facilities. The MMP also provides guidance intended to inform the development and adoption of district solid waste management plans by Solid Waste Management Districts (SWMDs) and local governments.

In addition to statewide planning requirements, the MMP acknowledges Indiana's municipal waste reduction and recycling goal established in IC 13-20-25-1 and considers municipal solid waste as a key component of the state's overall materials management system. While the reporting requirements set forth in IC 13-20-25-9 through IC 13-20-25-13 are administered separately from this planning effort, the data collected pursuant to those provisions inform the baseline conditions, trends, and analyses presented in this MMP.

This MMP is also intended to align and support existing statutory programs and institutions that advance waste diversion and recycling market development in Indiana, including the Central Indiana Waste Diversion Project (IC 13-20-26) and the Recycling Market Development Board (RMDB). These entities play a complementary role in advancing infrastructure investment, market development, and sustainable materials management. Their activities and efforts provide important context for the strategies and opportunities identified in this MMP.

Purpose and Scope

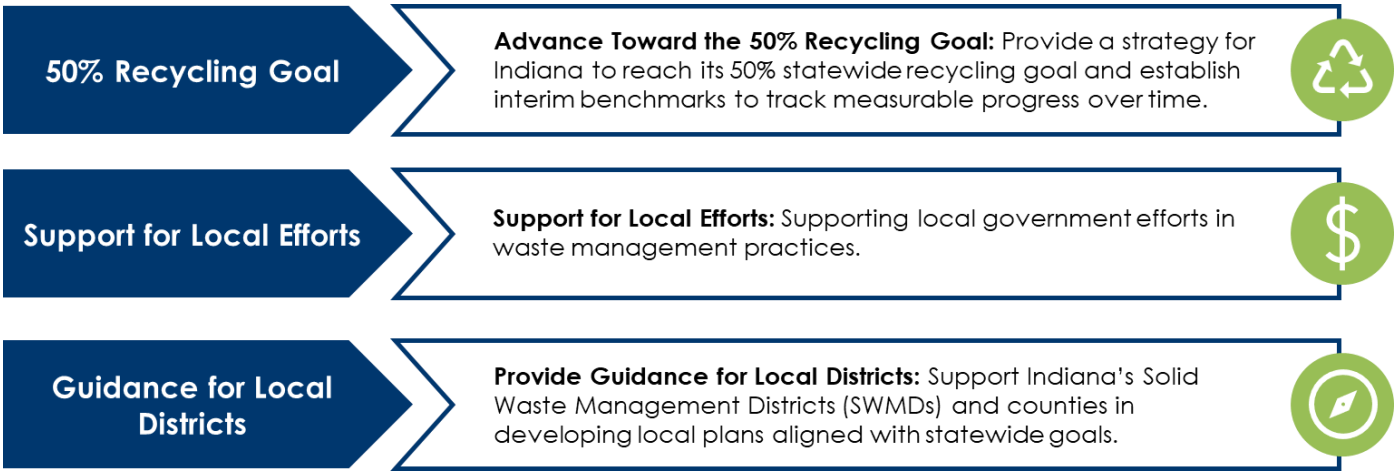
The purpose of this MMP is to serve as a blueprint for addressing Indiana's materials management system, consistent with the requirements of Indiana Code Title 13.

This MMP assesses Indiana's materials management system today, analyzes challenges and opportunities, and presents strategies, including those evaluated through modeling, to inform state and local planning. It does not prescribe specific policies; instead, it provides a framework that illustrates what is possible to improve how materials are collected, processed, and recovered across the state. As previously mentioned, the MMP also provides guidance for SWMDs and local governments to align regional programs and initiatives with statewide goals. The MMP explores how improvements in infrastructure, efficiency, and material recovery can strengthen Indiana's circular economy while generating long-term economic and environmental benefits.

Vision and Priorities

Indiana envisions a balanced, sustainable system that reduces waste, promotes circular economy practices, and manages materials responsibly for the long term. The plan recognizes that landfills, waste-to-energy, recycling, and reuse each play a role in a comprehensive materials management system.

The MMP is structured around three priorities:



These priorities will help establish a foundation to advance post-consumer materials management in Indiana.

Key Insights and Opportunities

Indiana's materials management system continues to evolve as the state works to balance efficiency, sustainability, and economic growth. Indiana has made meaningful progress in expanding recycling access and advancing materials management programs statewide; however, several systemic challenges continue to limit diversion and slow down progress toward achieving the state's 50% recycling rate goal. The MMP identifies systemwide trends, challenges, and opportunities to improve materials management in Indiana. According to IDEM's annual Recycling Activity Reporting, the state has had an average solid waste recycling rate of 18% between 2016 and 2024. In 2016, the recycling rate was reported as 16.7%, while in 2024, it had only risen to 17.8%. Understanding these persistent challenges is essential to shaping effective strategies and actions to increase diversion. Additional opportunities are present to make progress towards the state's 50% recycling rate target.

There are growing opportunities to strengthen infrastructure, enhance data collection and transparency, expand end markets for recovered materials, and encourage collaboration across public, private, and industrial sectors to improve recycling performance and material recovery statewide. A balanced framework that considers both the economic realities of disposal and the benefits of recycling and composting helps contextualize these opportunities with current market conditions. New technologies and infrastructure upgrades are already underway, with recent acquisitions and companies signaling a growing commitment to improve system performance and recover more materials. However, relatively low landfill tipping fees create incentives for disposal, while recycling rates have declined due to gaps in participation, access, and infrastructure. Facilities that are not registered are not mandated to report data to IDEM, restricting visibility of certain material flows. In accordance with IC 13-20-25-10, recyclables from metal processing and from non-MSW materials processing, such as construction and demolition (C&D), may

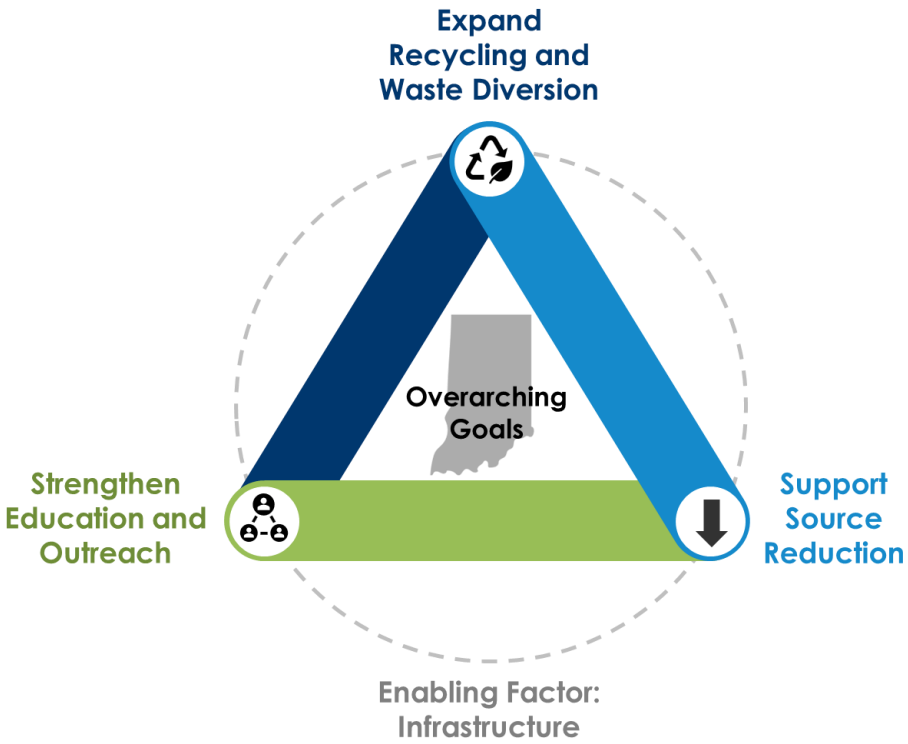
be voluntarily reported. This reported information is included in annual reports to the Indiana Recycling Market Development Board (RMDB).

Solid Waste Management Districts (SWMDs) and municipalities continue to play a central role across the state, providing recycling access, public education, and community programs that demonstrate the impact of local action. However, SWMDs may vary in terms of capacity and services offered.

The commercial and industrial sectors play an important role in advancing progress toward Indiana's 50% recycling rate goal, as a substantial share of source-separated recyclables included within the MSW stream (e.g., cardboard, paper, metals, glass, and plastics) originate from commercial and industrial generators. With large material volumes moving through these sectors each day, even incremental improvements in material recovery, operational practices, and participation in voluntary recycling activity reporting can generate statewide benefits. Expanded recovery and improved visibility into commercial and industrial recycling activity, through both MRFsheds and voluntary reporting from companies, can improve understanding of MSW recycling performance and accelerate progress toward statewide goals.

Overarching Goals

The MMP is guided by three overarching goals that reflect Indiana's vision for a balanced, resilient, and circular materials management system. These overarching goals, as shown below, focus on advancing recycling and waste diversion, supporting source reduction, and strengthening education and outreach to build awareness and participation. Infrastructure serves as the enabling factor that supports progress toward each of these goals and ties outcomes to end markets. Together, they provide a shared direction for Hoosiers, SWMDs, local governments, and industry partners to improve materials management and resource efficiency statewide.



Looking Ahead

The MMP provides a blueprint for coordinated action across the state. It reflects Indiana's commitment to progress, collaboration, and the long-term stewardship of resources and materials management. This MMP marks an important step toward a more resilient and circular materials management system that will continue to evolve as data improves, partnerships strengthen, and infrastructure expands.

Looking ahead, Indiana will continue to build on this foundation by tracking progress toward its goals, identifying new opportunities, and adapting to changing technologies, markets, and the needs of the state. The MMP is designed to be a living framework that will be reviewed every five years to reflect new data, measure progress, and capture lessons learned. These reviews are interim reviews and help to ensure continuous improvement in Indiana's approach to materials management while engaging Hoosiers across communities, businesses, and institutions to build a cleaner, more sustainable future for the state.

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1.0 Introduction

The Indiana State Materials Management Plan (MMP) is developed pursuant to Indiana Code (IC) Title 13, including IC 13-21-1-1 and IC 13-21-1-2, which establishes the statutory framework for statewide solid waste and materials management planning. Consistent with these requirements, this MMP will serve as a blueprint for the future of waste and materials management in Indiana – providing a snapshot of current materials management and discussing broader goals for the state and the strategies that may be implemented to achieve them. **This MMP is intended to inform, not prescribe, policy decisions and does not establish regulatory mandates.**

This MMP supports Indiana's state recycling goal under IC 13-20-25-1 and is informed by the data reported pursuant to IC 13-20-25-9 through IC 13-20-25-13. Municipal solid waste is a core component of the state's overall materials management system, and the data collected under these reporting provisions provide important context for understanding baseline conditions and trends reflected in this plan.

IDEM has received funding through the US Environmental Protection Agency's (EPA) Solid Waste Infrastructure for Recycling (SWIFR) Grants for States and Territories to develop this statewide MMP. The MMP is designed to support the National Recycling Goal and Food Loss and Waste Reduction Goal and to advance a circular economy for materials, while supporting state-wide efforts to advance pre- and post-consumer materials management. As part of this SWIFR-funded effort, IDEM will provide pass-through funding to counties and solid waste management districts (SWMDs) in 2026 to develop local material management plans based on the guidance in this MMP.

1.1 Background Information

In 1990, the Indiana General Assembly passed Public Law 10-1990, which provided a framework for solid waste management in the state and created Solid Waste Management Districts (SWMDs). The law directed the Indiana Department of Environmental Management (IDEM) to guide the SWMDs on source reduction and alternatives to final disposal, culminating in the 1991 Solid Waste Management Plan.

This 20-year plan set statewide goals to reduce the waste stream by 35% by 1996 and 50% by 2001, to be achieved through the creation of county or regional solid waste plans. The 1991 plan did not establish a regular update schedule for the statewide or district plans, though some SWMDs have updated their local plans over time. However, the Solid Waste Management Plan itself has not been updated since 1991 and no other legislation has been passed that directly relates to solid waste management planning.

Beyond direct legislation, other legislative actions since the 1990s have continued to affect waste management planning in the state, particularly since the end of the Solid Waste Management Plan in 2011. For example, the Solid Waste Management Fee (SWMF) of $0.50 per ton on the disposal or incineration of solid waste, generates about $5 million annually. This revenue supports recycling efforts through funds, grants, and loans for recycling and waste reduction education and projects. Although the legislation allows for loans, the program has not provided loan funding since 2008. Around half is dedicated to a recycling promotion and assistance fund, which focuses on the economic development of recycling businesses and projects.

In addition to the SWMF, IC 13-20-21-6 establishes additional disposal fees for certain municipal landfills. Pursuant to this statute, solid waste disposed of at a municipal solid waste landfill, nonmunicipal solid waste landfill, incinerator, or construction and demolition site is subject to additional disposal fees ranging from $0.05 to $0.10 per ton.

For SWMDs specifically, IC 13-21-3 recodified their powers and duties and authorizes local funding for operating expenses. Additionally, IC 13-21-1-4 requires that, beginning in 2015, an interim study committee assess SWMDs every five years. However, only one such assessment has occurred since then. Finally, IC 13-21-3-1, enacted in 2017, eliminated the requirement that SWMDs be mandatory.

Other important legislation includes the 2014 requirement for mandatory reporting of recyclables by recycler facilities (IC 13-20-25-9), which supports the statewide annual tracking of municipal solid waste (MSW) generation and recycling rates. Reporting MSW is mandatory for permitted solid waste facilities (those authorized to operate) since 1990; it must include the origin, type, and amount of solid waste received. Since 2015, all tracking has been digitized, with solid waste and recycling reports submitted online via Re-TRAC Connect, the IDEM Solid Waste and Recycling Data Reporting Program. Re-TRAC Connect serves as IDEM's centralized online reporting platform for collecting and tracking facility-reported solid waste and recycling data across the state. This includes reporting on MSW disposal through landfilling, exports of MSW, energy from waste, recycling, composting, and electronic waste (e-waste) classifications. Furthermore, Indiana Electronic Waste law (IC 13-20.5) established the Indiana E-Cycle program, which aims to reduce the amount of e-waste sent to Indiana landfills and to ensure that hazardous substances found in electronic waste are appropriately and responsibly managed. Manufacturers, collectors, and recyclers that participate in the Indiana E-Cycle Program are required to register and submit annual reports online through IDEM's Re-TRAC platform.

IDEM has also implemented policies to reduce municipal waste. For example, the Indiana E-Cycle program (IC 13-20.5), launched in 2009, aims to reduce electronic waste sent to landfills and improve the management of associated hazardous material. Other measures include state laws regulating organic waste (IC 13-20-10, 329 IAC 11.5) and banning vegetative matter (IC 13-20-9), lead-acid batteries (IC 13-20-16), and whole tires from landfills (IC 13-20-14-1).

Through its Office of Program Support (OPS), IDEM also promotes waste reduction and recycling across civic, business, nonprofit, and other organizations via partnership organizations as well as recognition and grant programs. The Recycling Market Development Program (RMDP), established in the 1990s, provides grants to develop markets for recyclables, and the Community Recycling Grant Program (CRGP) supports projects that increase recycling. Additionally, IDEM OPS promotes waste reduction and sustainability initiatives through the Environmental Stewardship Program, pollution prevention technical assistance, and through organizations such as Indiana's Partners for Sustainability.

In 2022, new legislation modified solid waste definitions for excluding recyclable materials from regulation as solid waste when they are determined to be nonhazardous (under 40 CFR 262.11) or excluded as hazardous waste (under 40 CFR 261) and are used by a manufacturer as an ingredient or component of a product, or as a commodity in a process that results in a product, provided other statutory conditions are met under IC 13-11-2-205.[1] IDEM guidance further explains that materials managed under this exclusion should be stored as valuable commodities, including being properly contained, protected from movement by wind or water, kept on the use property, and stored for a limited period of time, such as less than six months. However, recycling facilities with high residual disposal rates may still trigger solid waste regulations. Indiana also established the Central Indiana Waste Diversion Pilot Project (CIWDP), codified at IC 13-20-26, to evaluate approaches for diverting valuable recyclable materials from disposal and supporting productive commercial reuse by Indiana-based end markets. In addition, IC 13-15-1-3.2 allows certain hazardous waste-permitted facilities to manage solid waste without obtaining a separate solid waste permit, provided the solid waste is not stored, treated, or disposed of in direct contact with hazardous waste. In 2023, Indiana further amended its laws to define advanced recycling as a manufacturing process under IC 13-11-2-2.5.

1.2 Legislative Requirements and State Planning

This MMP aligns with Indiana Code and federal regulations. Indiana Code Title 13 provides the statutory basis for statewide solid waste and materials management planning in Indiana. Under IC 13-21-1-2, the state solid waste management plan must provide for solid waste management in Indiana for the twenty (20) years following its adoption. Therefore, the MMP applies a 20-year planning horizon consistent with this statutory framework, providing a basis for understanding current conditions, setting voluntary goals, and identifying opportunities for system improvement.

Formalized in 2014, the General Assembly enacted House Enrolled Act 1183 (HEA 1183), creating Indiana Code 13-20-25. This code reinstated the state's 50% recycling goal for municipal solid waste and established the mandatory reporting requirement for recyclers described above, requiring them to report to IDEM the quantity and type of recyclable material processed from the municipal waste stream. The code includes key definitions (including who qualifies as a recycler), the required report contents, reporting timeframes (quarterly or annually) and deadlines, and the protocols for submitting the uniform recycling activity report form on the IDEM website. It also outlines voluntary reporting opportunities for entities not subject to the mandatory requirement.

1.3 Current Snapshot of Indiana

Indiana generates a wide range of solid waste streams, including municipal solid waste (MSW), organic waste (including food waste, wood waste, and yard waste), e-waste, construction and demolition (C&D) debris, household hazardous waste (HHW), waste tires, and other specialized waste streams such as industrial byproducts. The performance metrics used to assess Indiana's current system vary depending on which of these waste streams are included. To reflect this, **Figure 1-1** shows the MSW recycling rate that is reported in Indiana's 2023 Recycling Index Report and a broader diversion rate for managed solid waste streams. These two metrics are contrasted by the overall recovery rate across all solid waste generated in Indiana, which provides important context. Also, the recycling rate for MSW commodity recyclables only includes the estimated generation and reported recycling for glass, metals, paper, and plastics.

Recovery Rate for All Solid Waste Streams (8.8%)

The recovery rate for all solid waste streams reflects the share of total waste generated in Indiana that is recovered through recycling, composting, or other diversion and beneficial use. This metric includes industrial byproducts, such as coal ash, foundry, and flue gas desulfurization waste that currently have limited or non-established recovery pathways. Therefore, the overall recovery rate remains comparatively low. Including this measure provides essential systemwide context and highlights how much of Indiana's total materials flow sits outside of existing recycling and diversion programs.

MSW Recycling Rate (15.2%)

Indiana's MSW recycling rate is calculated in accordance with the measurement standard established by the U.S. EPA:

$$\text{Recycling Rate (\%)} = \frac{\text{MSW Recovered for Recycling and Composting (tons)}}{\text{MSW Generation (tons)}} \times 100$$

For the purposes of this calculation, "Recycling and Composting" refers to the materials for recycling end use markets, which includes commodity recyclables (glass, metals, paper, plastics), organics (wood waste and composting), and other materials from MSW.

Under Indiana law (IC 13-11-2-133), municipal waste refers to "any garbage, refuse, industrial lunchroom or office waste, and other similar material resulting from the operation of residential, municipal, commercial, or institutional establishments and community activities."[2] Therefore, certain industrial byproducts such as

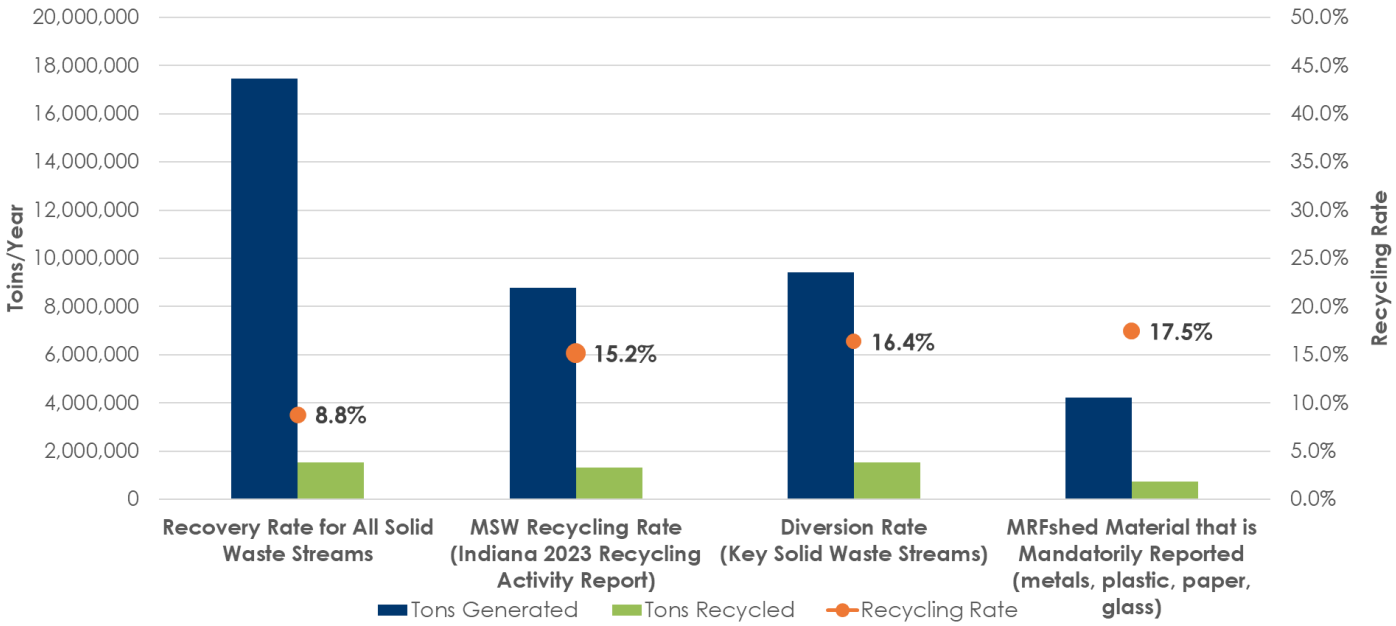
coal ash, foundry, or flue gas desulfurization waste fall outside of this definition and are not counted in the state's MSW recycling rate. Additional details for this MSW recycling rate calculation are presented in the Indiana 2023 Recycling Index Report.

Diversion Rate (Key Solid Waste Streams) (16.4%)

The diversion rate reflects the share of materials diverted from disposal across MSW, construction and demolition (C&D) debris, and all waste tires. C&D and tires are included because they represent heavy waste streams that move through Indiana's solid waste system and have established recovery or reuse pathways. It should be noted that C&D recycling is not comprehensively reported under IDEM's current reporting requirements, so the level of C&D recovery reflected in the available data is likely an underestimate of actual activity. Waste tire data is tracked statewide because all registered waste tire operators that transport, process, or store waste tires must submit a Waste Tire Annual Report. By incorporating these two waste streams, this diversion rate metric offers a broader view of diversion performance beyond MSW.

In the chart below, the MRFshed recycling rate (17.5%) is the highest. This recycling rate considers only MSW commodity materials, which include metals, plastic, paper, and glass. In comparison, the MSW recycling rate (15.2%) includes MSW commodity materials and other categories of MSW including organics, e-waste, HHW, textiles, and other MSW materials.

Figure 1-1: Comparison of Indiana's Waste Management Performance Metrics (Recovery, Recycling, and Diversion Rates)



It is important to note that the figures presented above do not reflect all waste and recycling activity across Indiana. For example, clean fill disposal of C&D is not reported, and recycling tonnages used on-site are generally not captured in the data submitted to IDEM. Furthermore, non-MSW materials are reported on a voluntary basis.

Taken together, the performance metrics discussed above illustrate the different ways Indiana's materials management performance can be measured depending on which waste streams are considered. To clarify

the differences among the metrics, the table below summarizes which waste streams are counted within each metric.

Table 1-1. Comparison of Waste Streams Included in Each Performance Metric

Waste Stream	Recovery Rate for All Solid Waste Streams	MSW Recycling Rate (Indiana 2023 Recycling Activity Report)	Diversion Rate (Key Solid Waste Streams)	MRFshed Recycling Rate
Commodity Recyclables				
Glass	✓	✓	✓	✓
Paper	✓	✓	✓	✓
Plastic	✓	✓	✓	✓
Metal (ferrous and Non-ferrous)	✓	✓	✓	✓
Single-stream / mixed	✓	✓	✓	✓
Organics				
Food Waste	✓	✓	✓	-
Wood Waste	✓	✓	✓	-
Yard Waste	✓	✓	✓	-
Other Organics Waste	✓	✓	✓	-
Other Materials from MSW				
HHW	✓	✓	✓	-
Textiles	✓	✓	✓	-
Other MSW	✓	✓	✓	-
E-Waste				
Shipments to recycler facilities	✓	✓	✓	-
Shipments arranged through brokers	✓	✓	✓	-
Shipments to manufacturers / end users	✓	✓	✓	-
Non-MSW Waste Streams				
Non-MSW Recyclables	✓	-	-	-
Construction & Demolition (C&D) Debris	✓	-	✓	-
Foundry	✓	-	-	-
Coal Ash	✓	-	-	-
Flue Gas Desulfurization Waste	✓	-	-	-
Alternate Daily Cover / Reuse	✓	-	-	-
Waste Tires	✓	-	✓	-

1.4 Waste and Organics Management

The Environmental Protection Agency's (EPA) non-hazardous materials and waste management hierarchy[3] (**Figure 1-2**) ranks management approaches from most to least "environmentally preferred."

Figure 1-2. EPA Non-Hazardous Materials and Waste Management Hierarchy

At the top of the hierarchy are source reduction, reuse, recycling, and composting, which are central to sustainable materials management. These strategies help reduce emissions, conserve energy and natural resources, and minimize air and water pollution. Recycling also contributes to the economy by supplying valuable raw materials, creating jobs, and supporting the development of greener technologies. As the hierarchy moves down toward the tip of the triangle, the strategies become less preferred because they can have greater environmental impacts, including higher resource consumption, and offer fewer secondary economic benefits. These less preferred options include energy recovery and landfill disposal, which are considered measures of last resort.

Figure 1-3. EPA Wasted Food Scale

The EPA's Wasted Food Scale[4] **(Figure 1-3)** ranks food waste management actions, referred to as "wasted food pathways," from left (most preferred) to right (least preferred) based on their environmental benefits

and contribution to a circular economy. It does not consider economic or social factors. The leftmost tiers emphasize actions that directly reduce food waste and offer the greatest potential to nourish people. This includes preventing food waste and donating or upcycling. The rightmost tiers, such as down-the-drain disposal, landfilling, and incineration, deliver larger environmental impacts and minimal circularity. This scale updates the EPA's former Food Recovery Hierarchy to reflect newer technologies and practices.

1.5 Sustainable Materials Management

This Indiana Materials Management Plan (MMP) incorporates a Sustainable Materials Management (SMM) approach. The EPA defines SMM as a "systematic approach to using and reusing materials more productively over their entire life cycles."[5] It recognizes the urgent need to manage materials more sustainably amid growing demand for finite resources and the environmental impacts of extraction, use, and disposal. By applying a life cycle lens to materials management, SMM identifies opportunities to reduce environmental impacts and optimize material use at every stage, from raw material acquisition to end-of-life.

1.6 Overview of the 2026 – 2046 Plan

The Indiana MMP takes a holistic view of how materials are managed today across the state and sets the direction for the next 20 years. It covers waste reduction, recycling, and disposal practices and provides a framework to guide Indiana from 2026 to 2046.

Solid waste management practices in Indiana are highly localized. Municipalities and counties manage collection, processing, and disposal in ways that may reflect their unique circumstances. Most counties have a Solid Waste Management District (SWMD), which serves as a local authority on recycling, yard waste, and household hazardous waste services. SWMDs may track materials recycled, processed, or disposed of as well as organize collection events and carry out education and outreach activities. This MMP will support local planning efforts and help align them with Indiana's statewide goal of reaching a 50% recycling rate.

The MMP was developed through a robust process. The project team began by analyzing facility-reported Re-TRAC data to establish a statewide baseline of materials generation, diversion, and disposal. Surveys of material recovery facilities (MRFs), landfills, and recycling operators were conducted to gain more detailed insight into facility-level practices.

Stakeholder engagement was integral throughout the process. The project team carried out virtual calls to provide updates and respond to questions, collected feedback and comments via email, and worked in coordination with IDEM as it organized in-person regional open houses to discuss the MMP. These efforts helped to ensure that stakeholders across the state were able to inform and shape the MMP at multiple stages of its development.

2.0 Purpose, Vision, and Priorities of the MMP

This section outlines the purpose of the MMP, the long-term vision for the state, and the priorities that will guide future materials management activities in Indiana. By defining a clear vision and set of priorities, the MMP provides direction for Indiana's future materials management efforts.

2.1 Purpose

The purpose of this MMP is to serve as a blueprint for addressing Indiana's materials management infrastructure. It provides a transparent framework that outlines the current state of materials management across Indiana, identifies challenges and opportunities, and sets a path for coordinated action. By providing consistent guidance and statewide direction, the MMP strengthens local planning, supports Solid Waste Management Districts (SWMDs), and establishes a strong foundation for Indiana to move toward its 50% statewide recycling goal.

2.2 Vision

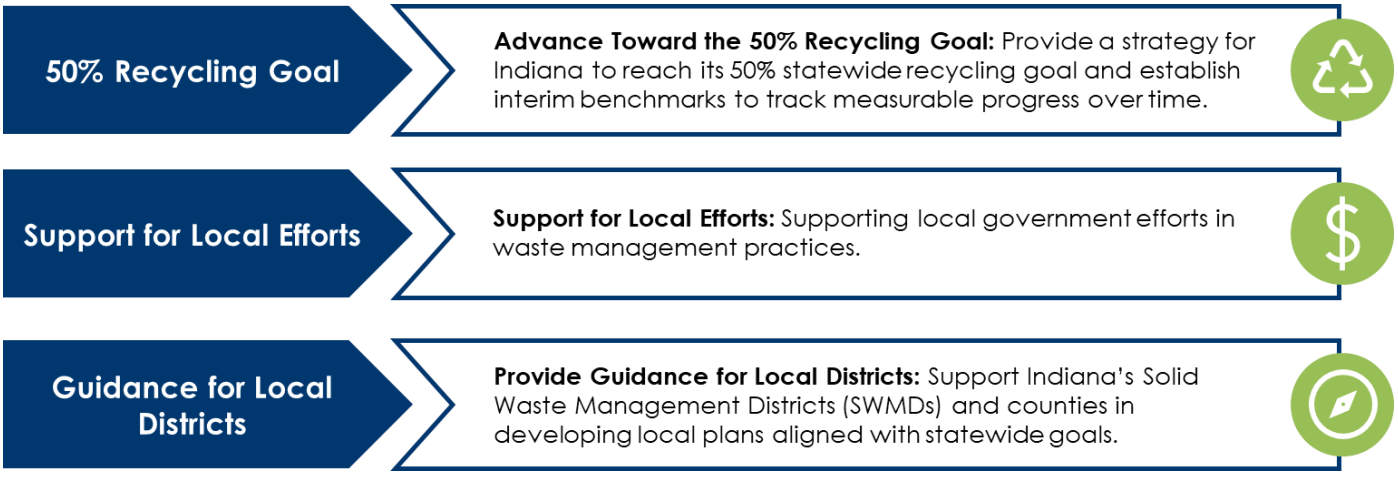
Indiana's 20-year vision is to advance waste reduction and recycling while maintaining a balanced, practical approach that recognizes the role of landfills and waste-to-energy facilities as well as recycling solutions in a comprehensive materials management system. This vision reflects a more holistic approach to waste management. It acknowledges the realities of local challenges while striving toward systemic improvements.

Indiana's vision is to create a balanced, sustainable system that reduces waste, improves recycling outcomes, and manages materials responsibly for the long term. This Materials Management Plan serves as the blueprint for this vision.

Achieving this vision will require coordinated action among IDEM, SWMDs, local governments, private haulers and recyclers, end markets, and Hoosiers across the state to strengthen recycling systems, support market growth, and promote responsible materials management.

2.3 Priorities

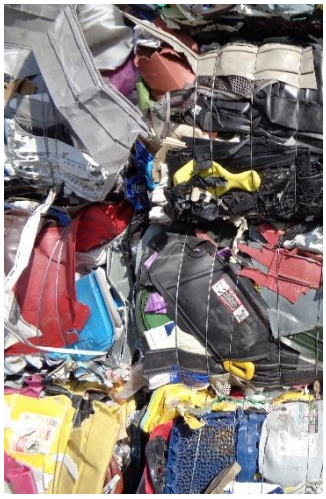
To realize this vision, the MMP sets the following priorities for 2026 – 2046:



These priorities will help establish a foundation to advance post-consumer materials management in Indiana. In addition to these priorities, the MMP details current waste management strategies, gaps, and challenges.

As mentioned above, this MMP prioritizes actions that align with the EPA's sustainable materials management framework, which prioritizes using and reusing materials more productively throughout their life cycles and advances circular economy principles. By progressing toward higher statewide recycling rates, fostering local economic development, and supporting local materials management, Indiana can improve resource efficiency, shift away from a disposal-dependent system, and reduce the environmental impacts associated with waste.

PART 1. Current Baselines and Infrastructure









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3.0 Waste Management System in Indiana

Indiana's waste management system comprises a diverse set of facilities, programs, and services that manage municipal solid waste (MSW), construction and demolition (C&D) debris, organic materials, household hazardous waste (HHW), and other waste streams. Local SWMDs, municipalities, private haulers, and processing facilities all play a role in providing collection, recycling, composting, and disposal services. The system varies across urban, suburban, rural, and unincorporated areas, reflecting differences in population density, available infrastructure, and market access.

Understanding the current system is essential to identifying service gaps, planning infrastructure investments, and developing strategies to meet the state's long-term recycling and diversion goals. The following sections describe Indiana's facilities and programs, materials management practices, and the flow of major waste streams.

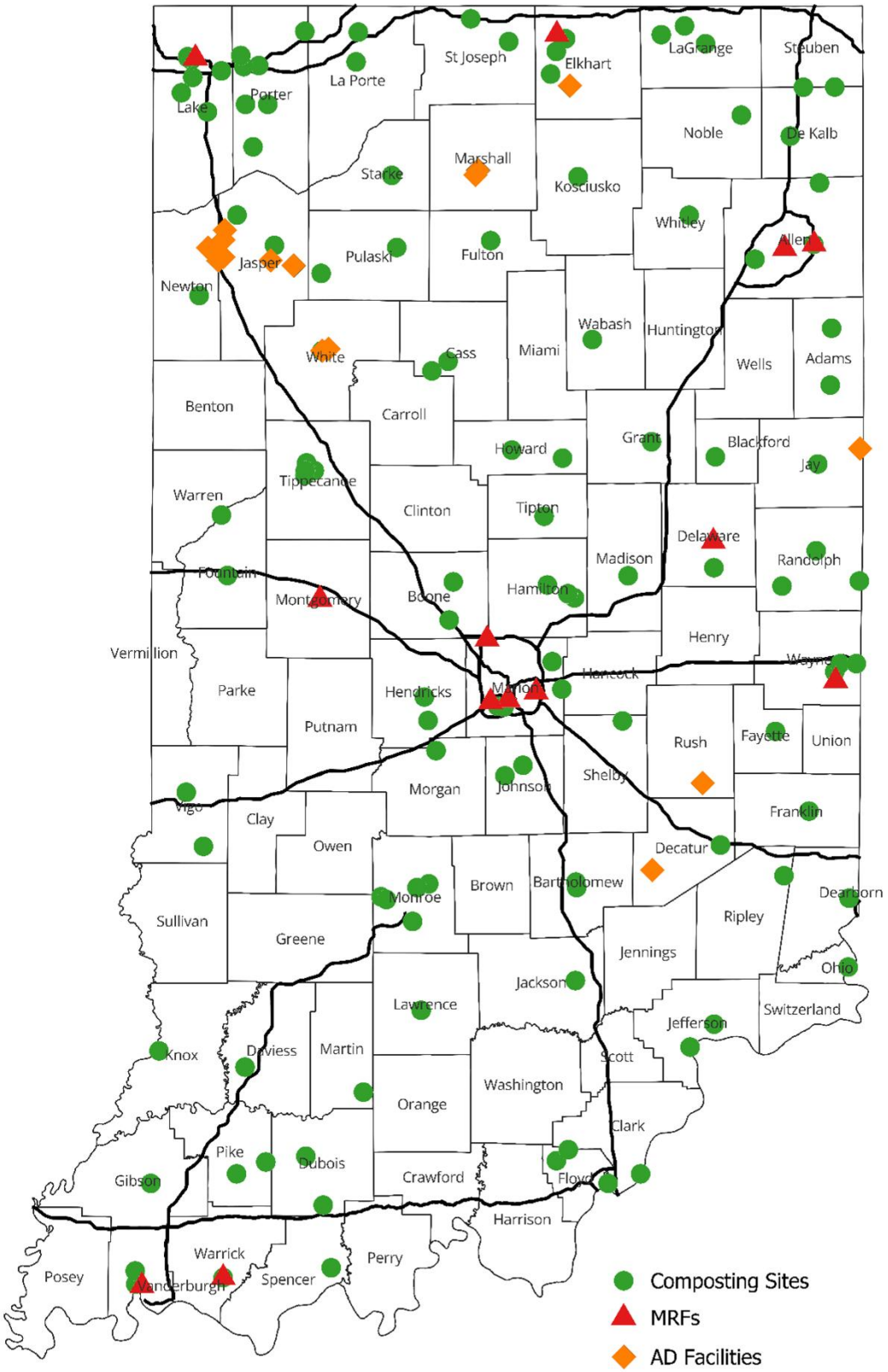
3.1 Current Infrastructure in Indiana

Achieving Indiana's long-term waste diversion and recycling goals depends not only on strong policies and programs, but also on having adequate infrastructure to support them. Facilities such as landfills, transfer stations, material recovery facilities (MRFs), composting and organics management sites, and waste-to-energy facilities determine how much material can realistically be recovered, recycled, or disposed of. Without sufficient capacity and strategically located facilities, collection programs and waste diversion initiatives cannot reach their full potential.

The following maps illustrate the distribution of key solid waste management infrastructure across Indiana, including MRFs, composting sites, landfills, construction and demolition (C&D) sites, and restricted waste sites (RWS). Together, these facilities form the backbone of Indiana's materials management system, determining how and where materials are collected, processed, and ultimately diverted from disposal.

Map 3-1 shows the distribution of MRFs and composting facilities, which represent critical infrastructure for recycling and organics diversion. MRFs are clustered primarily in Central Indiana and near major urban centers, while composting facilities are more evenly distributed statewide, often serving regional or county-level service areas. However, most composting facilities are currently permitted to process only vegetative materials, such as yard and wood waste, rather than food waste. This limitation is largely shaped by existing yard waste regulations, which focus on vegetative organic materials. Therefore, despite the wide distribution of composting facilities, there remains an opportunity to expand capacity and permitting for food waste processing, which would strengthen the state's overall organics diversion system and reduce the volume of food waste sent to landfills. The distribution of MRFs suggests that access to recycling processing capacity is more limited in rural areas, potentially increasing transportation distances and costs.

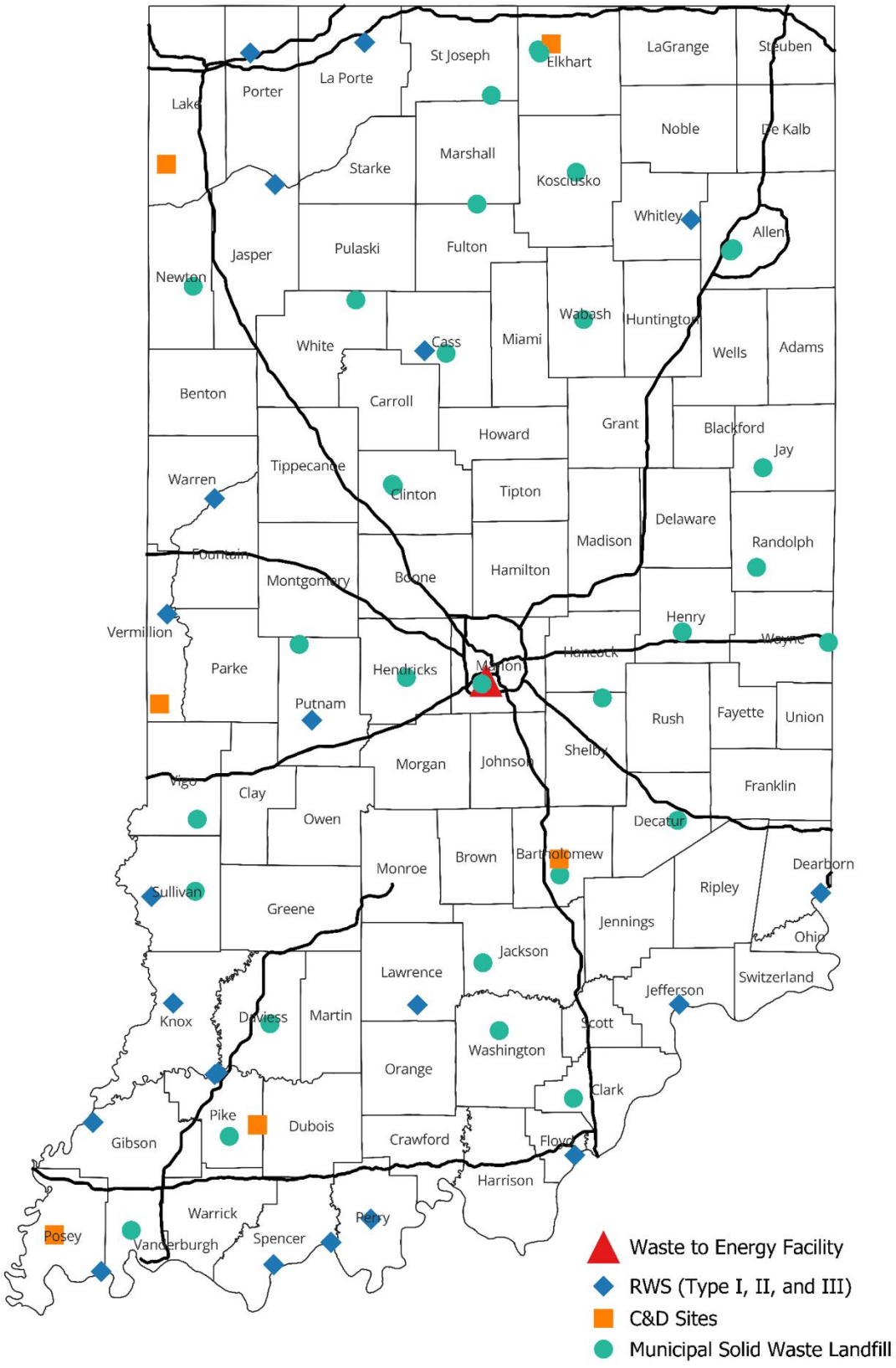
Map 3-1. MRFs and Composting Facilities in Indiana



Map 3-2 shows the distribution of disposal facilities, which include landfills, C&D sites, and restricted waste sites. These facilities are distributed across the state, with higher concentrations in the Southern and Northwestern regions where industrial activity and landfill capacity are the greatest. Northwest Indiana has historically been considered an industrial or economic hub due to steel manufacturing, heavy industry, and strong transportation infrastructure with major highways. The map also highlights the continued importance of landfills in managing Indiana's solid waste and the need for ongoing capacity planning to ensure long-term system resilience.

In addition to regional industrial activity, the distribution of facilities is influenced by proximity to Indiana's major highways. The distribution of facilities across the central part of the state reflects Indiana's role as a vital transportation hub (highway and rail) for the nation. The city of Indianapolis is a key focal point, featuring the junction of four major interstate highways: I-65, I-69, I-70, and I-74. These major highways form the primary routes used to move waste and recyclables between communities and the facilities that handle them. As a result, many processing and disposal facilities are found near these highways or where several highways meet.

Map 3-2. Disposal Facilities in Indiana



3.2 Materials Management Facilities

Indiana's materials management system is supported by a range of facilities, such as landfills, transfer stations, recycling facilities, composting and organics operations, and other specialized facilities. These provide the backbone of waste handling and management and play a critical role in the state's recycling performance, disposal capacity, and ability to meet future materials management goals.

3.2.1 Landfills

Landfills remain the primary disposal option for MSW in Indiana. In 2023, the state generated 8.98 million tons of MSW. Of this, more than 6.6 million tons were disposed of at Indiana's 27 active MSW landfills, 473,400 tons were exported for disposal at out-of-state landfills, and 332,909 tons were managed at waste-to-energy facilities. These figures reflect waste generated within the state and do not include MSW imported from other states for disposal at Indiana landfills, which is estimated to account for an additional 20 – 30% of total landfill tonnage.

With landfills being the dominant endpoint in the state's waste system, their capacity and operations are central to long-term planning. Landfill capacity relates to all solid waste received at landfills. Remaining landfill capacity is a key factor in determining future disposal needs, particularly as population growth and variability in recycling and organics diversion affect the amount of material requiring disposal. On average, Indiana's active landfills have about 20 years of remaining capacity. Landfills also play a critical role in tracking disposal data, as reporting provides the basis for calculating recycling and diversion rates.

Table 3-1 summarizes the designed capacity and remaining capacity (reported in tons) for a subset of Indiana's landfills, based on available data. Please note that this is not a comprehensive inventory of all active landfills in the state; it provides a snapshot of capacity levels at selected facilities where data was available. Additionally, the tonnage shown in Table 3-1 does not include imported tonnages.

Table 3-1. Selected Facilities Landfill Capacity in Indiana (2023)

Facility Name	County	Facility City	IDEM Region	Permitted Area in Acres (* Current Area)	Landfill Design Capacity (million tons)	Landfill Capacity Remaining (million tons)	All Waste Received 2023 (million tons)	MSW Received 2023 (million tons)
United Refuse Landfill	Allen	Fort Wayne	Central	*61.6	5,983.1	0.44	0.00	-
National Serv All Landfill	Allen	Fort Wayne	Central	*272.4	35.9	12.67	0.64	0.44
Oak Ridge Recycling and Disposal Facility	Cass	Logansport	Central	*83.1	21.7	12.81	0.41	0.12
Clark Floyd Landfill	Clark	Borden	Southeast	*171.7	9.7	0.38	0.25	0.21
Clinton County Landfill	Clinton	Frankfort	Central	*43.5	27.5	18.98	N/A	N/A
Daviess County Landfill	Daviess	Montgomery	Southwest	*15.6	1.5	0.41	0.03	0.02
Decatur Hills Landfill	Decatur	Greensburg	Southeast	*59.2	5.2	1.77	-	0.12

Facility Name	County	Facility City	IDEM Region	Permitted Area in Acres (* Current Area)	Landfill Design Capacity (million tons)	Landfill Capacity Remaining (million tons)	All Waste Received 2023 (million tons)	MSW Received 2023 (million tons)
Elkhart County Landfill	Elkhart	Elkhart	Northern	*127	11.5	2.35	0.32	0.24
County Line Landfill	Fulton	Argos	Northern	*123	45.0	27.18	0.48	0.22
Twin Bridges Recycling & Disposal Facility	Hendricks	Danville	Central	*173.4	42.4	11.31	0.92	0.58
Hayes Landfill	Henry	New Castle	Central	*47.7	4.3	1.79	0.11	0.05
Medora Sanitary Landfill	Jackson	Medora	Southeast	*89.5	23.1	15.59	0.36	0.25
Jay County Landfill	Jay	Portland	Central	*73.5	18.3	12.16	0.09	0.04
Hoosier Landfill 2	Kosciusko	Claypool	Northern	*98	8.7	0.26	0.34	0.19
Southside Landfill Incorporated	Marion	Indianapolis	Central	*255.5	51.1	23.36	1.23	0.71
Newton County Landfill	Newton	Brook	Central	*219.1	131.3	72.65	0.88	0.41
Advanced Disposal Services Blackfoot Landfill	Pike	Winslow	Southwest	*89	32.1	19.62	0.38	0.18
Randolph Farms Landfill	Randolph	Modoc	Central	*134.8	30.3	19.69	0.43	0.37
Crossroads Eco-Center Landfill	Shelby	Morristown	Central	*83.5	33.5	24.72	0.72	0.43
Prairie View Recycling & Disposal Facility	St Joseph	Bremen	Southwest	*119.3	23.0	8.70	0.54	0.37
Laubscher Meadows Landfill	Vanderburgh	Evansville	Southwest	*131.6	25.5	8.45	0.26	0.18
Sycamore Ridge Landfill	Vigo	Pimento	Central	228	N/A	N/A	0.46	0.37
Wabash Valley Landfill	Wabash	Wabash	Central	99.7	16.8	4.51	0.29	0.13
Washington County Landfill	Washington	Salem	Southeast	52	1.2	0.63	0.02	0.01
New Paris Pike Landfill	Wayne	Richmond	Central	96	7.4	3.03	0.07	0.06
Liberty Landfill	White	Monticello	Central	118.6	38.9	13.17	0.38	0.38

3.2.2 Transfer Stations

Indiana has 65 registered transfer stations, which serve as consolidation points for MSW before it is transported to landfills or other processing facilities. Some transfer stations also function as recycling hubs, with designated bays for consolidating recyclables before their shipment to in-state or out-of-state MRFs. However, these recycling bays are not included under solid waste permitting.

Transfer stations are important for data reporting. Facilities are required to track and report tonnage by origin and destination, which helps IDEM monitor how waste flows across counties. In 2023, total shipments of MSW were nearly 3.5 million tons.

3.2.3 Material Recovery Facilities (MRFs)

Indiana has seven in-state MRFs that sort most of the single-stream recyclables collected through curbside and drop-off collection. It also has several specialized MRFs that take source-separated recyclables from industrial, commercial, and institutional (ICI) sectors. The MRFs separate comingled recyclables into marketable commodities such as paper, plastics, glass, and metals.

MRFs are a critical component of Indiana's recycling infrastructure, as their efficiency directly impacts capture rates, contamination levels, and the quality of materials available for end markets. Several MRFs in the state have received grant funding for upgrades (such as improved optical sorters, conveyers, and glass cleanup systems) which could enhance throughput and material quality over time.

Table 3-2 provides a breakdown of the recyclable materials reported by Indiana MRFs in 2023. These figures represent recyclables originating in Indiana and reported through Re-TRAC. Some MRFs may also accept out-of-state or source-separated recyclables that are not reflected in these totals. The data underscores that paper and fiber make up most of the recycling stream, while the volumes of plastics, glass, and metals recovered are comparatively modest.

There have been several announcements of new MRF and recycling facilities coming online or expected to be built in the state. These include Republic Services Blue Polymers Plastic Recycling Complex in Indianapolis[6], as well as the new WM MRF facility which will be operating in 2028 to handle recyclables from Indianapolis once the roll-out of curbside recycling services bundled with trash is complete.[7]

Table 3-2. Reported Tons of Recyclables Managed by Indiana MRFs (2023)

MRF	County	Single Stream Sorting?	Glass	Paper	Plastic	Ferrous Metal	Non-Ferrous Metal	Food Waste	Wood Waste	Other (incl. non-MSW)
Republic Services (96 Street MRF)	Marion	✓	2,482	28,735	3,306	874	785	0	0	87
East Central Recycling Transfer Station	Delaware	✓	1,274	3,464	168	117	38	0	0	1,057
Pratt Recycling - Gary	Lake		0	24,640	220	0	0	0	0	0
Quincy Recycle - Indianapolis	Marion		0	23,183	3,209	295	0	73	0	0
Quincy Recycle - New Haven	Allen		0	40,398	5,424	179	0	228	0	1,655

MRF	County	Single Stream Sorting?	Glass	Paper	Plastic	Ferrous Metal	Non-Ferrous Metal	Food Waste	Wood Waste	Other (incl. non-MSW)
Recycling Works, Inc.	Elkhart	✓	8,569	71,130	7,638	1,592	579	0	0	0
Richmond Sanitation Dept. / MRF	Wayne		103	206	56	26	20	0	0	0
Republic Services (Serv-All Recycling)	Allen	✓	1,625	20,299	713	303	161	0	61	0
Tri-State Resource Recovery Facility	Vanderburgh	✓	0	20,668	497	168	112	0	0	0
W Enterprises LLC	Montgomery		189	4,178	388	6,446	548	0	486	0
Warrick County Recycling & Resource Management District	Warrick	✓	0	887	132	244	30	0	0	0
WestRock	Marion		0	47,534	2,978	5	7	0	0	0
WM Indy SS MRF Recycling	Marion	✓	0	28,394	3,280	395	478	0	495	0

It should be noted that out-of-state MRFs also serve as a regional destination for single-stream recyclables. These include Rumpke Cincinnati MRF, Diversified Recycling/Homewood MRF, and WestRock Louisville MRF. In total, shipments of single-stream recyclables to out-of-state MRFs average about 67,000 tons per year.

3.2.4 Recycling Hubs or Recycling Centers

Recycling hubs play an increasingly important role in Indiana's materials management system by serving as small-scale consolidation points recyclables. SWMDs, cities, towns, and some private facilities operate community recycling hubs to receive source-separated and/or single-stream recyclables from drop-off sites, curbside recycling, and/or commercial accounts. In some cases, they may provide route collection for drop-off and curbside services.

Unlike full-scale MRFs, recycling hubs typically have limited sorting infrastructure and focus on collecting, compacting or baling, and staging materials for shipment to downstream processors. Their operations help extend access to recycling services in communities that lack nearby MRFs or where hauling recyclables long distances is cost prohibitive.

3.2.5 Composting and Organics Facilities

Indiana has multiple registered composting facilities throughout the state for composting vegetative matter and other organic materials into beneficial materials that can be used as soil amendment or fertilizer. Under IC 13-20-9, yard waste, which is vegetative matter resulting from landscaping maintenance and land clearing projects, is banned from disposal in a solid waste landfill.[8] This applies to residential, commercial, and industrial sources of yard waste, however, there are exceptions to the disposal ban. Registered composting facilities are those that manage the composting process and give away or sell the final product. Revisions to IC 13-20-10 in 2014 allow for other organic materials besides yard waste to be processed at a composting facility registered under IC 13-20-10. These organic materials can include some

food waste, manures, and similar organic materials. However, it should be noted that a permit from the IDEM Land Application Program is required if compost from industrial food waste composting will be applied to the land. In Indiana, there are thirteen (13) compost facilities that can accept food waste.

A biomass anaerobic digestion facility (i.e., an anaerobic digester), promotes the decomposition of biomass to simple organics and biogas products in an oxygen-free environment. This includes a methane recovery system. In comparison, a biomass gasification facility (i.e., a gasification facility) converts biomass into a synthetic gas. Both anaerobic digesters and gasification facilities are regulated by Indiana Administrative Code (IAC) Title 329 Article 11.5 and operators who plan to construct or expand facilities storing, reusing, or processing biomass to produce energy or a reusable byproduct must obtain registration from IDEM. In Indiana, there are seven (7) active anaerobic digesters, two of which can accept food waste.

Organics make up a significant share of Indiana's waste stream. Expanding composting and other forms of organics management will be important for increasing diversion rates and reducing associated landfill gas emissions.

3.2.6 Waste-to-Energy Facilities

Indiana has one permitted waste-to-energy (WTE) facility, located in Indianapolis, which produces steam and energy from MSW. In 2023, it managed approximately 332,909 tons of MSW. It plays a role in Indiana's overall materials management system by reducing the volume of waste requiring landfill disposal and recovering metals from the ash stream.

3.3 Materials Management in Indiana

Materials management in the state encompasses a broad set of waste streams, from MSW to C&D debris, textiles, e-waste, and other specialized or emerging waste streams. Each of these material streams differs in how it is collected, processed, and ultimately managed. The following sections describe these material streams in more detail, outlining current practices and reported tonnages. This section addresses a wide scope of materials in the Indiana waste stream, and not necessarily only materials which are included in the statewide recycling goal.

The subsequent tables outline the tonnage generated, recycled, and disposed of in landfills. Tons of recycled materials were derived from Re-TRAC data, while tons of materials generated were estimated using Re-TRAC data and waste characterization studies from other states. Indiana's most recent waste characterization study was conducted in 2012 using 2010 data and focused solely on the residential sector. As a result, the tonnage of materials generated was estimated using Indiana tonnage data in combination with more recent waste characterization studies (2015 – 2024) from six nearby states. The waste characterization studies used reflect both residential and commercial sectors.

3.3.1 Municipal Solid Waste

MSW makes up most of the materials managed in Indiana's recycling and disposal system. It includes paper and fiber, glass, metals (ferrous and non-ferrous), plastics, organics, textiles, and e-waste generated by households, businesses, and institutions.

3.3.1.1 Paper and Fiber

As **Table 3-3** shows, paper and fiber (including cardboard, office paper, and mixed paper) are among the most widely collected and processed recyclable materials in Indiana. In addition to MRFs with single stream sorting, several specialized MRFs take source-separated paper and cardboard from ICI sectors and sort, bale, and ship materials to brokers or end markets. In 2023, MRFs in Indiana handled approximately 310,889 tons of paper and fiber material or about 60% of the total recycled. Other reported shipments include direct hauls of cardboard such as from distribution centers to end markets.

Table 3-3. Reported Tons of Paper and Fiber Material Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Paper and Fiber	2,344,136	539,801	1,723,524	80,811	0	**23%**

3.3.1.2 Glass

Indiana is relatively well-positioned for glass recycling in terms of infrastructure, with four glass container mills and two fiberglass manufacturing plants that serve as key facilities supporting regional glass recycling and manufacturing markets. Ardagh, for example, operates two glass container mills that routinely use recycled cullet that meets furnace quality specifications blended with virgin production. Like other glass manufacturers, Ardagh and other mills often rely on out-of-state supply, particularly from bottle bill states.

Sibelco (previously Strategic Materials, Inc.) operates glass processing facilities in Indianapolis, Hartford City, and Ashley; in 2023, these collectively shipped nearly 50,000 tons of glass from Indiana origins to supply regional end markets. Sibelco also operates a plant in Shelbyville and a plant in Chicago that may receive glass from Indiana MRFs. Other companies include the Rumpke facility in Dayton, Ohio as an additional processing destination that serves Indiana markets.

While the available infrastructure suggests that Indiana has sufficient beneficiation capacity and strong end markets for glass cullet with furnace quality specifications, much of the glass feedstock for end markets is sourced from out of state. Capturing a greater share of in-state glass would improve material circularity and reduce transportation-related emissions. Furthermore, the reported data indicates that only a small portion (62,205 tons, 25%) is being recycled.

On the collection side, not all of Indiana's curbside and drop-off programs accept glass for recycling. Also, as **Table 3-4** shows, three of its seven major single-stream MRFs did not have any glass shipments for end markets in 2023.

Table 3-4. Reported Tons of Glass Material Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Glass	244,794	62,205	167,011	15,578	0	**25%**

This may reflect persistent challenges with collection and contamination in single-stream recycling programs, as well as the costs of transportation and cleaning material to meet manufacturers' specifications. At the same time, Indiana's combination of local processing facilities and manufacturers presents an opportunity to increase recovery and improve the glass recycling rate if these collection and processing barriers can be addressed.

3.3.1.3 Metal

Metals are collected through curbside and drop-off recycling programs, as well as directly from the ICI sector. Single-stream curbside programs commonly accept ferrous metals, such as steel cans, and non-ferrous metals, such as aluminum cans. Non-ferrous metals often benefit from stronger end markets, which can influence their recovery and recycling rates.

It should be noted that while metal processors/salvage yards handle a large tonnage of metals from non-MSW sources (auto bodies, C&D debris, etc.) and may voluntarily submit recycling reports, they are exempt from mandatory reporting of recycled metals from MSW streams. Therefore, given that local metal processors are not mandated to submit recycling reports, IDEM's reported data is likely to under-represent the recovery of metals from MSW in Indiana.

As **Table 3-5** shows, Indiana generated approximately 375,150 tons of metal (ferrous and non-ferrous) from MSW in 2023 but only 23,365 tons were reported as recycled, yielding an overall metals recycling rate of 6%. Breaking this down further, ferrous metals had a reported recycling rate of about 2%, while non-ferrous metals had a recycling rate of 17%. However, as noted above, these figures likely underestimate actual recovery.

Indiana is a strong manufacturing state, with steel mills, foundries, and aluminum producers that use recycled scrap metal as feedstock. Metals are valuable commodities with high recyclability and well-established end markets. Recycling metals also reduces emissions compared to primary metal production. Altogether, these factors contribute to why metal is a priority material for recovery and recycling efforts in Indiana. Improving data collection and reporting would offer a more accurate picture of metal recovery and recycling.

Table 3-5. Reported Tons of Metals Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Metal (All)	375,150	23,365	351,785	0	0	6%
Metal **(Ferrous)**	**265,551**	**4,514**	**261,037**	**0**	**0**	2%
Metal **(Non-Ferrous)**	**109,599**	**18,851**	**90,748**	**0**	**0**	17%

3.3.1.4 Plastics

Plastics are collected primarily through single-stream curbside and drop-off recycling programs, as well as through some commercial recycling streams. Reported tonnages are aggregated as a single category of

"plastics" that does not distinguish between different resin types. As **Table 3-6** shows, Indiana generated approximately 1.18 million tons of plastics in 2023. Of this, only 38,261 tons were reported as recycled, resulting in a recycling rate of about 3%. Although reported data from IDEM's Re-TRAC system does not distinguish between resin types, PET and HDPE bottles generally have higher recovery rates while polypropylene, plastics #3 -#7, and film/flexibles typically have lower rates.[9] The scale of plastics generated compared to the amount recycled highlights a gap between collection and viable recycling pathways. As discussed earlier in this Plan, Indiana defines advanced recycling as a manufacturing process under IC 13-11-2-2.5 and excludes certain post-use polymers and recovered feedstocks converted at advanced recycling facilities from the definition of solid waste under IC 13-11-2-205. These provisions may support additional pathways for managing certain plastic materials, although they do not address all challenges associated with plastics recovery and recycling, such as collection, sorting, contamination, and market viability. Improving data collection, reducing contamination, and supporting end markets for non-bottle plastics may be important for strengthening plastics recycling in Indiana.

Table 3-6. Reported Tons of Plastic Materials Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Plastic	1,181,033	38,261	1,118,781	23,991	0	**3%**

3.3.1.5 Organics

Organic waste is managed in Indiana through a combination of municipal yard waste programs, private commercial services, and drop-off sites operated by SWMDs and municipalities. Since 1994, Indiana law (IC 13-20-9) has prohibited the disposal of vegetative yard waste in MSW landfills, leading to the development of seasonal curbside and drop-off collection programs for leaves, grass clippings, and brush, as well as some composting and mulching operations across the state. Food waste collection, by contrast, is very limited and not widely available to households, as reflected in the low recycling rate shown in **Table 3-7.**

In 2023, Indiana generated approximately 2.87 million tons of organic waste. Of this, 551,501 tons (19%) were reported as diverted through composting, mulching, or other recovery methods. Indiana has 115 registered composting and wood grinding facilities; these primarily handle yard and wood waste, with much less capacity to process food scraps. As a result, while infrastructure for yard and wood waste is well-established, food waste diversion remains a significant gap, representing the largest organics category with the lowest recovery rate. It should also be noted that anaerobic digestion facilities may voluntarily report tonnages of food waste or other organic waste processed; however, no such data has been reported to date. Reporting may occur where an anaerobic digestion facility is also defined as a recycling facility.

Expanding food waste collection and investing in additional composting or anaerobic digestion capacity would be critical to increase organics recycling. Keeping organics out of landfills also helps to reduce landfill gas emissions, since decomposing organic materials are a primary source of landfill gas emissions in landfills.

Table 3-7. Reported Tons of Organics Materials Managed by Indiana Composting and Wood Grinding Facilities (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Total Organic Waste	**2,874,756**	**551,501**	**2,219,203**	**104,052**	**0**	**19%**
Food Waste	1,338,001	35,776	1,243,902	58,323	0	**3%**
Wood Waste	652,271	306,236	330,537	15,498	0	**47%**
Yard Waste	400,961	202,855	189,233	8,873	0	**51%**
Other Organic Waste	483,524	6,634	455,531	21,359	0	**1%**

3.3.1.6 Textiles

Textiles are primarily diverted through donation programs and resale or charity networks, such as thrift stores and nonprofit collections. Some communities may have donation bins operated by nonprofit or private organizations; however, their availability varies by location. While there is one textile recycler operating in Northern Indiana, overall access to textile recycling infrastructure remains limited and options for textiles reuse can differ across different communities. Carpet recycling may also fall within broader textile recycling activities, including manufacturer take-back programs such as Shaw Contract's re[TURN] Reclamation Program that takes back carpets to be recycled.[10] In Indiana, carpet recycling services are provided by facilities such as Kruse Carpet Recycling, which is located in Indianapolis.

As **Table 3-8** shows, Indiana generated approximately 321,433 tons of textiles waste from both residential and commercial sectors in 2023. Of this, only 969 tons were reported as recycled, resulting in a recycling rate of 0.3%. Most were disposed of in landfills. Improving textile diversion would require both expanded collection pathways and stronger end markets for textiles. Improved data collection and reporting on donation and reuse would also provide a more comprehensive understanding of how textiles flow through the state's materials management system.

Table 3-8. Reported Tons of Textile Materials Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
Textiles	321,433	969	320,464	0	0	**0.3%**

3.3.1.7 E-Waste

Electronic waste (e-waste) is managed in Indiana through a combination of municipal collection events, retailer take-back programs, and private recyclers. In 2009, the Indiana Electronic Waste (E-Waste) Law (IC 13-20.5) was enacted, which established an extended producer responsibility (EPR) program for e-waste,

now known as the Indiana E-Cycle program. This was designed to reduce the amount of e-waste sent to landfills and ensure that hazardous substances found in it were being managed appropriately. It also includes a disposal ban on certain electronic devices generated by households, small businesses, and schools to promote responsible collection and recycling. The Indiana E-Cycle program holds manufacturers of video display devices (VDDs), such as televisions, computer monitors, and laptops, responsible for collecting and recycling 60% (by weight) of the VDDs they have sold to Indiana households, public schools, charter schools, and small businesses. Manufacturers may collect and recycle a broader range of electronic products, referred to as covered electronic devices (CEDs), which can include peripherals such as keyboards, external hard drives, and printers.

Table 3-9. Reported Tons of E-Waste Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
E-Waste	104,474	27,327	77,147	0	0	**26%**

As **Table 3-9** shows, Indiana generated approximately 104,474 tons of e-waste for both residential and commercial sectors in 2023. Of this, 27,327 tons were reported as recycled, resulting in a recycling rate of 26%. These 27,327 tons of e-waste recycled encompasses shipments of e-waste to recycler facilities, manufacturers and end-users, and shipments arranged through brokers. In comparison to other material-specific recycling rates assessed in this report, e-waste has the highest rate; this may be due in part to Indiana E-Cycle as well as to a more mature market for e-waste recovery. Reported tonnages include shipments to IDEM-registered recycler facilities, shipments arranged through brokers, and shipments sent to manufacturers or end users.

The E-Cycle program has established a strong collection and processing network for CEDs. However, as noted in the Indiana E-Cycle 2024 Report, the demand for CED recycling will continue to exceed the weight-based recycling obligations assigned to manufacturers, because newer VDDs continue to be lighter than their predecessors. Manufacturers' recycling obligations are also based on their sales of VDDs to households, but they can use collected CEDs from households, small businesses, and public schools to meet their obligations. This mismatch between obligations and e-waste recycling demand may contribute to the substantial proportion of e-waste still being landfilled. However, it is important to note that large quantities of e-waste cannot be disposed of in MSW landfills, as doing so would trigger hazardous waste regulatory requirements.

In addition to the E-Cycle program, IDEM has also hosted e-waste collection events in various counties across Indiana.

IDEM E-Waste Collection Events

In September 2025, IDEM held two successful e-waste collection events with Owen County and Spencer County. Proper recycling of electrics helps keep hazardous materials out of landfills and protects Indiana's environment.

In total, both events collected more than 40,000 pounds of e-waste.

Over 500 TV and monitors were collected through these two collection events.

3.3.2 Construction and Demolition Debris

Construction and demolition (C&D) debris is generated through building, renovation, and demolition activities, which are excluded as MSW. It typically consists of wood, concrete, asphalt, metals, drywall, and roofing materials. Some textiles, such as carpets, may also enter the C&D stream. The C&D data in Indiana is limited and likely to be underreported, because not all facilities handling these materials are required to submit information through IDEM's Re-TRAC system. Reported data therefore only provides a partial view of the C&D material being disposed of and recycled.

As **Table 3-10** shows, based on the available data, Indiana generated approximately 1.21 million tons of C&D debris in 2023, but only 34,096 tons were reported as recycled. However, the reported data is very limited and this figure does not capture all C&D activity across the state such as on-site recycling. The remaining material was either disposed of in municipal landfills or clean fill sites or sent to dedicated C&D landfills. The low reported recycling rate of 3% reflects both the data gaps and the challenges of recovering C&D material, and it is likely an underestimation. It is provided here as a general indication of reported recovery activity and to highlight the need for improved tracking of C&D recycling activities.

Table 3-10. Reported Tons of C&D Debris Managed in Indiana (2023)

Material	Tons Generated	Tons Recycled or Composted	Tons Disposed			Recycling Rate
			Landfill	Waste-to-Energy	Dedicated Landfill	
C&D Debris	1,210,105	34,096	585,755	0	590,254	**3%**[1]

While improved reporting would provide a clearer picture of actual C&D material recovery, strategies to increase C&D diversion must also address infrastructure and market development. Opportunities may include investing in C&D processing facilities or operations to better recover materials (such as concrete, metals, and clean wood) that have established end markets and supporting end markets for recovered

[1] Due to incomplete reporting from C&D recyclers and limited data coverage, the calculated recycling rate of 3% underrepresents the true extent of C&D material recovery in Indiana.

C&D materials (such as recycled concrete aggregate in road construction). Additional opportunities for future consideration include promoting deconstruction practices to maximize material recovery and implementing fee structures at landfills that incentivize the separation of these materials, such as lower tipping fees for source-separated materials and higher fees for commingled C&D waste.

3.3.3 Emerging Waste Streams

For the purposes of this report, emerging waste stream categories have been identified from surveys of SWMDs and input from the IDEM team. These categories are not intended as a comprehensive assessment of all potential emerging waste streams in Indiana; instead, they reflect the material streams that IDEM and SWMDs, drawing on their expertise and experience in managing solid waste in Indiana, have recognized as priority areas. They include solar panels, wind power equipment, and lithium-ion batteries, particularly from electric vehicles and vapes.

Solar Panels and Wind Power Equipment

Solar and wind power deployment in Indiana has increased significantly in recent years as the state shifts to more renewable energy sources. In its 2023 report, the Indiana Utility Regulatory Commission (IURC) found that wind and solar generate about 10% of the state's energy.[11] For solar panels, rising demand comes from both households and large-scale utility projects, such as the Mammoth Solar farm.[12]

As the market for solar and wind grows, so will the volume of decommissioned solar panels and wind turbines as they reach the end of their lifespan, making questions about effective and sustainable disposal increasingly pressing. According to the International Renewable Energy Agency (IRENA), by 2050, the US is expected to dispose of a cumulative 7.5 million to 10 million tons of solar panels.[13] Similarly, the National Renewable Energy Laboratory (NREL) estimates that about 2.2 million tons of wind turbine blades will enter the waste stream.[14] These estimations are based on an expected lifespan of 20-30 years for solar panels and 25-40 years for wind turbines.[14] Ongoing technological advancements may improve the performance and efficiency of solar panels. However, operators may replace equipment early, fully, or partially due to declining performance (e.g., solar panel efficiency losses), wear and tear, or upgrades associated with turbine repowering. As a result, actual disposal volumes could exceed current projections.

About 95% of solar panel material and 90% of wind turbine mass are recyclable with current recycling technologies.[15,16] For wind turbines, the non-recyclable 10%, primarily the blades, is often landfilled and will require technological advancements to recycle at scale.[16] For solar panels, the financial incentives to recycle are low. It costs operators $15–$45 per module to recycle vs. $1–$5 per module to landfill.[15]

Lithium-ion batteries: Electric Vehicles and Vapes

Lithium-ion batteries (LIBs) are ubiquitous. They are a relatively inexpensive, lightweight energy source used to power everything from portable electronics and power tools to electric vehicles (EVs) and energy grid-scale storage. Demand has risen sharply in recent years, with global lithium consumption increasing an estimated 29% from 2023 to 2024.[17] Falling mineral prices and ongoing improvements in battery technology are likely to keep demand rising.[18]

EVs remain the main driver of battery demand. Most LIBs discarded today are likely to be categorized as hazardous waste because of their ignitability and reactivity.[19] Non-household waste generators must determine whether their end-of-life (EOL) batteries are hazardous and manage them accordingly. As hazardous and non-hazardous batteries often look alike, the EPA recommends that all LIBs be treated as hazardous waste.[19] Household LIB waste is excluded from federal hazardous waste rules, but the EPA still recommends keeping LIBs out of household trash and municipal recycling and taking them to battery collection or household hazardous waste sites.[19]

LIB recycling is still in its early stages, with large volumes of EOL EV packs only now approaching retirement. An estimated 1.2 million EV batteries globally will reach EOL by 2030, 14 million by 2040, and 50 million by 2050.[20] Companies are scaling up recycling capacity for LIBs, but they face significant challenges, such as energy intensive recycling processes and a moving target as battery technology evolves.[21] When LIBs are mismanaged during the disposal process, they can be damaged, short-circuit, and catch fire. While no comprehensive national statistics are available, the EPA has documented rising fire incidents linked to LIBs at MRFs and other facilities.[22]

Disposable e-cigarettes, more commonly known as vapes, are a growing source of improperly disposed LIBs. In 2020, the Food & Drug Administration (FDA) banned most flavored cartridge-based e-cigarettes. That initial ban did not cover flavored disposable vapes, which contributed to a surge in their use. Americans now discard nearly half a million disposable vapes each day.[23] Although their internal LIBs are rechargeable, the devices are sealed and non-refillable, so they are tossed once the e-liquid is gone Vapes are often discarded improperly into the trash; a 2022 survey found 68% of US disposable-e-cigarette users aged 15–24 dispose of them in this way.[24]

4.0 Key Challenges and Considerations

Indiana has made meaningful progress in expanding recycling access and advancing materials management programs statewide. However, several systemic challenges continue to limit diversion and hamper progress toward achieving the state's 50% recycling goal. Understanding these challenges is essential to shaping effective strategies and actions. A balanced framework that considers both the economic realities of disposal and the benefits of recycling can help contextualize current market conditions and identify pathways to increase materials recovery.

The following sections outline both the key barriers to improving recycling performance and the opportunities to strengthen markets and increase materials recovery across Indiana.

4.1 Barriers to Achieving State-wide Recycling Goal

Although recycling is available across 97% of the counties for commodity recyclables (glass, metals, paper, plastics), participation and diversion remain below the levels needed to meet the state's 50% recycling goal. Recent trends show a decline in the statewide recycling rate from 21.1% in 2021 to 15.2% in 2023, indicating that infrastructure investment, public engagement and participation are needed to improve recycling performance. In many counties, "availability of recycling" means that there is a minimum of one drop-off location available. For large and rural counties, this infrastructure can be insufficient to meet residents' needs or to support higher participation. This highlights the importance of sufficient infrastructure to improve recycling performance.

Achieving a 50% recycling rate would represent a several-fold increase in the amount of material processed through Indiana's recycling system. Based on current estimates, in-state MRFs with single-stream sorting ship approximately 200,000 tons of recyclables per year (based on a 5-year average), while a 50% overall diversion including organics would require the recovery of more than 4 million tons annually – recognizing a triple output increase of recyclables from Indiana's MRFs would be meaningful. This scale of increase also highlights the importance of expanding access to recycling services, particularly in larger cities that currently have limited curbside recycling access. For example, Indianapolis currently only offers subscription-based recycling services. Reported recycling estimates suggest that Indianapolis, after implementing city-wide curbside recycling bundled with trash, may only generate less than 80,000 tons per year. This initial estimate assumes relatively low capture rates for glass, metals, paper, and plastics from households. However, capture rates can be increased with additional education and outreach. Ultimately, the limited availability

of curbside recycling bundled with trash or low subscription rate to curbside recycling in large cities makes progress towards a 50% recycling rate more challenging.

At the household level, the Recycling Partnership estimates that only 43% of US households participate in recycling programs and that participating households only recycle about 57% of their available recyclable materials.[25] Capture rate refers to the proportion of recyclable materials that is diverted from disposal compared to the total waste generated. Households across the US are better at recycling certain materials compared to others; for example, they capture about 81% of cardboard compared to 55% of aluminum cans.[25]

These figures underscore that achieving a 50% recycling rate would not only require significant infrastructure growth but also higher participation rates across households statewide. Increased participation from commercial, institutional, and industrial sectors will also be important, as they generate a substantial share of recyclable materials statewide.

4.1.1 Policy and Participation Gaps

Indiana's recycling system is primarily voluntary, relying on local governments, private haulers, and individual participation rather than statewide mandates. Some local ordinances exist, but there is no statewide requirement for households, businesses, or civic centers to recycle. Only 57% of residents are given the option for subscription or non-subscription curbside service, and the remainder rely on drop-off sites.[26] Subscription-based programs tend to achieve lower participation rates compared to universal curbside collection programs that are bundled with trash. Bundled services provide an expectation that both waste and recycling are routine and standard waste management practices. Over time, coupled with education and outreach programs, this contributes to higher participation rates.

Establishing clearer expectations or guidelines for recycling access may help reduce disparities between geographic areas. Improved guidance as well as financial and social incentives may help encourage greater participation, while coordinated education campaigns and transparent data and progress reporting can sustain engagement over time.

4.1.2 Fragmented Governance and Messaging

In 2017, IC 13-21-3-1, removed the requirement for counties to maintain SWMDs. SWMDs oversee waste services, track and report metrics for statewide statistics, and deliver education and outreach. While many counties continue to operate active SWMDs, others rely on municipalities, private haulers, or regional collaborations to manage collection, programs and services, and outreach. As a result, the level of coordination can vary across the state, potentially making it more difficult to sustain programs and provide consistent messaging.

To support environmental education efforts, IDEM created a model curriculum for SWMDs, which is available on the agency's website and aligns with IDEM's authority to coordinate with local units of government under IC 13-28-3-2(a)(6) and IC 13-14-3-1. Implementation of this curriculum, along with other educational initiatives, varies by district based on local priorities and available resources.

A regional study found that municipalities used only about 40% of the educational channels available, including bin signage, grant programs, and school visits.[27]

Expanding the use of communication tools and developing a more coordinated approach, such as a shared outreach toolkit, could help strengthen participation and improve understanding of recycling programs. Consistent messaging would make it easier for residents to understand what can be recycled and where, which helps to increase participation and reduce contamination.

4.1.3 Economic and Market Conditions

Economic and market conditions, including state and local landfill and disposal fees, fluctuations in commodity prices, availability of MRFs and local recycling programs, and state or local revenue uncertainty, may contribute to long-term investments in recycling infrastructure. Indiana's materials management system is strongly influenced by economic factors that make disposal more cost-effective than recycling. The state's landfill tipping fees are among the lowest in the nation, averaging $38 – $45 with surcharges ranging from $0.50 - $0.60 per ton depending on facility type.[28] Under IC 13-20-22-1, Indiana imposes a $0.50 per-ton fee on the disposal or incineration of solid waste in a final disposal facility. Additional disposal fees may also apply under IC 13-20-21-6, including $0.10 per ton for solid waste disposed in municipal and non-municipal solid waste landfills and construction and demolition waste sites, and $0.05 per ton for incinerators. These surcharge fees have remained unchanged since they were first established in 1990 and have not been adjusted to reflect inflation or the changing market conditions. As one component of the overall economics of materials management, less expensive disposal fees compared to recycling may create a disincentive for recycling and influence how local governments, haulers, and facility operators evaluate available waste management options.

Since recycling is not mandatory in Indiana with exceptions for lead-acid batteries and Indiana E-Cycle program, infrastructure development is often driven by the relative cost of virgin materials, landfill disposal, and the availability of recycling services. At the same time, fluctuations in commodity prices for recyclable materials, such as paper, plastics, and metals, create additional uncertainty for recycling programs. These price fluctuations may affect revenue streams for MRFs and local recycling programs, making long-term planning and investment more difficult.

4.2 Market Development Opportunities

Indiana's Recycling Market Development Program (RMDP) was established by the Indiana General Assembly in the early 1990s to better manage solid waste by supporting the development of recycling markets. This program is funded through the Recycling Promotion and Assistance Fund (RPAF), which receives half of the $0.50 per ton fee collected on solid waste disposed of or incinerated in the state. This equates to $0.25 per ton dedicated to economic development efforts, such as helping Hoosiers to establish or expand recycling businesses and supporting projects that research, develop, or retrofit equipment needed to reuse or recycle secondary materials. The Indiana Recycling Market Development Board oversees the use of these funds.

Each year, the RMDP provides $2 million for competitive grant funding; however, grant applications average $5 million in requests for support, illustrating the strong demand for recycling market development in Indiana. Current program activity focuses primarily on grant funding. Resources directed toward education and assisting industries may complement grant funding and help ensure that projects achieve long-term success.

Other states offer different models for incentivizing recycling markets. For example, some states combine funding with accelerator-style support, including mentorship, technical assistance, networking, and investor engagement.

4.3 Community Access to Waste Management Services

Access to waste and recycling services varies across Indiana, reflecting differences in population density, local resources, and program administration. SWMDs play a central role in providing and coordinating some

of these programs and services. They oversee the collection of nearly 100,000 tons of recyclables each year, most of which are processed through the state's MRFshed and supplied to commodity markets.

According to the 2024 SWMD programmatic data, 84% of SWMDs (58 of 69) offer recycling drop-off sites, while 14% (10 of 69) provide curbside recycling, including two that operate by subscription. For recycling infrastructure, 13% (9 of 69) offer access to a transfer station and 22% (15 of 69) offer access to a MRF. In organic waste management, 32% (22 of 69) offer yard-waste or Christmas-tree collection, and 14% (10 of 69) provide access to a compost facility. Most SWMD also provide electronics collection (91%, 63 of 69) and tire collection (81%, 56 of 69).

Table 4-1. Snapshot of Programs and Services Offered by SWMDs Across Indiana (2024)

Program / Service	# of SWMD that offers this program / Service	# of SWMD that offers this program / Service for a fee	Total SWMDs that Offer this Program / Service	% of All SWMDs that Offer this Program / Service
Transfer Station	8	1	9	13%
Recyclable Processing Facility / MRF	15	0	15	22%
Permanent HHW Facility	30	2	32	46%
Recycling Drop-Off	58	0	58	84%
Curbside Recycling	8	2	10	14%
Compost Processing Facility	9	1	10	14%
Yard Waste / Christmas Tree	20	2	22	32%
Reuse Center	23	0	23	33%
Electronics Collection	32	31	63	91%
Tire Collection	30	26	56	81%
Disaster Debris Collection	16	1	17	25%
Special Event Trash Collection	11	0	11	16%

PART 2. Goals and Potential Strategies

5.0 Setting the Direction: Goals for Indiana's Materials Management Efforts

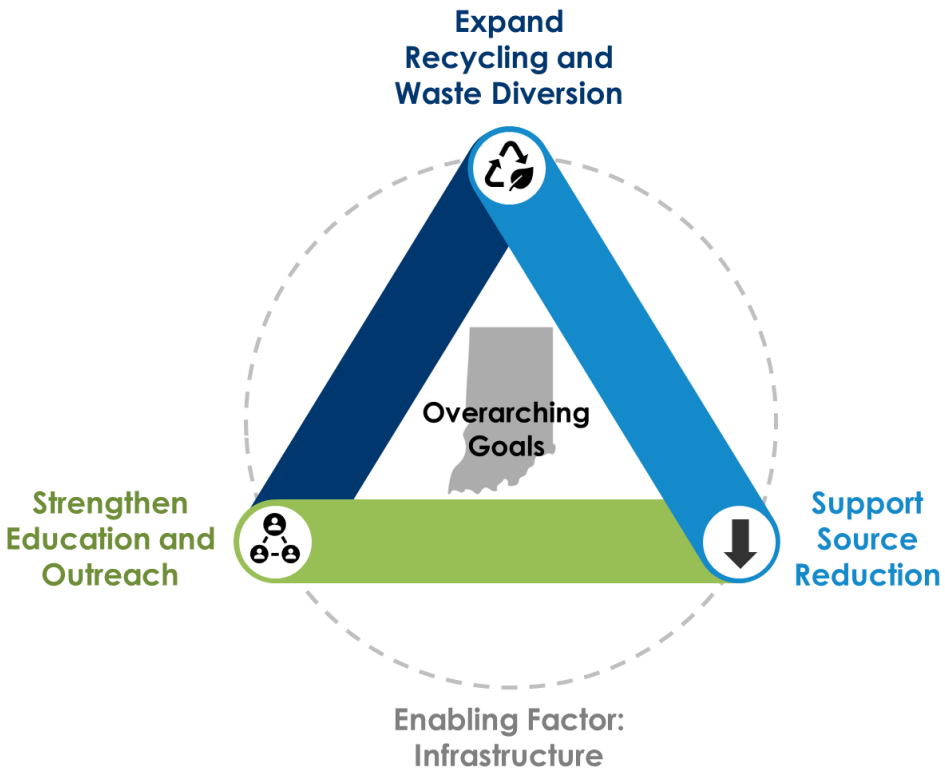
Building on the vision and priorities outlined in this MMP, certain overarching goals define Indiana's long-term direction for advancing statewide materials management. These articulate Indiana's vision for the future of materials management and the focus areas that can help translate that vision into action.

5.1 Overarching Goals

The overarching goals presented in this section have interconnected themes and reflect Indiana's current priorities and its broader vision for reducing waste, conserving resources, and building a more resilient and efficient materials management system.

As shown in **Figure 5-1**, infrastructure is the enabling factor that supports all three goals by ensuring access to reliable collection, processing, and end markets across the state.

Figure 5-1. Indiana's Overarching Goals



Expand Recycling and Waste Diversion

Goal: Advance Indiana's progress toward the statewide 50% MSW recycling goal by removing barriers to recycling infrastructure, implementing strategies to expand access, improving material recovery, and supporting education and outreach.

Support Source Reduction

Goal: Encourage and support efforts by producers, businesses, and consumers to prevent waste generation at the source through design innovation, reuse, and responsible consumption. Indiana aims to provide tools for voluntary source reduction initiatives.

Strengthen Education and Outreach

Goal: Strengthen education, outreach, and engagement programs to build public understanding of recycling, waste reduction, and responsible materials management. Indiana will promote consistent educational messaging among IDEM, SWMDs, schools, local governments, and private haulers to increase participation and reduce contamination.

Adequate infrastructure is essential to maintaining access in materials management services across Indiana and ensuring that programs can operate effectively statewide.

Continued investment in collection, processing, and end market systems can support consistent program delivery and expand opportunities for recycling, reuse, and recovery. Without sufficient capacity across these systems, progress toward Indiana's goals cannot be sustained.

5.2 Focus Areas to Advance the Goals

Each goal represents a central theme for Indiana's materials management system. Indiana's waste stream currently contains large quantities of recyclable and recoverable materials that hold economic value. Recognizing that landfilling these materials represents both a loss of resources and missed economic opportunities, the following focus areas highlight ways to promote more efficient material use and strengthen recycling markets across the state.

To help guide future planning and program development, IDEM has identified potential focus areas that may inform ongoing work. Recognizing that this MMP serves as a blueprint rather than a prescriptive plan, these focus areas are illustrative and do not represent policy changes or mandates. Instead, they describe how IDEM may continue to build capacity, share knowledge, and facilitate progress toward each goal. The directional approaches described in **Table 5-1** indicate potential pathways to progress.

Over time, these focus areas may be revisited and refined through Indiana's regular five-year review of the Materials Management Plan to reflect new data, stakeholder input, and evolving priorities.

Table 5-1. Focus Areas and Directional Approaches for Each Goal

Goal	Focus Area	Directional Approach
Advance Indiana's progress toward the statewide 50% MSW recycling goal by implementing strategies to expand access, improve material recovery, and support education and outreach.	**Data and Performance Tracking**	Continue improving statewide recycling data collection system (Re-TRAC) and reporting consistency to better assess diversion trends and identify program gaps. Data and reporting systems create a foundation for understanding progress.
	Encourage Voluntary Reporting	Encourage facilities that are not currently required to report through Re-TRAC to do so voluntarily. Increasing participation will help fill data gaps, particularly for under-reported material streams, and provide a more accurate understanding of statewide diversion activity.
	Infrastructure Mapping and Assessment	Maintain an updated inventory of recycling and processing infrastructure. Data on material flows and market values can help identify where investments in processing or recovery could generate more economic benefits.
	Technical and Grant Support	Provide technical guidance and explore funding opportunities to help counties and municipalities participate in recycling programs.
	Strengthen Recycling Market Development and Economic Opportunity	Build upon the existing Recycling Market Development Program (RMDP) by aligning funding priorities with the materials that represent the greatest lost economic value in Indiana's waste stream. Directing resources toward the priority materials identified through the modeling analysis (see subsequent section for discussion) can help advance statewide recycling goals while maximizing economic impact.
Encourage and support efforts by producers, businesses, and consumers to prevent waste generation at the source through design innovation, reuse, and responsible consumption.	**Voluntary Waste Prevention Initiatives**	Support and promote voluntary programs that help businesses, institutions, and consumers identify ways to reduce waste generation.
	Facilitate and Coordinate Voluntary Efforts	Partner with SWMDs, municipalities, and non-profit organizations to share information and coordinate efforts that extend product lifespans through reuse, repair, and donation.

Goal	Focus Area	Directional Approach
	Recognition and Knowledge Sharing	Highlight and share success stories from SWMDs, counties, and/or municipalities.
Strengthen education, outreach, and engagement programs to build public understanding of recycling, waste reduction, and responsible materials management.	**Facilitate Consistent Messaging Across SWMDs and Counties**	Support coordination and knowledge sharing among SWMDs and counties to promote alignment on key recycling and waste reduction messages, while maintaining flexibility for local adaptation. Explore opportunities to develop a statewide recycling messaging campaign to promote consistent outreach.
	Share Community Recycling Grant Success Stories	Continue to highlight completed Community Recycling Grant Program projects through short case studies or spotlights on IDEM's website to share learnings, demonstrate impact, and encourage similar efforts in other communities. IDEM currently develops social media templates to support these communications.
	Track and Share Outreach Effectiveness Metrics	Encourage SWMDs, counties, and/or municipalities to collect and share key metrics (e.g., recycling participation rate, contamination rate, number of outreach events) and compile statewide summary insights that highlight progress and challenges.
	Expand Public and Stakeholder Engagement	Expand IDEM's participation in statewide outreach and education events, in addition to efforts such as Indiana State Fair, Earth Day Indiana, and the Circular Indiana Conference. This may include providing classroom presentations, conference seminars, and direct support for SWMD outreach activities to strengthen local engagement and awareness. IDEM's ongoing website revamp and updated outreach resources can further improve the accessibility and visibility of recycling and waste reduction information.

The goals and focus areas described above outline the ongoing priorities that guide Indiana's materials management efforts and reflect the state's trajectory toward strengthening recycling, source reduction, and education over time. They provide a foundation on which Indiana can continue to build.

The following section introduces a modeling analysis designed to explore what levels of progress may be achievable under various future strategies. This quantitative analysis looks ahead to what could be possible, offering insights into potential pathways for advancing Indiana's goals.

6.0 Measuring Progress

A consistent and transparent approach to measuring progress is essential for tracking Indiana's progress towards its goals. Reliable and comprehensive data allows for a better understanding of where progress is made and where gaps exist, and it can guide investments where they are needed most.

6.1 How Progress Is Measured

Indiana currently measures progress toward its waste diversion and recycling goals through annual facility reporting and mandatory recyclable materials reporting under IC 13-20-25-9. Data is collected through IDEM's Re-TRAC Connect online reporting system, which serves as the state's primary repository for materials management data. Mandatory reporting also applies to permitted solid waste facilities in the state, which include MSW landfills, transfer stations, and waste-to-energy facilities. As mentioned previously, metal salvage yards are exempted from mandatory reporting of recyclables from MSW.

The data collected includes the origin (state and county), type of waste (e.g., MSW, C&D, foundry waste, coal ash, flue gas desulfurization waste, etc.), and amount of solid waste received in tons. Indiana's exports of MSW that neighboring states voluntarily report are also tracked. IDEM compiles and summarizes this data in its Annual Recycling Report, which tracks statewide progress toward the 50% recycling goal and provides insight into infrastructure and program performance across the state.

The recycling data is representative of Indiana's MRFsheds – the areas around an MRF that sends recyclables to a particular MRF from the residential and ICI sectors. Direct shipments to end markets (e.g., from big-box retail distribution centers and manufacturing facilities) are another source of recyclables. However, these direct shipments to end markets are not subject to mandatory reporting.

6.2 Metrics to Capture

IDEM already collects annual tonnage data from landfills, processing and recycling facilities, composting operations, and e-waste recyclers (E-Cycle program). Using these existing data, several meaningful statewide metrics can be calculated and reported each year:

- **Overall recycling and diversion rates:** based on total tons of materials reported as recycled, composted, or diverted relative to total tons generated.
- **Material-specific recycling rates:** for material streams with sufficient and reliable data, such as paper and fiber, metals, plastics, and glass. Tracking recycling rates by material type provides a more comprehensive understanding of where progress is made and where opportunities remain. Material-specific recycling rates may also generate insight into the effectiveness of individual programs and targeted interventions. As mentioned above, data gaps in some material streams such as C&D may limit the ability to calculate accurate, material-specific recycling rates.
- **Recycling rate by SWMD, county, or region:** to identify regional variation and potential opportunities for improvement. Alternative metrics may focus on household-level generation and recovery of recyclables.
- **Year-to-year changes in reported tonnage:** these may indicate shifts in material generation, reporting consistency, and/or participation levels.

While Indiana's current reporting system provides a solid foundation for measuring progress, certain metrics may offer a deeper understanding of statewide performance if additional data collection, coordination, and investment were possible. These metrics go beyond tonnage-based reporting to capture access, quality, and participation, which are key factors in evaluating whether the materials management system is functioning effectively and equitably.

Some additional metrics could be captured in the future, if the necessary investments and resources are available:

- **Access and participation metrics:** such as the percentage of households that have subscription-based curbside recycling services and choose to subscribe, or those with access to drop-off recycling only. These metrics could provide a clearer understanding of which regions have limited or no recycling access, helping IDEM identify underserved communities and where to target outreach.

- **Source reduction and reuse indicators:** such as tons of food waste rescued or products repaired or refurbished. This data may be better collected through program-level reporting or case studies rather than statewide reporting. Case studies can be used to highlight successful waste prevention initiatives and encourage wider adoption in the future. Tracking these source reduction and reuse indicators can offer insight into waste prevention efforts and support Indiana's broader shift from waste diversion to waste prevention.

- **MRF efficiency indicators:** such as material capture rates, residue rates, and contamination levels reported by facilities. Tracking these indicators can help assess how efficiently materials are being sorted and recovered across the state, identify where facility upgrades may improve performance, and strengthen Indiana's understanding of system-wide recovery potential.

- **Economic and market development indicators:** such as estimates of recyclables sold to in-state end markets or periodic reports that assess recycling economic impact. This data is typically collected through targeted surveys or standalone studies rather than annual facility reporting, but they can provide important insight into the growth of Indiana's recycling economy.

6.3 Recommendations for Measuring Progress

Indiana has an established framework for tracking materials management performance. Continued efforts should focus on maintaining and refining this baseline to ensure it accurately reflects statewide materials management conditions and can be used to measure progress over time. Strengthening how data is collected and analyzed will help IDEM more effectively monitor changes in programs, policies, and infrastructure.

Future efforts may potentially focus on maintaining a reliable statewide baseline, improving consistency in reporting, and expanding the range of data and metrics collected.

Ongoing refinement of baseline data and performance metrics will enable Indiana to evaluate how changes in infrastructure, education, and market development contribute to achieving desired materials management outcomes.

7.0 Exploring Potential Strategies for the Future

The previous section outlined Indiana's long-term goals and focus areas for advancing and encouraging recycling, source reduction, and education. This section shifts from defining those goals to exploring what could be possible for Indiana's materials management system through a data-driven modeling analysis.

The purpose of this model is to help Indiana understand how different strategies might influence progress toward the three goals, in particular the state's 50% MSW recycling goal.

It is important to note that the model results are not recommendations or prescribed pathways. Rather, the model serves as an exploratory tool that shows examples of how outcomes could be achieved by focusing on specific priority materials and strategies, particularly through bottom-up initiatives in the state.

By quantifying the potential impacts of different waste management and diversion strategies, such as expanding collection systems or improving sorting and processing facilities, the model provides an evidence-based foundation for future planning. The following sub-sections describe the process used to develop the model, including how the baseline was established, how priority materials were identified, and how potential strategies were evaluated to estimate what could be achieved in the future. This section should be reviewed with the understanding that Indiana's 50% recycling rate goal is an ambitious, long-term aspirational target, and does not have a defined implementation timeline.

7.1 Overview of the Modeling Process

To better understand what could be possible for Indiana, a systematic, data-driven modeling process was developed. The model provides a structured way to analyze how selected strategies could influence statewide recycling performance and progress toward the 50% recycling rate goal. The modeling process follows four key steps:

1. **Determine the Baseline:** Establish current material generation, management practices, and potential opportunities for increased diversion of materials from landfill.

2. **Prioritize Material Streams:** Identify materials with the highest potential for increased diversion or economic value recovery.

3. **Shortlist Strategies:** Assess a broad range of potential waste management and diversion strategies to determine which are most relevant, feasible, and impactful for Indiana.

4. **Model the Impact:** Apply the shortlisted strategies to the priority materials to estimate potential statewide recycling outcomes under different scenarios.

This model is not intended to predict exact outcomes or to provide policy recommendations, but rather to illustrate the potential magnitude of change that could be achieved under varying conditions, implementing certain strategies, and at different levels of ambition.

7.1.1 Establishing the Baseline

The modeling began by establishing a quantitative baseline for the state's current recycling performance. As described in **Section 1.3**, available data on waste generation and management were analyzed to estimate the state's diversion and recycling performance.

Based on this analysis, the model uses the Diversion Rate (Key Solid Waste Streams) of 16.4% as the baseline. This metric incorporates a broader set of diverted materials than the MSW Recycling Rate, providing a more representative estimate of statewide diversion activity. Since this diversion rate includes C&D debris and data reporting for this waste stream is limited, it carries more uncertainty compared to the MSW Recycling Rate of 15.2%.

This baseline provides a quantitative reference point for the modeling analysis. It establishes the scale of Indiana's current recycling performance and indicates the magnitude of progress needed to reach the aspirational 50% recycling rate goal, which would require the diversion of approximately 3.7 to 5 million additional tons of material per year. Understanding this baseline helps identify where the greatest opportunities for improvement could lie. The next section focuses on determining which materials present the highest potential for increased diversion and value recovery and were therefore prioritized for inclusion in the modeling analysis.

7.1.2 Determining Priority Materials

Analysis of Indiana data identified six priority materials to focus on for this model: paper, plastic, ferrous and non-ferrous metal, food waste, and construction and demolition (C&D) waste. Two key factors informed this prioritization:

- **High diversion potential:** A relatively high tonnage of these materials is disposed of annually in Indiana, based on the baseline assessment of waste flows.
- **High economic value potential:** A relatively high amount of economic value is potentially lost when these materials are disposed of rather than recycled and recovered.

In addition to the quantitative analysis, the project team engaged with IDEM and local stakeholders to confirm that these priority materials align with statewide needs and reflect shared perspectives on where future recycling and diversion efforts might focus.

7.1.3 Shortlisting Strategies to be Modeled

The next step in the modeling process focused on determining which strategies could most effectively increase diversion and recovery of materials in Indiana. The project team compiled a longlist of potential waste management and diversion strategies – drawn from examples implemented in other states and countries, team expertise, and stakeholder input. This initial longlist represented a wide range of possible approaches, including potential policy measures, infrastructure investments, and education initiatives.

To identify which strategies were most relevant and feasible for Indiana's context, the project team conducted a multi-step screening and evaluation process. An initial Red-Amber-Green (RAG) screening was used to narrow the long list to a more focused set of strategies. This refined list was then reviewed collaboratively with IDEM to ensure that Indiana-specific considerations, such as existing system characteristics and program feasibility, were appropriately considered and reflected.

Within the context of each priority material, a comprehensive RAG assessment was then carried out to evaluate each strategy against the following six criteria:

- **Potential for waste diversion:** A key goal of the MMP is to reduce waste disposal; as such, evaluating each measure's contribution to diversion from landfill or combustion is critical.

- **Ease of documentation and reporting:** Making it easy to track progress through existing reporting systems (e.g., Re-TRAC) impacts feasibility and ongoing monitoring. Metrics that align well with current data infrastructure and reporting systems can be operationalized more quickly.
- **Timescales for implementation:** Assessing timescales to implement each measure and improve waste diversion is crucial to ensure Indiana meets recycling goals efficiently. Near-term timescales are preferable.
- **Implementation cost and resource needs:** Assessing implementation costs is crucial, because it provides an understanding of the resources and funding needed to effectively implement each program.
- **Stakeholder perspectives:** Assessing stakeholder perspectives or feedback is crucial for strategic planning; it helps identify potential risks and allows for proactive engagement.
- **Potential for co-benefits:** Assessing co-benefits (such as economic development, job creation, and lower environmental impact) is important to highlight actions that benefit multiple areas simultaneously.

For each priority material, every strategy was scored against these six criteria to assess its feasibility and impact. This assessment resulted in a final shortlist of ten potential strategies that the project team modeled. These are listed in **Table 7-1** along with the material categories that they are expected to influence in the model.

Table 7-1. Strategies and Applicable Material Categories

#	Strategy	Paper and Fiber	Plastic	Metal (Ferrous and Non-Ferrous)	Food waste	C&D
1	Residential recycling expansion in Indianapolis	☑	☑	☑		
2	Per-ton disposal surcharge on waste landfilled or combusted	☑	☑	☑		☑
3	Stakeholder and public education campaigns	☑	☑	☑	☑	☑
4	Investment in expanding collection pathways	☑	☑	☑	☑	☑
5	Commercial food waste diversion requirement				☑	
6	Commercial recycling requirement	☑	☑	☑		
7	Investment in sorting and processing infrastructure	☑	☑			
8	C&D recycling					☑
9	Residential food waste diversion (Indianapolis only)				☑	
10	Further Residential Recycling Rollouts	☑	☑	☑		

7.1.4 Modeled Strategies

The modeling analysis focused on ten potential strategies that together represent a cross-section of policy, infrastructure, and education-based approaches. The potential strategies align with Indiana's overarching goals and target different aspects of its materials management system, ranging from collection and processing to economic incentives, to illustrate how coordinated actions may expand statewide recycling performance in the future.

Each potential strategy is briefly described below; detailed descriptions are provided in Appendix A 1.0. The estimated impacts for each strategy (in units of tons diverted) are discussed in the following section.

Strategy 1 – Residential Recycling Expansion in Indianapolis: Expansion of curbside recycling access in Indianapolis by providing service bundled with trash collection. This is expected to happen in 2028.

Strategy 2 – Per-ton Disposal Surcharge on Waste Landfilled or Combusted: Applied a potential fee on disposal to create an economic incentive for waste reduction and recycling, with potential revenue reinvested into diversion programs.

Strategy 3 – Stakeholder and Public Education Campaigns: Enhanced awareness and education through coordinated statewide outreach and tailored campaigns for businesses, residents, and schools.

Strategy 4 – Investment in Expanding Collection Pathways: Improved public access to recycling through increased drop-off locations, curbside expansion, and community collection events.

Strategy 5 – Commercial Food Waste Diversion Requirement: Analyzed a potential requirement for large food waste generators (e.g., institutions, retailers, and food processors) to separate food scraps from other waste streams for composting, anaerobic digestion, or donation.

Strategy 6 – Commercial Recycling Requirement: Analyzed a potential requirement for businesses and institutions that generate significant quantities of recyclable materials to separate recyclables from waste for collection and processing.

Strategy 7 – Investment in Sorting and Processing Infrastructure: Expanded or upgraded recycling and organics processing facilities to improve material quality, increase capacity, and support new recycling technologies.

Strategy 8 – C&D Recycling: Expanded recovery and recycling of construction and demolition debris (e.g., concrete, asphalt, wood, and metals used in construction) through increased processing capacity and improved material separation practices.

Strategy 9 – Residential Food Waste Diversion (Indianapolis): Provided an option for curbside food waste collection for households in Indiana alongside curbside recycling bundled with trash, which will be implemented in 2028.

Strategy 10 – Further Residential Recycling Requirement Rollouts: Analyzed consistent recycling participation requirements across households to increase the recovery of key curbside materials. Builds on the Indianapolis expansion by potentially expanding curbside recycling bundled with trash services to additional counties statewide.

The model applies these strategies to the priority materials to estimate their potential combined impact.

7.2 Modeling Results and Insights

The modeling analysis estimates how the ten potential strategies, if fully implemented, could impact Indiana's materials management performance and progress toward the 50% recycling goal for MSW. It should be noted that the modeling analysis takes into account non-MSW materials, namely C&D materials, because they represent a significant portion of Indiana's generated and disposed materials. Therefore, C&D materials are an important part of the broader materials management system discussed in this Plan. The modeling results are not forecasts or recommendations but show what could be possible with strong participation, funding, and infrastructure. These results demonstrate the potential scale of improvement rather than what is expected in the near term.

7.2.1 Discussion of Modeling Results

The modeling suggests that collectively, the ten shortlisted strategies could increase statewide diversion and reduce landfill disposal significantly, with the top three greatest potential gains coming from commercial recycling requirements, improved C&D recycling, and commercial food waste diversion requirements. As seen in **Figure 7-1**, when modeled together, the shortlisted strategies can increase Indiana's recycling rate to approximately 38%, which represents an improvement over current performance. This potential recycling rate of 38% reflects ambitious strategies and assumes that supporting and enabling factors, such as sufficient infrastructure and processing capacity, are in place. Additional discussion of the modeled strategies and key assumptions are detailed in **Appendices A.1.0** and **A.2.0**.

Achieving a 50% recycling rate is an ambitious target. The modeling results highlight both the scale of improvement possible through coordinated statewide actions and the opportunity to build upon these strategies in future planning efforts. Although the model results do not show a pathway to a 50% recycling rate within the scope of this analysis, achieving a 38% recycling rate (all solid waste streams) represents meaningful potential progress given that this model only focuses on a limited set of strategies and priority materials. In this context, achieving a 38% recycling rate under the modeled assumptions would be a strong indicator that Indiana is on a promising trajectory towards its recycling and waste diversion objectives.

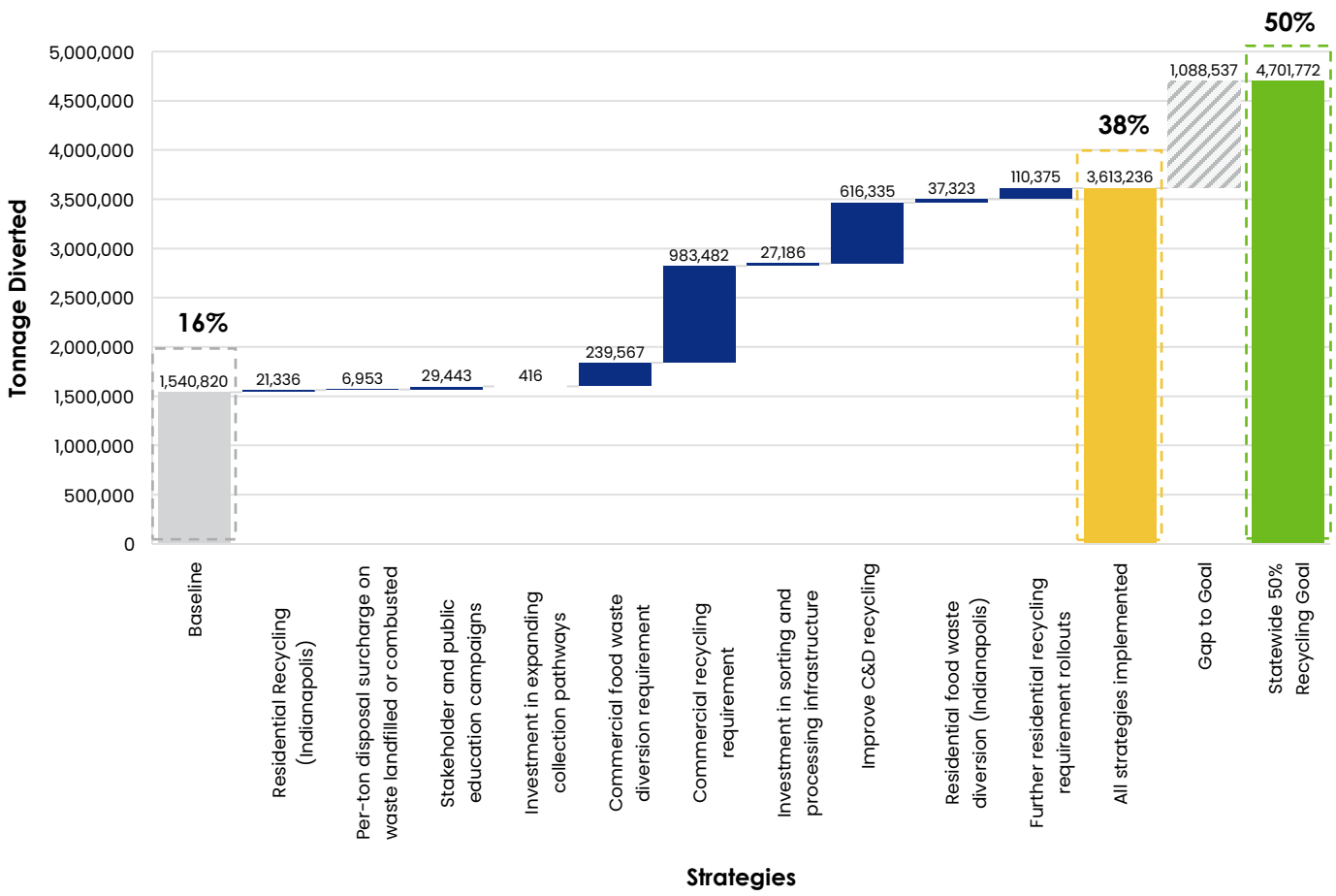


Figure 7-1. Modeled Incremental Tonnage Diverted from Combined Strategy Implementation

The modeling results show that three potential strategies generate the largest increases in diverted tonnage: commercial recycling requirements, improved C&D recycling, and commercial food waste diversion requirements. These strategies produce the greatest uplift because they target waste streams with relatively low current capture. Commercial and institutional generators typically produce large volumes of recyclable and compostable materials, yet participation and capture rates can vary across the state, creating significant opportunities for improvement. In addition, these streams represent high-volume waste categories in Indiana, so even incremental improvements in capture yield meaningful diversion gains. Food waste represents a large but currently underserved waste stream, where significant diversion potential exists but is constrained by limited dedicated processing capacity as not all current composting and anaerobic digestion facilities are able to accept food waste.

Table 7-2. Incremental Tonnage Diversion and Percent Progress to 50% Goal by Modeled Strategy

	Modeled Strategy	Tonnage Diverted (Tons)	Progress to 50% Goal (Percentage)
#	**Baseline**		**16.4%**
1	Residential recycling expansion in Indianapolis	21,336	0.23%
2	Per-ton disposal surcharge on waste landfilled or combusted	6,953	0.07%
3	Stakeholder and public education campaigns	29,443	0.31%
4	Investment in expanding collection pathways	416	0.00%
5	Commercial food waste diversion requirement	239,567	2.55%
6	Commercial recycling requirement	983,482	10.46%
7	Investment in sorting and processing infrastructure	27,186	0.29%
8	C&D recycling	616,335	6.55%
9	Residential food waste diversion (Indianapolis only)	37,323	0.40%
10	Further Residential Recycling Rollouts	110,375	1.17%
	All modeled strategies Implemented	**3,613,236**	**38.4%**
	Remaining Tonnage to 50% Goal	**1,088,537**	**11.6%**

7.3 Modeled Economic Benefits of Diversion Strategies

Strategies to improve materials handling have additional benefits beyond diverting more material. Diverting material leads to additional labor, infrastructure and investment needed to handle greater throughputs at waste management facilities. This section will describe the quantified economic benefits from the strategies modelled in Section 7.1.4. The modeled economic benefits include:

- The additional **full-time equivalent (FTE) jobs** created from handling more material at diversion facilities
- The associated **wages** created from those FTE jobs
- The **gross value added (GVA)** to the economy from increased materials handling.

The economic benefit increases tend to correlate with additional tonnage diverted. However, the benefits do not follow a 1:1 increase in overall tonnage. Labor and investment needed per ton of material recycled can vary by material type. Economic benefit results in this section therefore will track closely with the increase in material diverted, but it will not be identical to diversion growth.

7.3.1 Full Time Equivalent (FTE) Jobs Created

Employment impacts associated with the modeled strategies were estimated using labor hours per ton diverted factors applied to the tonnage outputs from the model. FTE employment was estimated under different scenarios that incrementally add to the modeled strategies described in previous sections. **Table 7-3** summarizes the modeled strategies included in each scenario. **Table 7-4** presents the estimated FTE jobs created through implementation of the modeled strategies in each scenario. Please note that the modeled strategy numbers referenced in this section align with the order presented in **Section 7.1.4.**

Table 7-3. Overview of Modeled Strategies in Each Scenario

Modeled Strategy	Baseline	Scenario A (Modeled Strategies 1 – 4)	Scenario B (Modeled Strategies 1 – 6)	Scenario C (Modeled Strategies 1 – 7)	Scenario D (Modeled Strategies 1 – 8)	Scenario E (Modeled Strategies 1 – 9)	Scenario F (Modeled Strategies 1 – 10)
1. Residential recycling expansion in Indianapolis	-	✓	✓	✓	✓	✓	✓
2. Per-ton disposal surcharge on waste landfilled or combusted	-	✓	✓	✓	✓	✓	✓
3. Stakeholder and public education campaigns	-	✓	✓	✓	✓	✓	✓
4. Investment in expanding collection pathways	-	✓	✓	✓	✓	✓	✓
5. Commercial food waste diversion requirement	-	-	✓	✓	✓	✓	✓
6. Commercial recycling requirement	-	-	✓	✓	✓	✓	✓
7. Investment in sorting and processing infrastructure	-	-	-	✓	✓	✓	✓
8. C&D recycling	-	-	-	-	✓	✓	✓
9. Residential food waste diversion (Indianapolis only)	-	-	-	-	-	✓	✓
10. Further Residential Recycling Rollouts	-	-	-	-	-	-	✓

Table 7-4. Estimated Full-Time Equivalent (FTE) Employment through Implementing Modeled Strategies

Modeled Strategy	Baseline	Scenario A (Modeled Strategies 1 – 4)	Scenario B (Modeled Strategies 1 – 6)	Scenario D (Modeled Strategies 1 – 8)	Scenario E (Modeled Strategies 1 – 9)	Scenario F (Modeled Strategies 1 – 10)
Absolute # of FTEs	12,464	12,867	19,790	19,936	19,891	20,413
Increase from baseline # of FTEs	N/A	404	7,326	7,472	7,428	7,950
% increase from Baseline	N/A	3%	59%	60%	60%	64%

Under baseline conditions, the materials management system supports an estimated 12,464 FTE jobs. Under Scenario A (Modeled Strategies 1 – 4), which includes residential recycling expansion in Indianapolis, per-ton disposal surcharge on waste landfilled or combusted, stakeholder and public education campaigns, and investment in expanding collection pathways, results in an estimated increase of 404 FTEs. This represents a 3% increase compared to the baseline.

Larger employment gains are observed in Scenario B when Modeled Strategies 1 – 6 are implemented. In addition to Modeled Strategies 1 – 4, this potential scenario includes commercial food waste diversion and commercial recycling requirements. When these six potential strategies are implemented, there is an estimated increase of 7,326 FTEs, corresponding to a 59% increase in jobs created relative to baseline. Commercial recycling requirement is the modeled potential strategy that results in the greatest estimated employment impact.

Further expansion to Modeled Strategies 1 – 8 (Scenario D) and Modeled Strategies 1 – 9 (Scenario E) result in relatively modest additional employment gains, with estimated increases of approximately 60% over the baseline in both cases. When all modeled potential strategies (1 – 10) are implemented in Scenario F, the model estimates a total of 7,950 additional FTEs created, a 64% increase relative to the baseline.

7.3.2 Wages Created

With the incremental implementation of strategies, more material is diverted from landfills and recycled. This in turn requires additional FTEs and wages. The wages are associated with the labor required to collect, handle, sort and recycle additional material. The estimated wages created account for the net gain due to an increase in recycling that would be shifted from disposal-related activities that are displaced, such as landfilling.

Table 7-5. Estimated Wage Impacts through Implementing Modeled Strategies

	Baseline	Scenario A (Modeled Strategies 1 – 4)	Scenario B (Modeled Strategies 1 – 6)	Scenario C (Modeled Strategies 1 – 7)	Scenario D (Modeled Strategies 1 – 8)	Scenario F (Modeled Strategies 1 – 10)
Absolute Wages of System ($M)	$762M	$782M	$1,129M	$1,134M	$1,128M	$1,157M
Increase from baseline, wages ($M)	$0M	$21M	$367M	$372M	$366M	$396M
% increase from Baseline	0%	3%	48%	49%	48%	52%

Under Scenario B (Modeled Strategies 1 – 6), total system wages increase by an estimated $367 million, representing a 48% increase relative to the baseline. Wages increase further with the addition of Modeled Strategy 7 in Scenario C, before declining slightly ($6 million decline, from $372 million to $366 million) with the addition of Modeled Strategy 8 in Scenario D. This pattern reflects the inclusion of additional C&D recycling in Modeled Strategy 8. According to U.S. EPA data, landfilling C&D materials produces 25% more labor hours than recycling C&D material. As a result, when C&D recycling is expanded, wages associated with recycling activities increase, but wages associated with landfilling C&D material decrease. In the case of Modeled Strategy 8, the loss of FTEs for landfilling are greater than the creation of FTEs from C&D recycling.

7.3.3 Gross Value Added (GVA) Created

Gross value added (GVA) is a measure of the economic value added by an industry or activity. The GVA contributes to overall gross domestic product (GDP). The components of value added include compensation of employees, taxes on production and imports net of subsidies, and gross operating surplus.[29] **Table 7-6** shows the estimated GVA of the waste management sectors in Indiana for 6 different configurations, including the baseline (status quo) condition.

Table 7-6. Estimated Gross Value Added (GVA) through Implementing Modeled Strategies

	Baseline	Scenario A (Modeled Strategies 1 – 4)	Scenario B (Modeled Strategies 1 – 6)	Scenario D (Modeled Strategies 1 – 8)	Scenario E (Modeled Strategies 1 – 9)	Scenario F (Modeled Strategies 1 – 10)
Absolute GVA ($M)	$1,380M	$1,417M	$2,045M	$2,054M	$2,044M	$2,097M
Increase from baseline, GVA ($M)	$0M	$37M	$665M	$674M	$664M	$717M

	Baseline	Scenario A (Modeled Strategies 1 – 4)	Scenario B (Modeled Strategies 1 – 6)	Scenario D (Modeled Strategies 1 – 8)	Scenario E (Modeled Strategies 1 – 9)	Scenario F (Modeled Strategies 1 – 10)
% increase from Baseline	0%	3%	48%	49%	48%	52%

GVA in each configuration tracks closely with additional tons recycled. When all modeled Strategies are implemented, there is an estimated 52% increase relative to baseline in GVA of the waste management sector. The largest incremental increase in GVA occurs when Modeled Strategy 5 (commercial food waste diversion requirement) and Modeled Strategy 6 (commercial recycling requirement) are implemented. When Modeled Strategies 1 – 6 are implemented, GVA increases by an estimated $665 million relative to baseline (a 48% increase), representing an increase of $628 million in GVA compared to the configuration implementing only Modeled Strategies 1 – 4.

8.0 Siting Criteria and Permitting

IDEM governs the siting and development of new waste management facilities in Indiana, including landfills, material recovery facilities (MRFs), and compost facilities. IDEM's Office of Land Quality (OLQ) administers a comprehensive permitting and oversight process designed to ensure that facilities are environmentally sound, technically robust, and protective of public health.

IDEM's regulatory authority spans the entire lifecycle of a facility – from initial siting and design through operation, closure, and post-closure care. The permitting process includes multiple layers of review, public engagement, and technical documentation. While IDEM does not control land use decisions, which are handled locally, compliance with environmental standards is mandatory.

8.1 Landfills

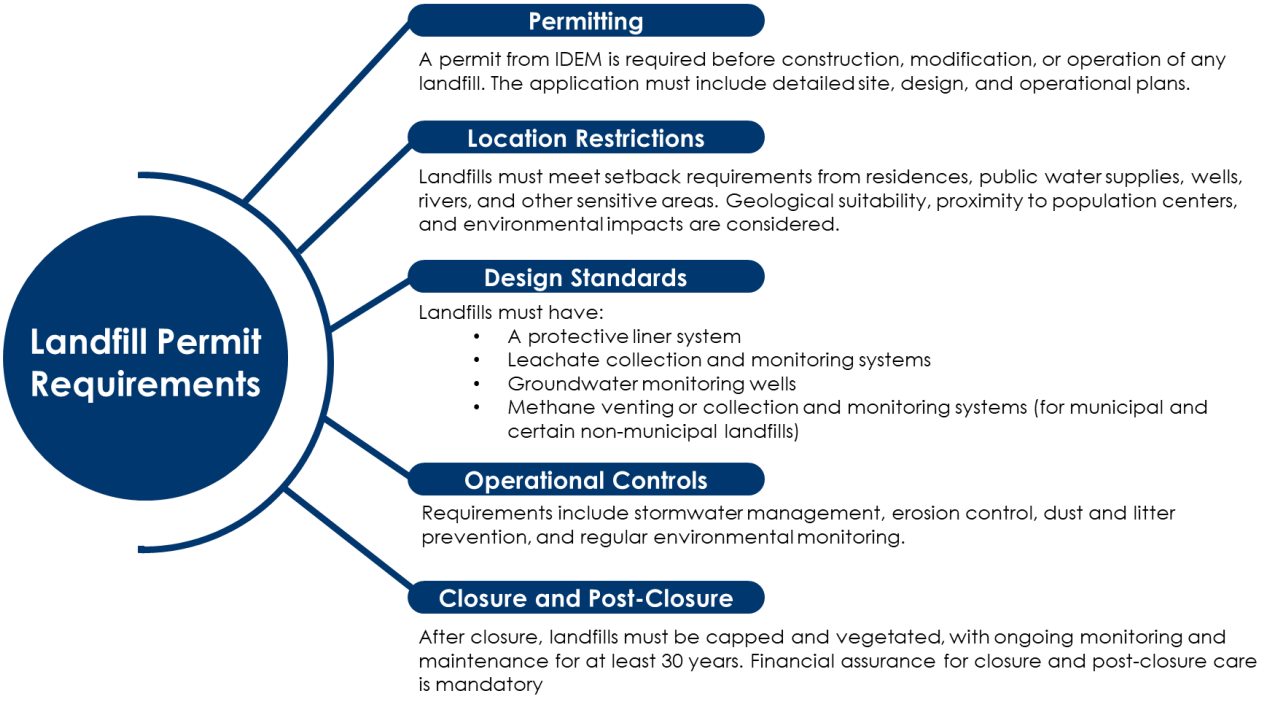
Landfills are subject to the most stringent requirements due to their long-term environmental risks. IDEM requires detailed engineering designs, and facilities must implement operational safeguards. After closure, landfills must have ongoing monitoring for at least 30 years. Financial assurance mechanisms are required to ensure that closure and post-closure obligations are met.

The permitting process includes a recommended pre-application meeting, submission of detailed plans, public notification to adjacent landowners, a public information meeting for new or significantly modified sites, and a minimum 30-day public comment period. IDEM then reviews each application and issues a decision based on technical merit and regulatory compliance.

8.1.1 Landfill Permit Requirements

Landfills are subject to a comprehensive permitting process that reflects their importance in Indiana's waste management system and their potential long-term impacts. Permitting includes requirements for design, operations, and post-closure care, with the goal of safeguarding the surrounding communities and environment. **Section 8.1.2** highlights the major steps.

Figure 8-1. Overview of Indiana Landfill Permit Requirements

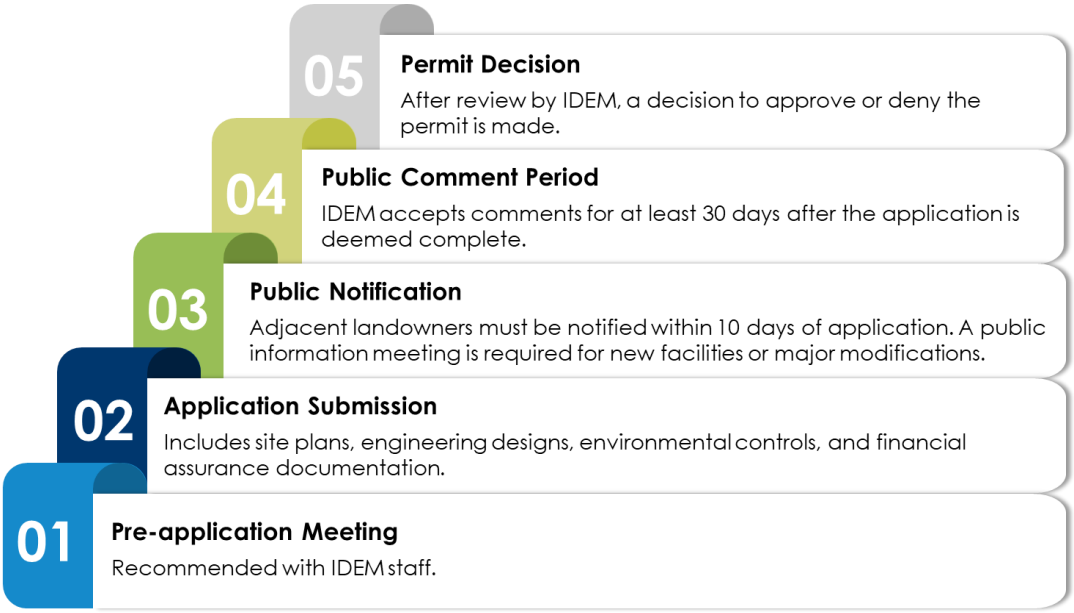


8.1.2 Landfill Permitting Steps

Once an application is submitted, IDEM follows a clear sequence of actions to review the proposal, notify the public, and incorporate feedback before reaching a decision. This step-by-step process ensures transparency and provides multiple points for technical review and community involvement.

Figure 8-2 outlines these permitting steps.

Figure 8-2. Overview of Permitting Process for Landfills



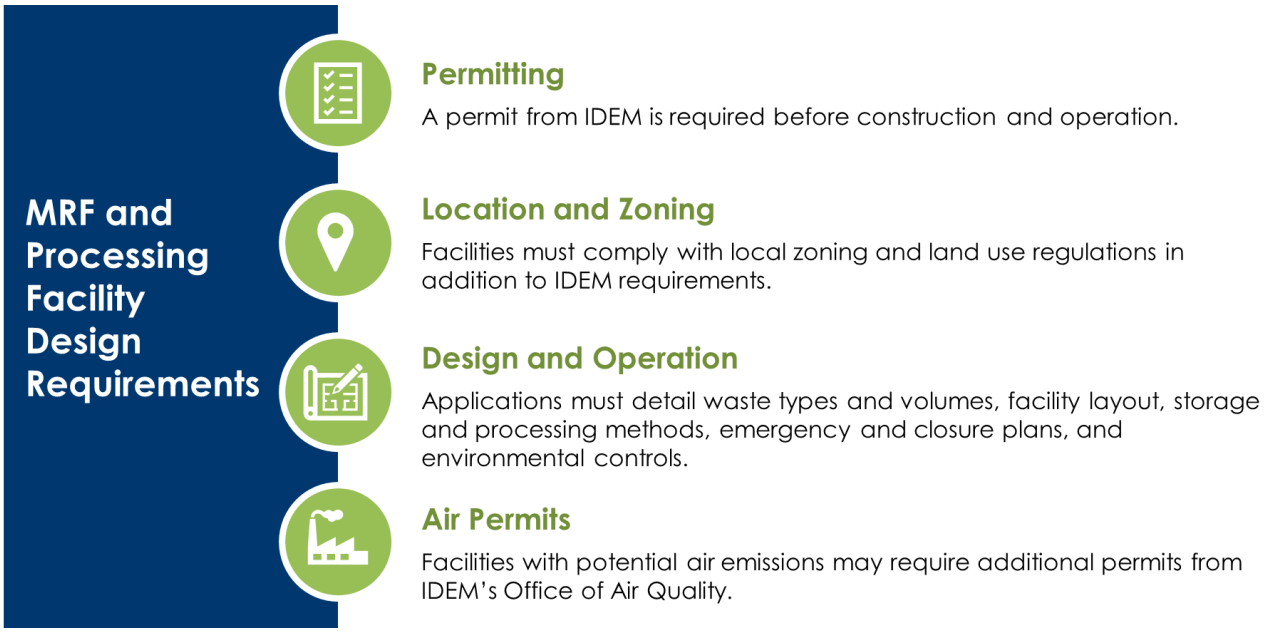
8.2 Material Recovery Facilities (MRFs) and Solid Waste Processing Facilities

MRFs and other processing facilities, such as incinerators, may need to obtain a solid waste processing permit from IDEM. However, processing facilities that recycle the material for use back into a product or commodity will not require a processing permit. For processing facilities that do need to obtain a solid waste processing permit, they are evaluated based on the types and volumes of waste they handle, their layout and equipment, and their environmental controls. Air permits may also be required if a facility emits dust, odor, or other pollutants. Public comment periods are standard, and incinerators or waste-to-energy facilities require additional public meetings.

8.2.1 Design Requirements

To maintain safe, efficient, and environmentally responsible operations, Indiana requires facilities to meet specific design requirements. These standards serve as the baseline for permitting and oversight and guide how facilities are planned, constructed, and maintained. **Figure 8-3** summarizes the key design requirements for MRFs and solid waste processing facilities.

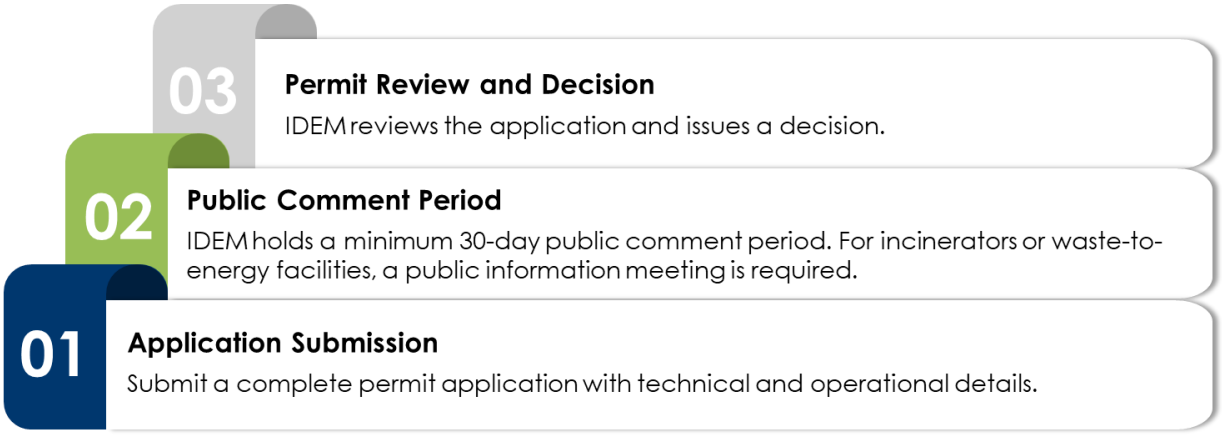
Figure 8-3. Design Requirements for MRF and Processing Facilities



8.2.2 Permitting Steps for MRFs and Processing Facilities

The permitting process is designed to ensure that facilities are planned and operated in a way that protects public health and the environment while meeting regulatory standards (see **Figure 8-4**).

Figure 8-4. Overview of Permitting Process for MRFs and Processing Facilities



8.3 Compost Facilities

Compost operations that handle vegetative matter must register with IDEM using a streamlined process. Registration is valid for five years and includes requirements for site mapping, operational boundaries, estimated processing volumes, and environmental controls. Facilities must manage dust, odor, leachate, and runoff to prevent contamination. Annual reporting is required, and registration must be renewed before expiration.

8.4 Siting Criteria

While IDEM sets the overarching regulatory framework for permitting and environmental compliance, local governments play a critical role in determining where and how waste management facilities can be sited. These local requirements vary widely across counties and municipalities, reflecting differences in land use priorities, community values, and planning capacities.

Local governments typically regulate siting through zoning ordinances, comprehensive plans, and conditional use permits. For example, a proposed landfill or MRF may be permitted in an industrial zone but prohibited in agricultural or residential zones. Even if a facility meets IDEM's technical and environmental standards, it may be denied at the local level if it conflicts with the community's land use plan or if local officials determine that it poses unacceptable impacts on traffic, aesthetics, or property values.

In many jurisdictions, developers must obtain a zoning variance or special exception to site a waste facility. This process often involves public hearings before a zoning board or plan commission, where residents can express support or opposition. Local governments may impose additional requirements such as traffic impact studies, noise mitigation plans, or infrastructure upgrades to accommodate heavy vehicle use.

Some counties and cities have adopted specific ordinances governing waste facilities, including setback distances, hours of operation, and odor control measures that go beyond IDEM's baseline requirements. Others rely on broader land use tools, such as overlay districts or moratoria, to manage facility siting. In areas with limited planning resources, the absence of clear local guidelines can lead to uncertainty or delays in the approval process.

Ultimately, the successful siting of a new landfill, MRF, or compost facility in Indiana requires navigating both state and local regulations. Early engagement with local planning staff, elected officials, and community stakeholders is essential to identify potential barriers and build support. While IDEM ensures environmental

protection and technical compliance, local governments determine whether a facility fits within the broader vision for community development.

9.0 Disaster Debris Management

Effective disaster debris management is an integral part of Indiana's overall materials management framework. Natural disasters and other large-scale emergencies can generate significant volumes of debris, placing pressure on waste infrastructure and recovery systems. Proactive and coordinated planning helps to minimize environmental and public health risks, reduce disposal burdens, and support recovery efforts.

9.1 The Importance of Disaster Debris Planning

Indiana, like many states, faces increasing risks from natural and human-caused disasters that can generate massive amounts of debris in a short time. Tornadoes, floods, severe storms, and other hazards can severely disrupt communities, overwhelm waste management systems, and cause environmental harm if debris is mismanaged. Proactive disaster debris management is critical to protecting the public.

Outlined below is IDEM's strategic approach to directing statewide preparedness, infrastructure development, and interagency collaboration. This protects public health, ensures regulatory compliance, and maintains progress toward waste diversion goals – even during times of crisis.

9.2 Goals of Planning

Indiana's disaster debris strategy aims to:

1. Ensure safe, efficient, and environmentally sound debris management before, during, and after disasters.
2. Promote debris diversion through recycling, reuse, composting, and beneficial use.
3. Support local and regional planning through clear guidance, coordination, and technical support.
4. Minimize disruptions to ongoing solid waste services and protect public health and safety.
5. Build a flexible and scalable system that can respond to events of varying size and scope.

The strategy aligns with the US EPA's core principles for disaster debris: pre-incident planning, waste segregation, material recovery, environmental compliance, and post-event evaluation.

9.3 Types of Disaster Debris

Debris generated by disasters varies depending on the type of event and affected area. Common debris types include:

Proper segregation of debris streams is essential to facilitate diversion, minimize environmental harm, and meet regulatory requirements.

9.4 Pre-Incident Planning and Preparedness

Effective disaster debris management begins long before a disaster strikes. The MMP recommends the following preparedness actions for state agencies, counties, and SWMDs:

- **Develop local or regional debris management plans** aligned with state guidance.
- **Pre-identify staging, processing, and temporary debris storage sites**, screened for environmental suitability, permitting, and access.
- **Pre-qualify contractors** for debris removal, hauling, processing, and disposal.
- **Execute mutual aid agreements** between counties or districts to share equipment, personnel, and capacity during emergencies.
- **Map transportation routes** for debris movement, including alternates in case of infrastructure damage.
- **Conduct training and tabletop exercises** to test response protocols and coordination.
- **Create communication templates and public messaging strategies** to be deployed quickly during events.

9.5 Debris Diversion and Integration

Indiana emphasizes the importance of integrating disaster debris into the circular economy. Debris should not be automatically sent to landfills; rather, materials should be sorted and directed to the most appropriate reuse or recovery option.

Vegetative Debris	Vegetative debris should be chipped and composted when possible.
Clean Wood, Concrete, Brick, and Asphalt	These materials can be crushed and reused in construction.
Metals and Appliances	Metals and appliances should be recovered and recycled.
Electronics and Hazardous Materials	Electronics and hazardous materials must be handled by certified facilities under applicable environmental regulations.

IDEM will work with state agencies, local governments, and SWMDs to support infrastructure development, including mobile grinding units, regional C&D recycling hubs, and temporary compost sites to facilitate these goals.

9.6 Logistics

Logistics are a critical component of effective disaster debris response. Local and regional debris management plans should account for the design and operation of staging and temporary debris sites. These sites must incorporate proper environmental controls, such as stormwater management systems, erosion prevention measures, dust suppression, and fencing, to ensure public and environmental safety.

Site operations should include comprehensive health and safety plans, traffic control strategies, tracking systems, and clear signage to guide workers and responders. Transport routes must be carefully planned to avoid environmentally sensitive areas and minimize disruptions to the public. In cases where debris is contaminated, it must be isolated and tested, with appropriate disposal at permitted hazardous waste or treatment facilities.

Although environmental permitting processes may be expedited under a disaster declaration, fundamental protections for air, water, and soil must still be upheld throughout all debris management activities.

9.7 Monitoring and Documentation

Accurate documentation is essential for regulatory compliance, public accountability, and securing cost recovery, especially from federal sources such as FEMA. The use of standardized forms and manifests is recommended to ensure consistent tracking of debris volumes, transportation, and final disposition. Digital tools, including GIS mapping, can enhance the monitoring of debris site operations and help streamline oversight.

Daily logs should be maintained at all staging sites to record critical data such as material types, incoming and outgoing volumes, weather conditions, and any incidents that may occur. Photo documentation and

the use of load tickets are important for supporting FEMA reimbursement claims and passing audit requirements. After a debris response, post-disaster assessments should be conducted to evaluate the effectiveness of operations and to inform updates to debris management plans.

9.8 Funding and Cost Recovery

Managing disaster debris can be costly, making it essential for jurisdictions to follow proper procedures to maximize their eligibility for FEMA Public Assistance and other funding. For these reasons, compliance with federal procurement rules and thorough documentation of all activities are essential.

Pre-event contracts and rate agreements should be established through competitive and transparent bidding processes. Ongoing documentation, including photographs, site logs, load tickets, and manifests, must be carefully maintained to support reimbursement efforts. To assist local governments in navigating these requirements, IDEM could provide documentation templates and training programs.

Additionally, Indiana may explore the creation of grant programs or contingency funds to support under-resourced jurisdictions in covering upfront debris management costs.

9.9 Communication and Community Engagement

Effective public communication is vital during a disaster. Timely and clear messaging helps ensure community cooperation and safety. Prepared communication templates should be developed in advance to provide information on debris pick-up schedules, separation guidelines, drop-off locations, and health or safety instructions.

Local and regional agencies should designate public information officers to coordinate messaging and serve as points of contact. During the recovery phase, outreach campaigns can help inform and engage residents, reinforcing public awareness and participation. Special efforts must be made to reach vulnerable or hard-to-reach populations through multilingual messaging and accessible communication formats. Public trust is a key factor in achieving an effective and orderly debris response.

9.10 Metrics and Continuous Improvement

To support continuous improvement and adaptive management, IDEM may adopt performance metrics to assess the outcomes of disaster debris operations. Key metrics could include the total volume of debris managed by category, rates of diversion through recycling, composting, or reuse, and the response time for debris clearance and removal.

Other indicators may involve the number and geographic distribution of activated staging and processing sites, the occurrence of environmental incidents or violations, and the percentage of eligible FEMA reimbursement successfully obtained. Insights gained from real-world disaster events and training exercises will inform regular updates to both statewide and local MMPs.

9.11 State Technical Assistance

To promote preparedness and consistency across Indiana, IDEM and its partners could provide a range of technical assistance and resources. These include the development of templates to guide local planning efforts, as well as maintaining a list of pre-qualified contractors and permitted disposal facilities.

IDEM could also host annual training sessions and webinars to ensure stakeholders are well-informed about debris response protocols. In addition, IDEM could offer technical support in key areas such as site selection, environmental permitting, and plan development. Coordination with the Indiana Department of Homeland Security (IDHS) and local emergency management agencies will help ensure alignment across all levels of government.

Counties and solid waste districts are encouraged to include the above measures in their MMPs to support local debris preparedness initiatives.

Disaster debris management is not just an emergency response task – it is a fundamental part of sustainable materials management and environmental protection. By integrating disaster debris planning into Indiana's MMP, the state strengthens its ability to respond to crisis events while advancing its goals of waste reduction, resource recovery, and public health protection.

A strong debris strategy helps Indiana communities recover faster, more efficiently, and with less environmental impact – while turning disaster waste into a resource whenever possible.

10.0 Guidance for Local Planning

Local and regional planning is central to achieving Indiana's long-term materials management vision. SWMDs and local governments play a pivotal role in translating statewide goals into local action by developing or updating their own materials management plans to reflect district-level needs and priorities.

Local planning efforts should build upon the state's three overarching goals – (1) Advancing recycling and waste diversion, (2) Supporting source reduction, and (3) Strengthening education and outreach – while considering infrastructure as the enabling factor that supports them. By aligning local objectives and initiatives with these overarching goals, SWMDs and counties can ensure consistency with the statewide framework while tailoring strategies to local conditions, opportunities, and resources. Districts are also encouraged to establish additional goals that reflect their priorities or ambitions. This flexibility allows each county to draw on its local strengths, innovate, and lead in ways that advance Indiana's collective progress toward a more sustainable materials management system.

10.1 Components of a Local Materials Management Plan

This section outlines the components that a completed local plan should include and considerations for how to align a local plan with this statewide MMP.

Recommended Elements in a Local Materials Management Plan

Completed plans should:

- Detail the county's/municipality's waste and materials management infrastructure (existing and new).
- Define county/municipality or regional needs, goals, and identify possible areas of growth.
- Provide methodology for data collection and reporting.
- Encourage collaboration through partnerships to manage materials that are generated.
- Help the state work towards its 50% recycling goal.
- Promote economic growth in Indiana through waste management practices.

Additionally, each district must comply with the requirements set out in IC13-21-5 for Solid Waste Management District Plans. Under IC 13-21-5-12, each district plan must:

- **Establish a solid waste management policy** that includes source reduction, alternatives to final disposal (such as recycling, composting, and reuse), and final disposal facilities; and
- **Include a strategy to promote and educate the public** on managing vegetative matter through composting, mulching, and other beneficial uses rather than landfill disposal.

Considerations for Aligning Local Plans with the State MMP

To stay aligned with the statewide framework while meeting the needs of the district, the following approaches may be considered when developing or updating local plans:

- **Map local objectives to the three overarching statewide goals:** Consider how local objectives align with state goals to expand recycling and waste diversion, support source reduction, and strengthen education and outreach. Recognize that infrastructure is an enabling factor that supports these efforts.
- **Describe outreach and education initiatives:** Discuss initiatives and how they contribute to managing vegetative matter, reducing contamination, and improving participation in waste diversion programs.
- **Build on local strengths and partnerships:** Plans may describe how the district's governance structure, board priorities, and partnerships with municipalities, haulers, processors, and other community organizations can contribute to progress. Collaboration across neighboring districts or regions can help share infrastructure, align messaging, and improve efficiency.
- **Identify any district-specific goals or targets:** Set any additional goals or targets that reflect local ambition or emerging priorities (e.g., food waste prevention, reuse programs, or composting initiatives), noting how these may complement the state's broader materials management vision and circular economy principles.
- **Implementation and resourcing:** Outline potential implementation approaches such as phased timelines, partnerships, or funding mechanisms to demonstrate how proposed programs and initiatives can be sustained over time.

Please note that in addition to the above considerations, district plans must also meet the requirements of IC 13-21-5, which outlines the statutory requirements for local materials management plans.

10.1 Promotion of Regional Planning

Passed in 1990, Public Law 10-1990 provided for the creation of the state's solid waste management districts. IDEM was tasked with providing districts with guidance on source reduction and alternatives to dependence on final disposal facilities; this resulted in Indiana's 20-year Solid Waste Management Plan. The roles and responsibilities of solid waste management districts were recodified in 1996 and are now laid out in IC 13-21-3. No provisions were made for future updates to district or state-wide plans. Therefore, this guidance serves to help regional planning with a unified approach to materials management across the state.

SWMDs are a key source of information for local recycling services. About one-third of the recyclables sorted by single-stream MRFs originate from SWMDs. Cities and towns operate independently, and their impact as a group is not recognized but gets reported on a regional basis through the MRFshed.

Regional materials management planning is crucial to take the vision and strategies outlined at state level into reality. A regional plan requires community engagement, a dedicated planning team, and a detailed, realistic assessment of the local community's specific needs, opportunities, and challenges to maximize waste reduction and promote economic sustainability. Regional Solid Waste Management Plans will identify the key waste sources, challenges, and potential solutions unique to their communities.

10.2 Baselining

Establishing a clear and consistent baseline is the first step in developing or updating a local plan. A baseline helps districts and local governments understand current conditions, identify service and infrastructure gaps, and track progress over time.

When developing a baseline, SWMDs and local governments are encouraged to:

- **Compile available data** on waste generation, recycling, and diversion, using IDEM's Re-TRAC Connect system where applicable, and capture trends over time if possible.
- **Map existing infrastructure** such as landfills, transfer stations, MRFs, compost facilities, and drop-off sites to understand service coverage and accessibility.
- **Identify key programs and services** already offered, including curbside collection, HHW programs, organics diversion, and education initiatives.
- **Engage local partners** such as haulers, processors, municipalities, and community organizations to collect supplemental data and insights.
- **Assess participation and access**, where possible, to evaluate how households, businesses, and institutions use available services.
- **Discuss qualitative context** such as local policies, partnerships, or challenges that shape the district's performance.

A well-defined baseline enables SWMDs and counties to measure future progress, compare local data to statewide metrics, and align regional planning with the MMP's overarching goals.

10.3 Challenges and Considerations

Local and regional planning efforts often face challenges related to governance, data availability, and coordination. Recognizing these early in the planning process can help SWMDs and local governments develop realistic and adaptable plans.

Governance and Decision-Making

Each SWMD is governed by a local board of directors composed of representatives from county and municipal governing bodies, typically including elected officials or their designees. These boards establish district priorities, budgets, and policies that guide local waste and recycling programs. Local planning may consider reflecting this governance context and cadence.

Data Availability and Reporting

Reliable local data is essential but can be incomplete. Some municipal contracts do not require reporting data, and some private or non-registered haulers may not share it. Certain direct-to-market shipments are also outside IDEM's mandatory reporting.

Service and Infrastructure Variation

Differences in geography, population density, and proximity to processing or composting facilities influence both program costs and feasibility. Districts may choose to implement improvements gradually – for example, enhancing drop-off services before expanding curbside collection. If possible, it would be helpful for districts to document existing service coverage and access as part of their baseline assessment.

SWMD Capacity

Levels of staff, technical, and financial capacity may vary across SWMDs. Some districts may have more dedicated planning and outreach personnel compared to others. Recognizing these differences is important when setting the scope and pace of local planning. Districts may benefit from collaborating regionally or sharing resources and learnings to make the most of available capacity.

Market and Cost Volatility

Fluctuations in commodity prices and processing costs can influence the financial stability of recycling and composting programs. Recognizing that these changes often occur outside local control, districts may consider how to build flexibility into program design or contracting, such as by exploring regional partnerships to buffer market shifts. Continued coordination with IDEM and other districts can also help share lessons and identify opportunities to strengthen local market resilience over time.

10.4 Aligning Local Plans with Statewide Goals

Indiana's SWMDs play a vital role in advancing the state's materials management vision and shifting toward more circular practices. SWMDs across the state are already delivering effective recycling, education, and diversion programs that demonstrate the impact of local action. Maintaining and building on this momentum is essential, as local leadership and collaboration will ultimately drive statewide progress toward Indiana's overarching goals.

To ensure alignment with the state's goals, SWMDs and local governments are encouraged to consider how their strategies contribute to statewide outcomes. Districts may also establish additional goals that reflect their community's priorities, capacities, or ambitions.

In accordance with IC 13-21-5-13, each district plan must:

- Set forth goals and objectives for the district.
- Identify alternative means of achieving these goals and objectives, based on the problems and needs of the district.
- Set forth a description of the operational and capital costs of implementing the district plan, along with the proposed means of financing its implementation.
- Set forth the basis for setting fees, rates, and charges for use of any facility.
- Designate a person to supervise the implementation of the district plan and describe the responsibilities and authority of that person.

- Describe the surveillance and enforcement procedures to be implemented to ensure compliance with the district plan.

These requirements ensure that each district plan remains both action-oriented and fiscally grounded, while allowing flexibility to tailor programs to local needs.

Districts may also refer to the additional strategies provided in the Appendix, which may be considered to expand recycling and waste diversion. These strategies are intended as a menu of potential options to inform local planning and inspire continued progress, rather than prescriptive recommendations.

The table below summarizes how Indiana's three overarching goals can be translated into local planning focus areas and actions.

Table 10-1. Translating Statewide Goals into Local Planning Actions

Overarching Goal	Local Planning Focus	Examples of Local Actions
Expand Recycling and Waste Diversion	Increase access to recycling, organics diversion, and reuse opportunities	• Expand drop-off and curbside recycling options where possible • Assess local composting capacity • Support partnerships with processing facilities (e.g., MRFs), haulers, and end markets to improve material recovery
Support Source Reduction	Reduce waste generation through education, incentives, and partnerships	• Promote waste prevention programs such as food waste rescue, repair and reuse initiatives, and purchasing policies that minimize single-use materials • Choose service contracts that can support source reduction
Strengthen Education and Outreach	Build public understanding and participation in materials management programs	• Develop consistent messaging campaigns • Coordinate school and community education programs • Share data on local recycling outcomes

10.5 Measuring Progress Locally

Tracking and evaluating progress helps districts and local governments understand how their programs are performing and identify where improvements or adjustments may be needed over time. Establishing clear and achievable metrics allows SWMDs to demonstrate program outcomes and contribute to a more complete understanding of materials management across Indiana.

Local plans are encouraged to use available data sources, such as IDEM's Re-TRACT Connect reporting system, hauler or processor reports (if available), and any local tracking or data collection mechanisms, to assess:

- **Recycling and diversion rates** by county or program to monitor trends over time,

- **Participation and access metrics**, including the number of households that subscribe to curbside recycling or use drop-off sites.
- **Education and outreach outcomes**, such as event participation or contamination reduction.
- **Programs offered and their outcomes**, such as participation levels, tons of materials collected or diverted, contamination reduction, or other measurable community benefits.

Collectively, these metrics can help districts track local progress, support transparent communication, and inform future upgrades to both district and statewide materials management plans.

10.6 Funding Mechanisms for Materials Management

To achieve Indiana's recycling targets, it is essential to strengthen the collection infrastructure that supports solid waste management; this will require identifying sustainable and reliable funding mechanisms.

Tipping fees are one source of funding that can support SWMDs and maintain recycling and waste diversion programs. Revenues generated through tipping fees and surcharges are often reinvested into local and regional economies to support the operations, infrastructure, and employment associated with recycling and waste management systems. Indiana's landfill tipping fees are among the lowest in the U.S., ranging from $38 - $45 per ton with a surcharge ranging from $0.50 - $0.60/ton depending on facility type.[28] In other states, adjustments to tipping fees or surcharges have been used to generate additional funding for waste management and recycling infrastructure. Increasing the surcharge could encourage waste generators to explore and adopt waste reduction, recycling, and composting options. Under IC 13-21-13-1, SWMDs may impose fees on the disposal of solid waste in a final disposal facility (e.g., landfill) located within the district, which can provide supplemental revenue to support local waste management activities.

Federal funding is another key resource for recycling development in Indiana. From FY22-26, the US EPA offered funding for recycling programs through grant programs authorized by the Infrastructure Investment and Jobs Act. This included the Solid Waste Infrastructure for Recycling (SWIFR) grants, which improve collection and processing, and the Recycling Education and Outreach Grant Program (REO), which focuses on public awareness and reducing contamination.

It is also important to note that, while some districts benefit from local fees or other local funding sources, there is no uniform, dedicated funding mechanism applied statewide to all SWMDs. As a result, districts may need to explore a mix of funding sources, service contracts, or partnerships to support plan implementation.

SWMDs and municipalities may fund materials management programs through a combination of disposal fees, service fees, and grants. Disposal-related revenues, such as landfill tipping fees and district-imposed surcharges, are commonly used to support district operations, education, outreach, and certain materials management programs and collection events. In unincorporated areas, waste and recycling services are typically provided through private waste haulers operating in a competitive market. Since recycling services may involve additional fees beyond trash collection, participation rates can be lower in areas where recycling is optional or priced separately.

10.6.1 State and Federal Grant Programs Supporting Implementation

With the same funds from the SWIFR EPA grant for this project, IDEM will be providing pass-through funding opportunities to assist local planning. The SWIFR grant funding is provided by the Bipartisan Infrastructure

Law, which delivers the largest EPA investment in recycling in 30 years to support the National Recycling Strategy implementation and build a circular economy. As part of the Investing in America agenda, it can be used to develop or update plans to advance post-consumer materials management, implement those plans, and improve data collection efforts.

A portion of the fee charged for solid waste disposal or incineration is channeled into grant funding for recycling initiatives in the state. Currently, IDEM offers two grant options with these funds:

1. **Recycling Market Development Program (RMDP)**: A grant opportunity for projects that promote waste reduction, reuse, and recycling in Indiana. The program funds initiatives that demonstrate an understanding of current recycling market conditions and show how resources can be used effectively by Indiana businesses and communities to advance the state's goal of recycling or diverting 50% of municipal waste and align with the state's priorities of reuse, waste reduction, recycling, and diverting key materials including plastics, mixed glass, organics, and electronics from landfills.

    - Municipalities, solid waste management districts, non-profit organizations, higher education institutions, and public and private businesses located and doing business in the state of Indiana are eligible to apply.

    - Funding rounds generally occur in the spring; additional information can be found on the Indiana Recycling Market Develop Program website.

2. **Community Recycling Grant Program (CRGP)**: Provides smaller grants for local recycling initiatives focused on recycling education, processing, waste reduction, or HHW and organics management.

    - Municipalities, solid waste management districts, higher education, non-profit organizations, schools, and counties in the state of Indiana are eligible to apply.

    - Funding rounds generally occur in the summer; additional information can be found on the Indiana Community Recycling Grant Program website.

As of 2025, 232 grants have been awarded, with a value of $24 million, across both grant programs. A full list of past grant awardees can be found on the IDEM website.

Community Recycling Grant Success Story: Improving Recycling at Newfields

Newfields is a 152-acre cultural campus located in Indianapolis. In December 2023, Newfields received a Community Recycling Grant to improve recycling access across its campus by upgrading to new receptacles and educational signage.

New receptacles and signage improved contamination rate by 4% for both recycling and landfill.

New receptacles in the Virginia B. Fairbanks Art & Nature Park provide easier access to proper disposal and recycling.

Recycling Market Development Program Success Story: Innovative Plastics Recycling

Republic Services, Inc. and Blue Polymers, LLC received funding through IDEM's Recycling Market Development Program and opened North America's first Polymer Center-Blue Polymers complex in March 2025.

This Indianapolis-based Polymer Center-Blue Polymers complex is expected to produce over 175 million pounds annually of recycled plastics and will ultimately advance circularity in plastic packaging across Indiana.

Recycling Market Development Program Success Story: Encouraging Composting

GardenQuest is a non-profit organization that aims to provide place-based, sustainable urban gardening education.

In 2024, GardenQuest was awarded a Community Recycling Grant to provide composting bins, supplies, and hands-on educational training to residents of Monroe County, helping to reduce local food waste.

In the FY2025 round of the RMDP, six organizations were awarded grant funding totaling $2 million to support recycling and waste management in Indiana.[30] These funded efforts are expected to increase material recovery and diversion across multiple material streams, as summarized in **Table 10-2**.

Similarly, in the FY2024 round of the RMDP, eight organizations were awarded grant funding totaling $2 million. These projects are summarized in **Table 10-3.**

Table 10-2. Recycling Market Development Program (RMDP) Grant Awards, FY2025

Organization Awarded	County	Amount Awarded	Funded Efforts	Anticipated Impact
Frankfort Plastics, Inc.	Clinton County	$500,000	Grant was used to purchase equipment to increase processing capacity of low-grade plastic film for chemical recycling.	Divert estimated 3,300 additional tons of material from landfills per year.
Indianapolis Airport Authority (IAA)	Marion County	$181,538	Grant was used to purchase dual-stream recycling and waste receptacles to improve recycling at the airport.	Divert estimated 273 tons of recycled materials from landfills per year, achieving 15% recycling rate.
Waste Management of Indiana, LLC	Marion County	$500,000	Grant was used to purchase glass recycling equipment.	Recover, clean, and divert 23,400 tons of glass per year.
Purdue University	Tippecanoe County	$69,080	Grant was used to purchase a tractor and windrow turner to expand its composting operation capacity.	Divert an estimated additional 90 tons of organic waste from landfills per year.
Richmond Sanitary District	Wayne County	$249,382	Grant was used to purchase a compactor and baler to expand the recyclable materials accepted, extend recycling services to neighboring communities, and support education and outreach.	Divert an estimated additional 120 tons of recyclables from landfills per year.
Smith Creek, Inc.	Clark County	$500,000	Grant was used for site improvements and depackaging equipment to process packaged grocery food waste for composting.	Divert an estimated 15,600 tons of food waste from landfills per year while improving compost and soil amendment quality.

Table 10-3. Recycling Market Development Program (RMDP) Grant Awards, FY2024

Organization Awarded	County	Amount Awarded	Funded Efforts	Anticipated Impact
CT Polymers, LLC	Marshall County	$300,000	Grant was used to purchase plastic recycling equipment to process scrap plastic into plastic pellets for reuse in consumer products.	Process additional 10,000 tons of recyclable plastic.

Organization Awarded	County	Amount Awarded	Funded Efforts	Anticipated Impact
CW Recycling, LLC	Marion County	$500,000	Grant was used to purchase new equipment for an automated waste sorting system for recycling drywall, corrugated cardboard, and vinyl.	• Divert an estimated 10,000 to 12,000 tons of gypsum per year from landfills. • Divert up to 3,000 tons of old corrugated cardboard per year from landfills. • Divert estimated 100 tons of vinyl per year from landfills.
Exeon Processors, LLC	Grant County	$288,343	Grant was used to purchase separation equipment to create sellable recycled polyvinyl chloride (PVC) from mixed plastics insulation.	Divert an estimated 15,000 tons per year from landfills.
Floyd County Solid Waste Management District	Floyd County	$52,255	Grant was used to purchase community drop-off recycling trailers and to develop a marketing, outreach, and education plan to expand recycling access.	Increase the volume of collected recyclables by 20%.
GDC, Inc.	Elkhart County	$98,992	Grant was used to purchase a baler and collection containers to help	Divert an estimated 5,000 tons of plastic[2] and used corrugated cardboard from their operations to recycling.
Indiana Shingle Recycling, LLC.	Marion County	$360,213	Grant was used to purchase recycling equipment.	Recycle 75,000 tons of asphalt shingles per year.
SER North America, LLC. (Subsidiary of Sirmax North America, Inc.)	Madison County	$296,654	Grant was used to purchase recycling equipment to double their recycling capacity.	Capacity to recycle polypropylene-based flexible packaging and other "hard-to-be-recycled" post-industrial scraps will be increased to 6,500 tons per year.
Strategic Materials, Inc.	Marion County	$103,543	Grant was used to purchase drop-off collection containers to expand glass recycling to sixteen (16) new locations in rural areas of Indiana.	Divert an estimated additional 2,100 tons of glass per year from landfills.

[2] For this project, the types of plastic that GDC, Inc. aims to divert include melt blown polypropylene and low-density polyethylene.

10.7 Other Useful Resources

This section provides links to external resources (such as websites and documents) that local planners may find useful when developing or implementing a regional material management plan. The resources have been divided into two tables. **Table 10-4** focuses on Indiana-specific resources, while **Table 10-5** focuses on national resources.

Table 10-4. Indiana Specific Resources

Organization	Detail	Example Resources
Indiana Recycling Roundtables	IDEM's quarterly virtual recycling roundtable discussions. They provide a chance for stakeholders to discuss issues, share resources, and find solutions to current challenges facing recyclers and Indiana's recycling industry.	✓ Recordings of past Recycling Roundtable Discussions on topics such as public private partnerships, funding mechanisms, education, and outreach.
CIRCULAR INDIANA	Indiana-based education and advocacy organization that is focused on eliminating waste, creating jobs, and strengthening supply chains.	✓ Information on recycling by county in Indiana, recycling best practices, and historical data. ✓ Information on ways to reduce and reuse. ✓ Annual Circular Economy conference in Indiana.
HOOSIER SWANA	Indiana-based association of solid waste facility operators, private sector service providers, solid waste management districts, consultants, and equipment vendors.	✓ Local events, site tours, training, and conferences.
AISWMD Association of Indiana Solid Waste Management Districts	The Association of Indiana Solid Waste Management Districts (AISWMDs) aims to provide leadership to support SWMDs in promotion of waste reduction, reuse, recycling, and safe disposal of problem waste.	✓ Virtual board meetings, roundtables, workshops, ✓ Member-only resources

Table 10-5. National Resources

Organization	Description	Example Resources
EPA United States Environmental Protection Agency	EPA Region 5 is the EPA jurisdiction that covers the six states of Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, along with 37 federally recognized Tribes.	✓ National, regional, and state level news, events, and public notices. ✓ Environmental data maps for Indiana. EPA's ECHO website allows users to search for facilities in their communities to understand their compliance with environmental regulations.
The Recycling Partnership Building a Better Recycling System	Nonprofit organization established by The Aluminum Association as a partnership with other material industries to encourage curbside recycling.	✓ Guide to community Materials Recovery Facility (MRF) contracts. ✓ Educational material templates (e.g., social media kits, online campaign builder, and signage).
Collect Recycle Innovate National Waste & Recycling Association®	DC–based trade association that represents private waste and recycling companies, as well as manufacturers and distributors of equipment that processes the material.	✓ Information on safety in waste collection and processing operations. ✓ Events (e.g., webinars, meetings, outings) for members.
SWANA SOLID WASTE ASSOCIATION OF NORTH AMERICA	North American member-based association of professionals from the waste and resource management industry.	✓ Events (e.g., conferences, training sessions and courses, and meetings) for members. ✓ Offers training and certification opportunities

Appendix

A.1.0 Modeled Strategies and Alternative Implementation Options

To evaluate Indiana's potential pathways toward its materials management goals, the project team modeled a set of ten strategies that capture a range of policy, infrastructure, and education-based approaches that could be taken to accelerate progress towards the state's recycling goal. These strategies were selected through a data-driven screening and prioritization process, described in Section 6, which assessed their feasibility, scalability, and potential diversion impact across key material streams. The modeling analysis illustrates how coordinated implementation of these strategies could collectively expand statewide recycling and waste reduction performance while supporting the plan's overarching goals.

These modeled strategies represent ambitious actions designed to illustrate the potential magnitude of impact achievable if sufficient resources and infrastructure to support implementation are available. ***The purpose of modeling these strategies was to estimate the potential diversion at a statewide scale, assuming robust participation and system capacity.***

Recognizing that the modeled strategies are ambitious, this section provides a more in-depth description of the modeled strategies and provides an alternative implementation option that is a less intensive or more flexible approach that SWMDs or local governments could consider as a more practical step toward similar objectives. It should be noted that these alternatives were not included in the quantitative modeling but presented here to provide additional context and potential pathways for gradual or voluntary adoption. Together, the modeled strategies and their alternative options present both an aspirational and pragmatic view of how Indiana may advance its materials management goals over time.

Modeled Strategy 1 – Residential Recycling Expansion in Indianapolis

This strategy refers to the citywide rollout of curbside recycling service bundled with trash collection, planned for implementation in 2028. The program will extend recycling access to all residential households eligible for city waste collection service, which will increase participation and recovery of key curbside materials such as paper, plastic, metal, and glass.

Given that the residential recycling expansion in Indianapolis is already planned for implementation, no alternative implementation option is included.

Modeled Strategy 2 – Per-ton Disposal Surcharge on Waste Landfilled or Combusted

This potential strategy modeled the application of a fee on disposal to create an economic incentive for waste reduction and recycling, while also generating a revenue stream that can be reinvested into waste diversion programs. A disposal surcharge on waste that is landfilled or combusted introduces an additional per-ton cost for disposal of waste within Indiana or in another state. By adjusting the relative cost of disposal compared to diversion options (e.g., recycling), the surcharge can help encourage greater consideration of waste reduction, recycling, and composting options. Revenue collected through the surcharge could be directed toward expanding recycling and composting infrastructure, supporting local SWMD programs, and improving access to diversion services. This modeled strategy assumes state-level legislation authorizing the surcharge and defining how the collected revenue would be managed, as implementing this potential strategy would require action by the Indiana General Assembly. The allocation of funds is assumed to be clearly defined in the legislation and aligned with Indiana's goals. Overall, this strategy is presented as an ambitious modeled policy scenario to evaluate how changes in disposal costs and reinvestment into diversion options could affect recycling performance.

An alternative approach that SWMDs could consider implementing is local incentive programs that recognize waste reduction and recycling practices without changing disposal fee structures.

Alternative Option 2

A **local incentive program promoting recycling and waste diversion** could be a voluntary program that provides financial or non-financial incentives to households, businesses, or organizations that demonstrate leadership in waste prevention and recycling. While local incentive programs do not alter pricing directly, they use positive reinforcement and community engagement to encourage participation, and advance local waste diversion goals. SWMDs may also consider using available district funds or grants to support voluntary initiatives that encourage waste reduction and recycling.

Alternative Implementation Option 2: Local incentive program promoting recycling and waste diversion	
Action	**Sub-Action**
Identify available funding or support	Review current district budgets and upcoming IDEM grant rounds (e.g., Community Recycling Grant Program) to understand what can be used to support local diversion initiatives.
Define program focus and objectives	Choose a focus that aligns with district needs, e.g., reducing contamination at drop-off sites, increasing special materials collection event participation, or increasing curbside recycling bundled with trash service access. Identifying a target audience (e.g., households, schools, or businesses) can help tailor outreach and incentive approaches to maximize engagement and impact.
	Consider offering incentives such as providing free or discounted bins, signages, or other in-kind materials to support recycling and waste reduction efforts. Additional incentives may include small grants, rebate programs, or acknowledging successful practices to promote sustained recycling and waste reduction behaviors.
Evaluate effectiveness and refine programs	Track participation, diversion data, and feedback from participants to assess program success. Use results to adjust program design, incentives, or outreach strategies in future iterations.

Modeled Strategy 3 – Stakeholder and Public Education Campaigns

The stakeholder and public education campaigns strategy models a coordinated, statewide effort to increase awareness and education across multiple audiences involved in waste generation and management. The modeled strategy assumes investment in outreach, communications, and education to drive consistent messaging and improve waste diversion outcomes.

Stakeholder education campaigns are targeted efforts that focus on informing and engaging specific groups involved in the waste management chain, such as businesses, institutions, waste haulers, or community leaders. The campaigns provide tailored information about their roles, responsibilities, and the benefits of specific diversion methods or policies. By addressing the unique needs and perspectives of different stakeholders, they aim to improve compliance, foster collaboration, and enhance the overall effectiveness of waste diversion programs.

Public education campaigns aim to raise awareness among the general public regarding waste reduction, reuse, and recycling. They often utilize various media channels to inform citizens about the environmental and economic benefits of waste diversion, explain proper sorting techniques, and highlight available programs and facilities. Effective public education can foster a culture of sustainability, increase participation rates, and reduce contamination in diversion programs.

An alternative approach that SWMDs could consider is implementing localized education and outreach initiatives tailored to the needs and priorities of their own communities.

Alternative Option 3

Localized education and outreach initiatives focus on smaller-scale campaigns that build awareness around specific materials, programs, or issues (e.g., reducing contamination, promoting drop-off recycling options, or educating residents on proper disposal of special materials such as batteries and waste tires). SWMDs could leverage partnerships with schools, local governments, and businesses to deliver consistent messaging. Educational materials and templates developed by the state could be adapted for local use to ensure message consistency.

Alternative Implementation Option 3: Stakeholder and public education campaigns	
Action	**Sub-Action**
Identify and engage stakeholders and potential partners	Form a task force or **steering committee** that includes representatives from: • Government: State and local officials, regulatory bodies. • Local districts: Representatives from SWMDs. • Industry: Waste haulers, recyclers, and composters. • Business: Indiana or sub-regional business and trade associations. • Education: K-12 schools, universities, and student-led Green Teams. • Non-profits: Environmental groups and community organizations. • The public: Citizen advisory boards and neighborhood groups.
	Leverage partnerships and existing resources. Build upon existing campaigns and collaborate with partners with direct experience, such as haulers, who may have piloted education campaigns in other states successfully.
	Create **clear, consistent, and user-friendly messaging**. Developing a unified brand with easily recognizable visuals is key. As much as possible, this should align

Alternative Implementation Option 3: Stakeholder and public education campaigns	
	with color-coding and imagery statewide to reduce confusion over which materials go in which bins.
Develop targeted education campaigns	**Tailor outreach** to different segments of the population via press releases, local news outlets, social media, and community newsletters. Organize local events, workshops, and other avenues for hands-on learning in community spaces.
	Engage students by integrating recycling and composting into school curricula. Establish student-led Green Teams and run friendly competitions between classrooms and/or schools to build excitement around waste diversion.
Measure and report progress	Communicating progress is essential. Monitor changes in diversion and contamination rates; then publish **regular updates** to stakeholders and the public on the campaign's successes and progress toward stated goals.
	Recognize leaders in waste diversion, both from the private and public sector, through award programs or special events.

Modeled Strategy 4 – Investment in Expanding Collection Pathways

This strategy involves the potential investment in expanding collection pathways improving public access to recycling through increased drop-off locations, curbside expansion, and community collection events. This assumes investment in expanding drop-off access through initiatives such as new or improved drop-off sites, expanded hours of operation, and/or increased range of accepted materials. The modeled potential strategy also envisions complementary policy and funding mechanisms, such as a Deposit Return System (DRS) for beverage containers and Extended Producer Responsibility (EPR) legislation for select materials.

An alternative approach that SWMDs could consider is the incremental expansion of local drop-off services and special collection opportunities.

Alternative Option 4

Incremental expansion of local drop-off services and special collection opportunities focus on improving public access to recycling and diversion options through gradual, locally driven improvements. In this approach, SWMDs may consider building on existing systems by expanding drop-off locations, extending drop-off site hours, and broadening the range of accepted materials. SWMDs may also organize or coordinate additional special collection events for difficult to recycle materials such as household hazardous waste (HHW) or bulky recyclables. These events can serve communities without permanent facilities and help recover materials that are often landfilled.

Alternative Implementation Option 4: Incremental expansion of local drop-off services	
Action	**Sub-Action**
Assess current drop-off coverage and participation	Conduct a district-wide review of existing drop-off locations, accepted materials, and site usage to identify service haps or under-served communities.
	Gather feedback from residents, haulers, and municipalities to understand barriers to participation and opportunities to improve drop-off sites.
Enhance existing drop-off sites	Make feasible improvements such as improving site layout, adding clear signage, and improving accessibility to increase user convenience. Option improvements may include expanding operating hours or the range of accepted materials.
	Work together with other SWMDs or municipalities to provide shared access to recycling drop-off services where it makes logistical or financial sense.
Organize or expand special collection events	Coordinate collection events for materials not accepted at regular drop-off sites, such as HHW or bulky items.
Promote awareness and participation	Develop outreach materials highlighting drop-off locations, accepted materials, and collection schedule. Use social media, mailers, or community newsletters to remind residents of upcoming events and proper material preparation.
Monitor and evaluate outcomes	Track participation rates and tonnages collected at drop-off sites and use collected data to identify trends, adjust operations, and inform management of drop-off sites.

Modeled Strategy 5 – Commercial Food Waste Diversion Requirement

A commercial food waste diversion requirement would require large food waste generators (e.g., institutions, retailers, and food processors) to separate food scraps from other waste streams for composting, anaerobic digestion, or donation. This potential strategy assumed that the enabling infrastructure (e.g., composting and anaerobic digestion facilities), collection services, and compliance mechanisms are already in place statewide. The modeled strategy envisions a phased approach in which larger food waste generators participate first, with smaller food waste generators added over time as processing capacity expands. The modeled scenario estimates the diversion potential that could result if such a system were fully implemented and supported by enforcement, education, and data reporting.

An alternative approach that SWMDs could consider is a commercial food waste diversion program, which would encourage, rather than require, businesses and institutions that generate significant food waste to voluntarily separate food waste for composting, anaerobic digestion, or food donation.

Alternative Option 5

Within a **commercial food waste diversion program**, businesses and institutions that generate food waste are encouraged to separate food scraps and organic waste from other waste streams and send them to be composted, anaerobically digested, or used for food donation instead of to a landfill or incineration. Food waste is a key waste stream to address. Its diversion reduces emissions from landfills, helps address food insecurity by redirecting surplus food to those in need, and can offer economic benefits through cost savings for businesses and households. A phased or

tiered commercial food waste diversion program could be explored to help drive infrastructure development over time. For example, such an approach may initially focus on large generators (e.g., food manufacturers, distributors, or institutions) and gradually expand to include small facilities in later phases as new composting and anaerobic digestion capacity becomes available.

Alternative Implementation Option 5: Commercial food waste diversion program	
Action	**Sub-Action**
Encourage phased participation and provide guidance	**Identify commercial food waste generators** that may be encouraged or expected to participate based on factors such as business size, amount of food waste generated annually, and proximity to organics processing. For instance, participation could initially focus on businesses located within a certain distance from available recycling options.
	Reference the **EPA's Wasted Food Scale** when setting voluntary goals or annual targets for commercial food waste diversion. A hierarchy of diversion methods should focus on higher value uses first, such as source reduction, then donation, then composting.
	Develop guidance materials to outline program objectives, participation expectations, and best practices for food waste prevention and diversion.
	Identify potential businesses to conduct pilot programs or to test early implementation approaches. Share learnings from pilot programs with other interested businesses.
Support reporting and measurement systems	Encourage **annual reporting** by commercial food waste generators. Businesses could be invited to share data each year on the amount of food waste generated and where it was diverted (e.g., donated, composted, etc.)
	Explore options for how businesses can **measure and track** their diverted food waste (e.g., weighing, volume-to-weight conversions) to support consistent reporting and performance evaluation.
Provide training and resources for businesses	Develop **educational materials**, such as signs, guides, and training videos that show employees how to properly separate organic waste from garbage and recycling in front and back of house.
	Engage business owners by **partnering with local organizations or business associations** to offer on-site consultations and technical assistance to commercial food waste generators to help them implement diversion programs.
	Consider providing **grant funding or tax incentives** for eligible businesses to purchase organics collection equipment, like bins, or to cover the costs of procuring collection services.
Encourage compliance and participation	Promote **best practices for managing and storing organic waste**. Encourage businesses to use labeled, latched containers for organic waste to prevent pests and odors and avoid cross-contamination with other waste streams.

Alternative Implementation Option 5: Commercial food waste diversion program	
	Facilitate **peer-to-peer learning** by connecting businesses that have already implemented diversion programs with those beginning the process. Host webinars to provide guidance, support, and an opportunity to exchange learnings.
	Consider establishing a **voluntary recognition program** that highlights businesses successfully diverting food waste through composting or donation.

Modeled Strategy 6 – Commercial Recycling Requirement

A commercial recycling requirement would require businesses and institutions that generate significant quantities of recyclable materials to separate recyclables from regular waste for collection and processing. The modelled strategy assumes broad access to recycling collection services for commercial entities, accompanied by outreach, technical assistance, and mechanisms to ensure compliance.

This potential strategy represents a policy-driven approach that increases participation and diversion within the commercial sector. The model assumes improved commercial recycling rates consistent with best practice recycling rates identified through desktop research and through discussion with IDEM.

An alternative approach that SWMDs could consider would be developing voluntary commercial recycling programs that encourage participation through outreach, recognition, and technical assistance.

Alternative Option 6

Voluntary commercial recycling programs encourage commercial businesses and institutions to improve recycling practices through education, outreach, and recognition rather than regulatory requirements. SWMDs may consider offering brief waste assessments, recycling signage, or educational support to participating businesses and institutions. These programs can also emphasize improved reporting and data sharing from commercial generators to build a clearer understanding of commercial recycling activity statewide. Strengthening collaboration between haulers, processors, and local governments can help standardize reporting and promote continuous improvements across the commercial sector.

Alternative Implementation Option 6: Developing voluntary commercial recycling programs	
Action	**Sub-Action**
Identify and Engage Commercial Generators	Compile a list of businesses and institutions within the district that produce large amounts of recyclable materials. Prioritize outreach to those not currently participating in recycling programs.
Facilitate connections between businesses and haulers	Facilitate introductions or joint meetings to help businesses understand what recycling services are already available in the area and how to access them.
Promote recognition for businesses taking initiative	Highlight businesses and institutions that are recycling effectively in district newsletters, websites, or community events. Recognition can raise visibility and encourage peer participation.
Leverage IDEM's Community	Apply for CRGP funding to support the development or expansion of recycling or source reduction programs. The CRGP works with Indiana SWMDs, local government, schools, universities, and non-profit organizations.

Alternative Implementation Option 6: Developing voluntary commercial recycling programs	
Recycling Grant Program (CRGP)	
Encourage Improved Data Reporting	Encourage businesses and institutions to collect and report data to strengthen data quality and transparency.

Modeled Strategy 7 – Investment in Sorting and Processing Infrastructure

Investment in sorting and processing infrastructure expands or upgrades recycling and organics processing facilities to improve material quality, increase capacity, and support new recycling technologies. This includes opportunities to build or modernize MRFs, compost sites, and other processing facilities to improve efficiency. Enhanced sorting technologies improve the quality and quantity of recyclable materials recovered, while increased processing capacity means a greater volume of materials can be handled and transformed into new products. Such investments are crucial for closing the loop on recycling and effectively reintegrating collected materials into the economy. This modeled strategy assumes that capital investments are supported by state and local funding mechanisms, public-private partnerships, grants, and other funding mechanisms.

An alternative approach that SWMDs could consider would be pursuing incremental infrastructure improvements, such as small-scale facility upgrades, regional collaborations, or pilot projects that expand processing capacities within existing MRFs in Indiana.

Alternative Option 7

Pursuing incremental infrastructure improvements focuses on improving the facilities and systems that enable effective material recovery in Indiana. Small-scale facility upgrades may include investing in contamination reduction measures or upgrading optical sorters. These incremental improvements can still improve system performance and prepare the groundwork for larger future investments.

Alternative Implementation Option 7: Investment in sorting and processing infrastructure	
Action	**Sub-Action**
Determine financing and grant options	Identify and pursue **federal funding opportunities** to support recycling infrastructure development. The Bipartisan Infrastructure Law, for example, provided $275 million through the Solid Waste Infrastructure for Recycling (SWIFR) grant program.
	Continue or expand state- and local-level **grant programs** to help local governments and private companies invest in infrastructure.
Foster public-private partnerships	Consider opportunities for **joint ventures** with private companies to design, build, and operate advanced waste sorting and processing facilities. Public-private partnerships can help leverage expertise and investment while sharing project risks and benefits.
	Consider incentive programs, such as offering **tax incentives** to businesses that invest in recycling infrastructure. This can include property tax abatements, sales

Alternative Implementation Option 7: Investment in sorting and processing infrastructure	
Explore policy mechanisms and incentives	tax exemptions on recycling equipment, and income tax credits for capital investments.
	Evaluate potential **policy approaches and market-based incentives** that could encourage greater investment in recycling infrastructure and the use of recycled materials.

Modeled Strategy 8 – C&D Recycling

The C&D recycling strategy models an increase in the recovery of construction and demolition materials such as concrete, asphalt, wood, and metals that are commonly generated on construction and renovation sites. The modeled strategy assumes that a greater share of C&D debris is diverted from C&D landfills and sent to permitted processing or recycling facilities. This strategy reflects a best-practice scenario where both builders and waste haulers separate recyclable materials and deliver them to regional processors with adequate capacity. Currently, C&D recycling practices vary by region and reporting is very limited. The modeled strategy estimates the diversion gains that could occur if recovery and recycling practices were expanded and strengthened statewide through incentives, expansion of C&D processing infrastructure, and stronger end markets. Examples of incentives may include requirements for contractors to separate recyclable materials at construction or demolition sites or specifications in public contracts to recover a certain proportion of project waste for municipal or institutional projects. Expanding C&D processing infrastructure may involve applying for state recycling grants to purchase or upgrade sorting or handling equipment. With the increase in recycling of C&D debris, an important consideration is the end market demand. The modeled strategy assumes sufficient end market demand, which may be supported through partnerships with local road builders or aggregate suppliers or including specifications in public contracts to use recycled aggregated, reclaimed asphalt pavement, and/or recovered materials.

An alternative approach that SWMDs may consider is to support incremental improvements in C&D material recovery and reporting.

Alternative Option 8

By supporting **incremental improvements in C&D material recovery and reporting** through collaboration with local contractors, haulers, and processing facilities, SWMDs can help improve C&D recycling and visibility into current practices. At present, limited data availability makes it difficult to fully understand the scope of C&D recycling activity across Indiana. While SWMDs do not typically manage C&D waste directly, they can play an important role in connecting builders and recyclers, promoting available recycling options, and encouraging better material separation on construction and demolition sites. SWMDs may also encourage voluntary C&D recycling reporting to IDEM, helping to fill current gaps in C&D diversion estimates. Where feasible, districts can pursue state recycling grants to pilot outreach, education, or small-scale infrastructure improvements that enhance local C&D recycling capacity.

Alternative Implementation Option 8: Incremental improvements in C&D material recovery and reporting	
Action	**Sub-Action**
Engage local contractors,	Coordinate meetings or short informational sessions that connect builders, haulers, and processors to share best practices for separating and recycling C&D materials

Alternative Implementation Option 8: Incremental improvements in C&D material recovery and reporting	
haulers, and processors	
Promote awareness of local C&D recycling options	Compile and share information on permitted C&D processors and recycling and reuse opportunities for materials such as concrete, asphalt, metals, and clean wood.
Encourage voluntary C&D data reporting	Encourage local processors or haulers to share aggregated tonnage data with IDEM or the district to improve understanding of C&D recycling activity.
Leverage IDEM grant funding	Apply for grants (e.g., CRGP or RMDP) to fund projects in support of C&D recycling. These projects may be related to education, equipment upgrades that enhance C&D material recovery, or development of recycling programs targeted at C&D materials.

Modeled Strategy 9 – Residential Food Waste Diversion (Indianapolis)

The residential food waste diversion strategy for Indianapolis models the introduction of curbside collection for household food waste in Indianapolis, complementing the city's planned rollout of curbside recycling bundled with trash service in 2028. The modeled strategy assumes that where households already receive bundled curbside recycling, they would also have the option to separate food waste for composting or anaerobic digestion and that sufficient food waste processing capacity is available. Currently, Indiana has established infrastructure for wood and yard waste, however, composting or anaerobic digestion facilities that accept food waste remains limited. The modeled strategy assumes that sufficient composting capacity could be developed, or existing facilities can be expanded to accept food waste within Indianapolis. This is an ambitious scenario that demonstrates the potential for food waste diversion in Indianapolis.

An alternative approach that SWMDs could consider is supporting small-scale food waste drop-off or community composting programs.

Alternative Option 9

As a first step toward broader organics diversion, SWMDs may consider **supporting small-scale food waste drop-off or community composting programs**. These initiatives can help raise awareness around food waste composting and build local experience with organics collection. SWMDs may consider collaborating with community gardens, farms, or existing composting facilities to pilot food waste collection and composting on a limited scale. Funding for these types of programs may be available through IDEM's Community Recycling Grant Program (CRGP) to support outreach, collection bins, or site improvements that expand local composting capacity.

Alternative Implementation Option 9: Support small-scale food waste drop-off or community composting programs	
Action	**Sub-Action**
Reviewing existing composting and	Identify permitted composting or anaerobic digestion facilities that can accept food waste or could feasibly expand to accept food waste in the future.

Alternative Implementation Option 9: Support small-scale food waste drop-off or community composting programs	
processing capacity	
Facilitate partnerships to establish small-scale food waste pilot	Assess existing composting facilities, farms, or community gardens that could potentially pilot food waste collection or processing on a limited scale.
	Facilitate a food waste pilot or food waste drop-off site, beginning with small quantities of household food waste to test logistics and documenting challenges and learnings. Tracking participation rates, contamination levels, and quantities of food waste collected to assess pilot performance is very important as it can help identify opportunities for future expansion of food waste collection or drop-off services.
Conduct community education and outreach	Develop and share educational materials explaining food waste prevention, proper separation, and local composting opportunities through district websites, social media, or local events.

Modeled Strategy 10 – Residential Recycling Requirement

This models a potential strategy in which consistent recycling participation requirements are established across all households to increase recovery of key curbside materials. Under this modeled approach, households would be required to separate recyclable materials from their regular trash for collection by municipal or private waste haulers. The recyclable materials may include paper, plastic containers, glass, and metal cans. The haulers typically outline proper preparation and set-out procedures. This modeled strategy assumes that state-level legislation could be passed to create uniform expectations for household recycling and that all in-scope households have access to a recycling collection system, as this potential strategy would require action by the Indiana General Assembly. Additionally, this modeled strategy assumes compliance measures are put in place and statewide guidance on accepted materials are provided.

An alternative approach that SWMDs could consider is a phased expansion of residential recycling programs.

Alternative Option 10

Within a **phased expansion of residential recycling programs,** SWMDs may gradually expand access to curbside recycling or improve existing collection programs based on local needs and available resources. Efforts may focus on increasing the number of households with curbside recycling services bundled with trash, improving drop-off recycling access, or adding new materials to collection programs. Complementary education and outreach campaigns could be used to boost participation and reduce contamination.

Alternative Implementation Option 10: Phased expansion of residential recycling programs	
Action	**Sub-Action**
Assess current recycling access and gaps	**Conduct an assessment** to identify underserved areas, such as rural communities, where recycling access or participation is limited. Use this information to prioritize phased expansion areas based on need and feasibility.

Alternative Implementation Option 10: Phased expansion of residential recycling programs	
	Evaluate existing collection infrastructure and service contracts to determine where expansion could occur more cost-effectively (e.g., adding routes, increasing collection frequency, or expanding accepted materials).
Expand collection access and capacity	**Pilot curbside recycling programs bundled with trash** in areas that currently lack service, starting with larger municipalities where infrastructure exists. As Indianapolis moves towards curbside recycling bundled with trash by 2028, documenting implementation challenges, successes, and lessons learned could help inform similar efforts in other districts and municipalities.
Explore incentive and support mechanisms	Consider **offering incentives or recognition programs** to encourage household participation.
	Pursue available funding or grant opportunities to support local recycling expansion efforts, such as purchasing carts or bins, upgrading collection equipment, or developing outreach materials.

A.2.0 Modeling Approach and Key Data Sources

A quantitative model was developed to explore the bounds of achievable recycling performance in an ambitious future scenario. The model provides a means to compare the potential impact of the various waste management improvement strategies including infrastructure investments, education campaigns, curbside access expansion, and disposal surcharges.

The modeling approach followed three key stages:

(1) establishing baseline waste management performance in Indiana,

(2) estimating impacts of shortlisted strategies to improve waste management, and

(3) estimating impacts based on the level of access.

Establishing the Baseline

Eunomia first established the baseline performance of the solid waste management program in Indiana. There were two main data points which were calculated for the baseline assessment:

- The tonnage of material recycled and disposed in the state
- The level of recycling access for different materials across the state

Tonnage of Material Recycled and Disposed

Baseline waste generation and recycling tonnages were primarily derived from Re-TRAC data reported by Indiana facilities and supplemented with additional desktop research. To estimate the composition of disposed materials across residential and industrial, commercial, and institutional (ICI) sector (collectively referred to as the commercial sector), waste characterization studies from other states in the same geographic region as Indiana were reviewed and incorporated into the analysis. These waste characterization studies were necessary to fill data gaps on the composition of material disposed in the state as Indiana's most recent statewide waste characterization study was conducted in 2012 and covered only the residential sector.

Data on the quantity of material recycled in Indiana was sourced primarily from the state's Re-TRAC program. The data reports high-level material tonnages handled by solid waste management facilities in Indiana. Materials which are accounted for in the recycling data supplied by Re-TRAC include the packaging and paper product stream, organics, C&D, industrial waste, HHW and wood waste.

Certain materials in the state have their own data reporting systems as they are covered under stewardship programs. These data reporting systems were used to determine the recycling tonnages for tires and electronics in the state.

Recycling Access

Estimates of household access to curbside recycling were developed using a combination of IDEM's recycling report, survey data from Solid Waste Management Districts (SWMDs), and additional desktop research. Material-specific residential recycling yields were calculated on a per-household basis and then scaled to reflect the number of households with curbside access. Drop-off yields were assumed to perform at about half that of curbside recycling programs.

Estimating Potential Impacts of Shortlisted Strategies

Each strategy was modeled as an improvement to one or more key performance parameters as listed below:

- **Capture rate** improvements increase the share of targeted recyclables that are actually recovered for recycling, thereby directly improving the recycling yield.
- **Contamination rate** improvements decrease the share of recyclables that are rejected at processing facilities, resulting in more of the collected material being recycled, thereby improving the recycling yield.
- **Service coverage** improvements refer to expanding the number of households with access to recycling services. When more households participate, the total amount of material entering the recycling stream grows, which increases the recycling yield.

It should be noted the three key performance parameters are interrelated, such that changes to one parameter (e.g., contamination rate) may influence another parameter (e.g., capture rate). The table below summarizes the key performance parameter improvements modeled by each strategy.

Table A - 1. Mapping of Modeled Strategies to Performance Parameter Improvements

#	Modeled Strategy	Capture Rate	Contamination Rate	Service Coverage
1	**Residential recycling expansion in Indianapolis**			✓
2	**Per-ton disposal surcharge on waste landfilled or combusted**			✓
3	**Stakeholder and public education campaigns**	✓	✓	
4	**Investment in expanding collection pathways**	✓		✓
5	**Commercial food waste diversion requirement**	✓		
6	**Commercial recycling requirement**	✓		
7	**Investment in sorting and processing infrastructure**	✓	✓	
8	**C&D recycling**	✓		
9	**Residential food waste diversion (Indianapolis only)**	✓		
10	**Further Residential Recycling Rollouts**			✓

The level of improvement that each strategy had on the above key performance parameters was estimated using data and case studies identified through desktop research. The goal was to understand how the shortlisted strategies, which impacted system efficiency, access, and participation, could influence overall diversion outcomes.

Infrastructure Investment

Investments in sorting and processing infrastructure were modeled to reflect the potential gains from upgrading or expanding material recovery facilities (MRFs). Out of the seven MRFs in Indiana, four continue to make upgrades to the sorting and processing infrastructure. The project team assumed that these four MRFs would see lower capture rate improvements in the model because they are performing better than the remaining three MRFs that have not continued to make sorting and processing improvements. The baseline MRF capture rates for each of the priority materials were determined based on IDEM team expertise and desktop research. Based on the project team's expertise and referencing the Colorado Needs

Assessment report, the project team assumed that the four currently upgrading MRFs saw a sorting capture rate improvement of approximately 12% and the remaining three MRFs saw an improvement of 64%, all with a maximum cap of 75% of the remaining capture rate at baseline (e.g., 75% of the uncaptured material at the MRF sorting stage in the baseline).

Commercial Food Waste Requirement

To estimate the amount of food waste that would fall under a commercial food waste requirement, the project team used the CalRecycle Business Group Waste Stream Calculator, which applies California's statewide average business waste stream data to estimate how much waste (by material) is generated by an individual business or group of businesses using employee counts. The project team assumed that the average waste generated by a business in California is comparable to that of a similarly sized business operating in the same sector in Indiana. There are limited studies on the per unit waste generation of commercial businesses, and the CalRecycle data provides a comprehensive list of sectors in its dataset. Indiana does not have a similar study or dataset currently available.

To determine the number of businesses and employees, the project team used the U.S. Census Bureau's County Business Patterns (CBP) dataset for Indiana (2022), which provided establishment and employment data for each relevant industry sector. The project team focused on estimating food waste generated by businesses in the manufacturing and restaurant sectors, reflecting Indiana's manufacturing-oriented economy, and included establishments of all sizes.

To estimate the commercial food waste diversion rate, the project team referenced the statewide capture rates determined in the Colorado Organics Diversion Study, which assessed the impacts of food waste diversion measures across both residential and commercial sectors. This study modeled two cases: (1) a policy-only scenario, mandating composting for food waste producers generating more than 20 tons annually within 30 miles of a permitted compost facility, and (2) a policy plus food waste measures scenario, mandating universal composting and donation of edible food. The findings showed that commercial food waste diversion could increase from 6% to 19% under a policy-only case and up to 66% under the more ambitious combined policy and program measures. Based on these results, the project team anchored the assumptions for Indiana as follows: under a low ambition scenario, a maximum capture rate of 19% could be achieved while under a high ambition scenario, a maximum capture rate of 66% could be achieved.

Recycling Access

Estimated households with curbside recycling services bundled with trash were determined through (1) survey responses from SWMDs, and (2) desktop research. From the survey responses, for counties which have jurisdictions that offer automatic curbside recycling services, an average of 66% of the county has automatic curbside recycling. For counties that have jurisdictions which offer opt-in curbside recycling services, an average of 34% of the county has the option for curbside recycling.

The total households with at least an option for curbside recycling service is calculated as the difference between the total households with an option for curbside recycling (i.e., recycling service bundled with trash or subscription-based recycling) and the households with an active subscription-based service. The subscription rate is assumed to be 11% and this has been confirmed through discussions with IDEM and directors of a couple of SWMDs. The subscription rate is used to determine the households with subscription-based recycling services that have subscribed (i.e., active recycling service).

Landfill Disposal Surcharge

The landfill disposal surcharge was modeled as an indirect driver of recycling and diversion. By increasing the relative cost of disposal, this strategy is assumed to encourage greater participation in recycling and composting programs. Additionally, landfill disposal surcharges can generate revenue that may be

reinvested in recycling and composting infrastructure, programs, and services, further supporting waste diversion outcomes. In Indiana, the landfill tipping fee is the per-ton rate charged by landfill operators (typically $38 - $45 per ton), while the state disposal surcharge is an additional fee applied per ton of waste disposed (currently ranging from $0.50 to $0.60 per ton depending on the facility type). The strategy in our model refers to a change in the landfill tipping fee and landfill disposal surcharge.

Benchmarking against other Midwest states shows that disposal surcharges generally range from $0.36 to $4.75 per ton, with Michigan considering legislation to raise its surcharge to $5 per ton. To model an ambitious scenario while still remaining within the upper bounds of regional precedent, the model applies a maximum surcharge of $5 per ton. In parallel, the model used the upper end of the range of tipping fees observed in Indiana ($45) to understand how increased tipping fees and landfill disposal surcharge can influence participation.

Under this scenario, higher tipping fees together with a higher surcharge translate to a higher per-ton cost of landfilling. This cost shift is assumed to encourage greater participation in recycling and organics programs by making landfill disposal relatively less cost effective and attractive. At the same time, reinvestment of the surcharge revenue into recycling and composting programs in Indiana can help expand service availability and improve access for residents. Curbside access estimates were derived using state-level curbside access rates from The Recycling Partnership's Community Recycling Dashboard.[31] Based on the observed relationship between disposal costs and curbside access across Midwestern states, a combined disposal cost of $50 per ton ($45 per ton tipping fee and $5 per ton disposal surcharge) corresponds to an estimated curbside access rate of approximately 47%. This estimate informed the participation assumptions applied in the model.

Glossary

Baseline: A snapshot of current waste generation, diversion, and infrastructure conditions used as a reference point for measuring progress over time.

Biomass: Biological matter that is available on a renewable, recurring basis and is used as a source of renewable energy, as defined in Indiana Administrative Code 329 IAC 11.5-2-3.[8]

Biomass Anaerobic Digestion Facility (Biomass Digester): Facility that promotes the decomposition of biomass to simple organic and biogas products in the oxygen-free (anaerobic) environment of a closed, sealed chamber. Biomass digesters include a methane recovery system.[8]

Biomass Gasification Facility (Gasification Facility): Facility that converts biomass into a synthetic gas through a thermochemical process with little or no oxygen present.[8]

Capture Rate: The proportion of recyclable materials that is diverted from disposal compared to the total waste generated.

Circular Economy: A system in which products and materials are kept in circulation through processes such as maintenance, reuse, refurbishment, remanufacturing, recycling, and composting.

Composting: The transformation of vegetative matter and other organic materials into a nutrient-rich humus that can be used as a soil amendment or fertilizer to enrich soil and help crops and plants grow.[8] See definition for registered composting facilities.

Construction and Demolition (C&D) Waste: Solid waste from the construction, remodeling, repair, or demolition of structures. It must be handled and disposed of properly in a state-permitted MSW landfill, non-MSW landfill, or C&D site that is authorized to accept such waste. C&D waste may include scrap lumber, bricks, concrete, stone, glass, wallboard (drywall), roofing, plumbing fixtures, wiring, and non-asbestos insulation.[32]

Construction and Demolition Landfills (C&D sites): C&D landfills may only accept construction and demolition debris, such as scrap lumber, bricks, stone, glass, wallboard, roofing, plumbing fixtures, wiring, and non-asbestos insulation. Requirements specific to C&D landfills are provided in 329 IAC 10-32 through 329 IAC 38.[33]

Landfill: A solid or hazardous waste disposal facility where waste is placed on or beneath the surface of the ground for final disposal. In Indiana, waste must be disposed of at a permitted land disposal facility that is authorized by IDEM to accept that type of waste.[33]

Municipal Solid Waste (MSW): All items from homes and businesses that people no longer have any use for. These are commonly called trash or garbage and include items such as food, paper, plastics, textiles, leather, wood, glass, metals, sanitary waste in septic tanks, and other wastes.[34]

Municipal Solid Waste Landfills (MSWLFs): Landfills that accept trash from homes and businesses, C&D debris, and most non-hazardous industrial wastes.[33]

Non-Municipal Solid Waste: Waste that is not created by community activities or residential / commercial establishments. This could also include solid waste generated by industries.[34]

Non-Municipal Solid Waste Landfills (Non-MSWLFs): Landfills that may accept waste that is approved in the facility permit, except certain types like MSW, hazardous waste, PCB waste, infectious waste, etc. Examples of acceptable waste include C&D waste, industrial process waste, and pollution control wastes such as wastewater treatment sludges, baghouse dust, scrubber sludges, chemical spill clean-up wastes, and environmental cleanup wastes.[33]

Registered composting facilities: These facilities manage the composting process and give away or sell the final product.[8]

Restricted waste sites (RWSs) (RWS I, II, and III Landfills): Built and operated for the on-site disposal of non-hazardous industrial waste generated by a single type of industrial activity. Restricted waste sites may only receive waste that is similar in origin or chemical character and are not subject to organic decomposition. IDEM issues three different types of RWS permits: Types I, II, and III, which have progressively more stringent levels of monitoring and containment.[33]

Yard waste: Vegetative matter resulting from landscaping maintenance and land clearing projects. IC 13-20-9 bans the disposal of yard waste, with some exceptions, in a solid waste landfill by residential, commercial, and industrial sources.[8]

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