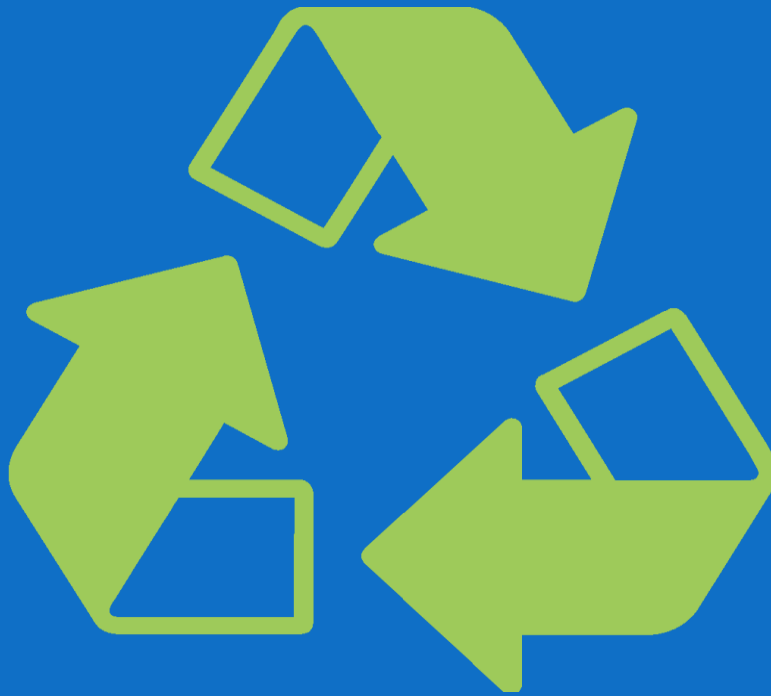


SUSTAINABLE HORIZONS:

A PROMISING FEASIBILITY STUDY FOR IMPROVING RECYCLING IN MUSKEGON COUNTY



Produced by West Michigan Environmental Action Council
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EXECUTIVE SUMMARY

INTRODUCTION AND PURPOSE

In response to strong demand from local residents for enhanced recycling programs in Muskegon County, West Michigan Environmental Action Council (WMEAC) took the initiative in the spring of 2021 to convene a coalition of elected municipal officials, community leaders, and business partners, with support from the Community Foundation for Muskegon County and Howmet Aerospace, to initiate constructive dialogues and devise effective strategies for evaluating and implementing new recycling services and programs.

We have a wide range of partners and participating organizations that collaborate with us. These include the cities of North Muskegon, Whitehall, Montague, Roosevelt Park, Muskegon, and Muskegon Heights, along with Cedar Creek, White River, Laketon, Egelston, Sullivan, Dalton, Muskegon, and Ravenna townships and the villages of Fruitport and Casnovia, and the County of Muskegon.

Our participating organizations also consist of the White Lake Area Solid Waste Authority, West Michigan Shoreline Regional Development Commission, Muskegon Conservation District, Muskegon Area Intermediate School District, Muskegon Rotary, West Michigan Sustainable Business Forum, and Sierra Club Michigan Chapter.

Furthermore, we are pleased to have the active involvement of Goodwill Industries of West Michigan and PADNOS among our business participants. Together, this group, which we are informally calling the Muskegon County Recycling Network, is working towards achieving our common goals and making a positive impact on the community.

The group engaged in both virtual and in-person meetings and information sessions to address the county's recycling status and explore potential advancements. Following these discussions, WMEAC and its partners received encouragement from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to seek and receive a grant for conducting a feasibility study. The study, begun in 2022, aims to build upon and expand existing successful recycling initiatives in local municipalities within Muskegon County, while also developing innovative methods suitable for both rural and urban areas to reduce waste sent to landfills.

The timing of this study is particularly relevant due to recent changes in Pt. 115, Michigan's law regulating solid waste management and recycling. These updates, enacted in December 2022 and officially enforced in March 2023, set requirements for Michigan counties to achieve benchmark recycling standards. The goal is to increase the state's recycling rate from 19% to 30% by 2029, with a further target of 45% thereafter. This study presents a vision that can guide and support the efforts of Muskegon County government as it begins taking steps to meet Pt. 115 requirements and advance sustainable waste management practices. It will serve as a robust foundation for Muskegon County recycling planning, leading to enhanced recycling efforts, increased diversion of recyclable materials

from landfills, and the promotion of a circular economy for recyclables and compostable organics. These elements are crucial in fostering sustainable waste management practices.

BACKGROUND AND CONTEXT

As environmental sustainability becomes more widely recognized, numerous municipal government bodies, community groups, and enterprises continue to adopt recycling initiatives. While recycling services and programs are available to Muskegon County residents, the absence of a cohesive countywide recycling infrastructure has led to fragmented and underutilized existing facilities and services. Furthermore, a consistent educational message regarding recycling is currently limited.

This feasibility study fills gaps in information about residential recycling services and facilities in Muskegon County. It builds upon a 2017 recycling study by the County of Muskegon, which noted the residential recycling rate at approximately 12%. The need to enhance recycling efforts and optimize waste management practices is especially important for two reasons. One, to help ensure adequate landfill capacity in the county, as the Muskegon County landfill, nearing its maximum capacity, is slated for expansion sometime in 2023. Once operational, the expansion is projected to provide enough capacity to last approximately 20 years, according to Muskegon County Public Works, but keeping recyclable materials out of the landfill will preserve space for nonrecyclable materials. And second, the changes in state solid waste management law, Pt. 115, requiring counties to meet state standards for recycling, necessitate a comprehensive feasibility study, so this work is timely.

METHODOLOGY

The recycling feasibility study employed partner and stakeholder outreach and interviews and discussions, and collection and analysis of local recycling infrastructure information, in addition to the gathering of information on state programs and funding and successful recycling programs in Michigan counties.

KEY FINDINGS

The following list highlights the pivotal outcomes derived from our comprehensive recycling feasibility study. These findings underscore the viability and potential impact of implementing recycling initiatives within our community, shedding light on the practical steps that can drive sustainable waste management practices and foster environmental stewardship.

The following recommendations are proposed:

- 1) Establishing a Leadership Team of local elected officials and representatives of community organizations and businesses to guide and support a vision for improved recycling,
- 2) Establishing strategic partnerships between municipalities to facilitate collaborative initiatives,
- 3) Implementing targeted public awareness campaigns to encourage recycling participation,
- 4) Exploring a plan for countywide coverage that includes a central collection facility and drop off centers (hub and spoke),

- 5) Requiring trash and recycling hauler licensing,
- 6) Exploring funding opportunities through grants and public-private partnerships to support initial setup costs,
- 7) and encouraging and supporting the development of economic opportunities for recyclable materials.

CONCLUSIONS

The feasibility study indicates that implementing a countywide recycling program in Muskegon County is both viable and beneficial. There has been significant participation of municipal officials, community organizations, businesses, and educators in this study and there is robust local political willingness to expand existing recycling programs and initiate and support new services and facilities. Finally, this study is timely, as there is broad-based acknowledgement of the inadequacies of the present state of recycling in Muskegon County, as well as the need for substantial improvements and the benefits of working collaboratively.

By embracing the suggested approaches, Muskegon County can enhance its environmental sustainability, promote resource conservation, and strengthen its position as a leader in waste management. This feasibility study is also essential as a vision and comprehensive foundation for initiating the necessary work to implement the requirements of Pt. 115.

EXPLORING THE FEASIBILITY OF IMPROVING RECYCLING IN MUSKEGON COUNTY

In this section, we delve into the heart of our feasibility study, focusing on the potential for improving recycling initiatives in Muskegon County. As a critical component of sustainable waste management, recycling plays a pivotal role in reducing environmental impact, conserving resources, and enhancing community well-being. Our study aims to assess the viability of implementing recycling enhancements and lays the foundation for informed decision-making.

Throughout the course of the feasibility study process, we examined the current state of recycling practices in Muskegon County, surveyed existing infrastructure, and explored the challenges and opportunities that surround the recycling landscape. Furthermore, we have a local analysis of recycling data to better understand recycling rates, waste composition, and key recyclable materials within the region.

The key objective of this discussion section is to present our findings and propose viable recommendations that align with Muskegon County's unique characteristics and goals. By addressing these aspects, we aim to empower stakeholders and decision-makers with actionable insights to foster a more sustainable and efficient recycling ecosystem.

As we progress through this discussion, we encourage readers to critically evaluate the proposed strategies and contribute to the collaborative effort of shaping Muskegon County's recycling future. Together, we can pave the way for a greener, more environmentally conscious community, creating a positive impact for generations to come.

GUIDING VALUES FOR MUSKEGON COUNTY RECYCLING PROGRAMS

This study outlines a comprehensive approach to recycling that strives to create a more inclusive and sustainable community with lasting benefits. It is important to acknowledge that not all county residents hold the same capacity to care about or prioritize recycling, but we want to ensure a seat at the table for all, so that recycling and the associated environmental, social, and economic benefits are accessible countywide.

We propose recycling programs in Muskegon County be guided by values that embody environmental sustainability, and community engagement that prioritizes diversity, equity and inclusion and accountability and transparency, including:

- 1. Environmental Stewardship:** Prioritize the protection and preservation of the environment by reducing waste, conserving resources, and minimizing the impact of human activities on ecosystems.
- 2. Sustainability:** Promote practices that support a sustainable and circular economy, where materials are reused, recycled, or repurposed to minimize waste generation and reliance on finite resources.

3. **Community Engagement:** Encourage active participation and collaboration among community members, businesses, local governments, and organizations to collectively address recycling challenges and implement effective recycling solutions.
4. **Education and Awareness:** Invest in public awareness campaigns and educational initiatives to inform residents about the importance of recycling, proper waste sorting, and the benefits of sustainable practices.
5. **Inclusivity and Equity:** Ensure that recycling programs are accessible and inclusive, considering the diverse needs and circumstances of all community members, including low-income households and marginalized groups.
6. **Innovation and Technology:** Embrace technological advancements and innovative recycling solutions to improve collection, sorting, and processing of recyclable materials efficiently.
7. **Accountability and Transparency:** Establish clear accountability structures to monitor the progress and impact of recycling programs and maintain transparency in decision-making processes.
8. **Cost-Effectiveness:** Strive for cost-effective solutions that provide a positive return on investment for the community while maintaining the effectiveness of recycling initiatives.
9. **Collaboration with Stakeholders:** Foster partnerships with local businesses, waste management companies, educational institutions, and non-profit organizations to leverage resources and expertise in driving recycling initiatives forward.
10. **Waste Hierarchy:** Follow the waste hierarchy principles, prioritizing waste reduction, reuse, and recycling over disposal to landfill or incineration.
11. **Circular Economy:** Embrace the principles of the circular economy, where materials are kept in use for as long as possible, and waste is seen as a valuable resource to be reintegrated into the production process.

By embracing these values, Muskegon County recycling programs can be more effective, inclusive, and sustainable, contributing to a healthier environment and a stronger, more resilient community. It is essential for stakeholders involved in recycling initiatives to uphold these values in their decision-making processes and actions to maximize the positive impact of their efforts.

PUBLIC INVOLVEMENT IN MUSKEGON COUNTY RECYCLING PLANNING

Meaningful and robust public involvement in county recycling planning in Muskegon County will enhance the effectiveness of recycling programs, promote environmental stewardship, foster community engagement, and contribute to a more sustainable future. Public involvement in the feasibility study via online distribution, a survey, and town hall event, is summarized in the Appendix.

There are important reasons for the public to be involved in county recycling planning processes. Public involvement in recycling planning raises awareness about the importance of recycling and its

positive impact on the environment. When people actively participate in recycling programs, they become more conscious of their consumption habits and waste generation, leading to more sustainable behaviors. The public's involvement ensures that county recycling plans can be well-designed and tailored to local needs. Different communities may have specific challenges or requirements related to recycling infrastructure, collection systems, or waste management practices. Engaging the public helps in identifying these unique factors and developing effective strategies that suit the community's context.

We know our residents possess valuable knowledge about their neighborhoods, including potential recycling barriers, preferred collection methods, and specific waste streams that require attention. Their input can contribute to designing recycling programs in the County that are practical, efficient, and culturally sensitive, leading to higher participation rates and better overall outcomes.

Public involvement facilitates stakeholder engagement and fosters collaboration among various community groups, including residents, businesses, non-profit organizations, and local government agencies. By actively involving the public, county recycling planning can benefit from diverse perspectives, innovative ideas, and shared responsibilities, leading to a more comprehensive and inclusive approach.

Engaging the public in recycling planning also promotes accountability and transparency in decision-making processes. By involving residents, county officials can ensure that their actions align with the community's interests and priorities. Public participation helps build trust, as it allows for open dialogue, feedback, and the opportunity to address concerns or grievances related to recycling initiatives.

Finally, involving the public in recycling planning creates opportunities for education and outreach initiatives. Public input can also help shape educational campaigns, workshops, or community events focused on recycling practices, waste reduction, and the importance of sustainable living. By empowering individuals with knowledge and skills, recycling efforts can be more successful.

THE BENEFITS OF EXPANDED RECYCLING IN MUSKEGON COUNTY

Embracing recycling can provide clear benefits by reducing waste, conserving resources, curbing pollution, and fostering economic growth. By actively participating in recycling efforts, we can pave the way towards a cleaner, more sustainable, and prosperous community for all.

- There are energy savings associated with recycling as it often requires less energy compared to producing goods from raw materials, helping to reduce greenhouse gas emissions. Recycling also reduces the amount of waste sent to landfills, which can lead to cost savings associated with waste management, cleanup, remediation efforts and landfill legacy costs. And recycling is an essential part of the circular economy, which aims to optimize resource use, reduce waste, and promote sustainable consumption and production.
- Recycling contributes to economic development by creating jobs at various stages of the recycling process, including collection, sorting, processing, and manufacturing. These jobs

range from labor to skilled positions. This all provides employment opportunities and supports local economies.

- Recycling can lead to cost savings for businesses and municipalities. By reusing materials instead of acquiring new ones, companies can lower their production costs. Municipalities can reduce landfill and waste management expenses as well as landfill legacy costs which continue at least 30 years after a landfill is closed.
- Recycling can create market opportunities for recycled materials. When recycled materials are processed and transformed into new products, it creates a demand for recycled content, which stimulates market growth and development. This can foster innovation and the emergence of new industries.
- In today's socially conscious market, consumers are increasingly favoring brands that demonstrate environmental responsibility. Companies that implement effective recycling programs and use recycled materials in their products can enhance their brand reputation and attract environmentally conscious customers.
- Communities that prioritize recycling and environmental conservation often attract environmentally conscious tourists and businesses. Expanding recycling can enhance Muskegon County's reputation and contribute to local tourism revenue. By integrating recycling practices into the economy, Muskegon County can reap these economic benefits while promoting sustainability, reducing environmental impact, and creating a more resilient community.
- Emphasizing recycling as a part of sustainable development strategies helps ensure that future generations can enjoy a clean and healthy environment.

In conclusion, embracing recycling offers a multitude of advantages, from waste reduction and resource conservation to economic growth and environmental stewardship. By actively participating in recycling initiatives, we can shape a brighter future marked by sustainability, economic prosperity, and a healthier community for generations to come.

THE REGULATORY AND POLICY FRAMEWORK FOR RECYCLING IN MICHIGAN

In Michigan, the regulatory and policy framework for recycling is primarily governed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). (Local governments in Michigan can provide residential recycling services and contract with and regulate private recycling service providers. The specific guidelines and materials accepted for recycling vary by locality.)

Here are some key elements of the state level recycling framework:

1. [Solid Waste Management Programs](#): EGLE oversees solid waste management programs in Michigan. These programs aim to promote recycling, waste reduction, and proper disposal of solid waste. EGLE provides grants, technical assistance, and educational resources to local governments, businesses, and individuals to support recycling efforts. Recent changes to Pt. 115, the state of Michigan's law regulating solid waste management and materials management, including recycling, make this study timely and relevant. Updates passed in

December of 2022 became law in March of 2023. There are new goals to achieve benchmark recycling standards and increase the state's current recycling rate from 19% to 30% by 2029 and 45% thereafter.

2. [Recycling Market Development](#): Michigan has initiatives in place to promote the development of recycling markets. EGLE works to identify and support market opportunities for recycled materials, including providing grants to businesses for infrastructure development and supporting recycling-related research and development projects.
3. [Electronic Waste Recycling](#) : Michigan has laws regarding the recycling and disposal of electronic waste, known as the Electronic Waste Takeback Program. It requires electronics manufacturers to establish and finance collection programs for the proper recycling of covered electronic devices, such as computers, televisions, and printers.
4. [Tire Recycling](#): Michigan has regulations for the proper management and recycling of scrap tires. These regulations cover tire storage, transportation, and processing to prevent environmental hazards and promote recycling.
5. [Michigan Bottle Bill](#) : Michigan has a "Bottle Bill" or "Bottle Deposit Law," which requires a deposit on certain beverage containers, including carbonated soft drinks, beer, and water bottles. Consumers pay a 10-cent deposit when purchasing these beverages, which can be redeemed when returning the empty containers to designated recycling centers.

In summary, recycling regulations in Michigan are chiefly overseen by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), while local governments play a crucial role in delivering residential recycling services and overseeing private recycling providers. This decentralized approach allows for tailored guidelines and materials acceptance that align with each locality's unique needs and priorities.

POLICIES AND INCENTIVES FOR RECYCLING PROGRAMS IN MICHIGAN

The State of Michigan has numerous policies and programs that incentivize recycling, including the setting of a statewide goal to achieve a 30% recycling rate by 2029, and eventually 45%. To assist in meeting these goals, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) offers grants and funding that support recycling infrastructure development and improvement. Additionally, EGLE provides recycling market development grants to promote the use of recycled materials in Michigan, technical assistance, and funding opportunities for composting facilities.

Furthermore, EGLE supports educational campaigns and outreach programs with a focus on raising awareness, providing recycling guidance, and educating communities, schools, businesses, and residents about the benefits and practices of recycling. These initiatives also aim to encourage collaboration between government agencies, local communities, businesses, and nonprofit organizations to develop and implement effective recycling policies and programs.

In April 2023, EGLE announced the disbursement of almost \$16 million in grants to support recycling infrastructure investments throughout the state.

In brief, Michigan prioritizes recycling through policies, funding, and education. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) spurs advancement with grants for recycling infrastructure, market development, technical aid, and composting. EGLE's dedication to education and collaboration empowers communities, businesses, and residents to improve recycling policies. The significant grants awarded in April 2023 underscore Michigan's proactive push for a greener future.

REGULATING WASTE MANAGEMENT: COUNTY LICENSING OF TRASH AND RECYCLING HAULERS

County licensing of trash and recycling haulers is a policy used by local governments to regulate waste management and recycling services. Haulers in a county must obtain a license or permit from the local government, requiring them to provide details about qualifications, experience, equipment, insurance, and compliance history. County authorities review applications to ensure compliance with local standards. This process can encourage environmentally friendly waste handling, aligning with county waste reduction and recycling goals. It's crucial to understand that licensing specifics differ between jurisdictions. Currently, the County of Muskegon does not have a policy licensing trash and recycling haulers.

There are key reasons for considering enactment of such a policy:

- 1. Environmental Protection:** By requiring haulers to obtain licenses and adhere to specific regulations, local governments can ensure that waste management practices are environmentally responsible. The licensing process can incorporate guidelines that encourage waste reduction, recycling, and landfill diversion. This approach promotes sustainable waste management practices that contribute to reducing the overall environmental impact of waste disposal.
- 2. Standardization of Services:** County licensing establishes a standardized framework for waste management and recycling services within a jurisdiction. This helps maintain consistent and high-quality services for residents and businesses. The licensing requirements ensure that haulers possess the necessary qualifications, experience, and equipment to provide effective and safe waste collection and disposal services.
- 3. Public Health and Safety:** Licensing requirements often include provisions for insurance coverage and compliance history. This ensures that haulers are financially responsible in case of accidents, spills, or other incidents that might occur during waste collection and transportation. Additionally, a review of compliance history can help identify haulers with a track record of adhering to safety and environmental regulations, promoting public health and safety.
- 4. Preventing Unregulated Operations:** Without proper regulation, there is a risk of unlicensed and inexperienced waste haulers entering the market, potentially leading to inadequate waste

management practices, illegal dumping, and other environmental hazards. County licensing helps prevent such unregulated operations by setting minimum standards and qualifications that haulers must meet before they can operate legally.

5. **Supporting Local Economy:** County licensing can create a level playing field for waste management businesses, supporting local economic growth. Licensed haulers who meet the required standards are more likely to provide fair wages and benefits to their employees, contributing to the economic well-being of the community.
6. **Meeting Regulatory Requirements:** County licensing can align with broader waste and recycling management goals and regulations. For instance, as mentioned in the original text, the licensing process can help counties prepare for compliance with Pt. 115, ensuring that local waste management practices aid in meeting the higher standards.
7. **Flexibility for Local Context:** While the fundamental principles of waste management are universal, the specific needs and challenges can vary greatly between different counties and jurisdictions. Licensing specifics that differ between jurisdictions allow for tailoring waste management regulations to local circumstances, taking into account factors like population density, waste composition, and available infrastructure.

In conclusion, the county licensing of trash and recycling haulers can serve as a crucial policy tool in Muskegon County to regulate waste management practices, protect the environment, promote public health and safety, and contribute to sustainable and responsible waste disposal within a specific jurisdiction.

LEGAL AND/OR REGULATORY BARRIERS TO IMPLEMENTING RECYCLING PROGRAMS

There are barriers to implementing recycling programs in communities in Michigan. Lack of uniformity of recycling regulations and practices vary across the different municipalities in each county, creating challenges for businesses and individuals operating in multiple jurisdictions, as they need to navigate different recycling requirements and systems. Contamination and including non-recyclables often hinders the recycling process, as lack of awareness or non-compliance with sorting guidelines can increase contamination levels and reduce the effectiveness of recycling efforts. Limited financial resources at the municipal governmental level can make it challenging to invest in necessary infrastructure, public outreach campaigns, and education initiatives related to recycling. Fluctuating market demand for recycled materials, price volatility, and limited local end markets can affect the viability and sustainability of recycling programs and lack of awareness or understanding of the benefits and importance of recycling can contribute to low participation rates.

To address these barriers, efforts are underway in Michigan to improve recycling infrastructure, as the state offers financial assistance and grants to local governments, municipalities, and private companies to invest in recycling infrastructure, such as upgrading collection and sorting facilities. There are also grants available for local governments and community organizations to increase public awareness of recycling benefits, and there is strengthened legislative support for recycling initiatives with the recent changes to state solid waste management law, Pt. 115.

State and local authorities, along with community organizations and businesses, are also working collaboratively to enhance recycling practices, develop markets for recycled materials, and promote sustainable waste management strategies.

BARRIERS TO RECYCLING IN MUSKEGON COUNTY

In a 2017 study conducted by the County of Muskegon, titled "Increasing Recycling in Muskegon County," specific barriers to recycling were identified. These barriers include:

- Lack of unified County policy: There is no cohesive policy in place to drive an increase in recycling efforts.
- Inadequate tracking of commercial recycling: Although commercial recycling is widespread, the county does not have a proper system for tracking and documenting the amount of recyclables collected.
- Complex matrix of recycling programs: The presence of multiple recycling programs makes it challenging for the county to communicate clear and uniform messages about recycling and how people can participate.
- Residential curbside collection confusion: The cost for residential curbside collection of recyclables is integrated into the existing collection service, but residents need to request containers, leading to potential confusion and lower participation.
- Hauler reluctance to promote curbside recycling: Haulers offer curbside collection for recyclables but are hesitant to promote it since it adds costs without increasing revenues.
- Limited options for recyclable disposition: Haulers face difficulties in finding nearby processing facilities for recyclables along their routes.
- Challenges with rural community transfer stations: Rural communities have separate transfer stations that lack economies of scale for obtaining optimal revenues from recyclables and are difficult to operate cost-effectively.

Current feasibility study partners agree that these barriers still persist in Muskegon County. Additionally, they suggest adding another barrier, which involves overcoming public perceptions that recycling is not important and that recycled materials are ultimately discarded. Addressing this perception highlights the importance of consistent educational messaging to foster a positive view of recycling and its impact.

Overcoming the barriers to recycling in Muskegon County is imperative to promote sustainable waste management and environmental conservation. The identified challenges, such as the lack of a unified county policy, inadequate tracking of commercial recycling, and a complex matrix of recycling programs, hinder the efficient collection and processing of recyclable materials. Additionally, issues like residential curbside collection confusion, hauler reluctance to promote recycling, limited disposition options for recyclables, and challenges faced by rural community transfer stations further impede recycling efforts. Moreover, addressing the public perception that recycling is insignificant and that recycled materials end up discarded is crucial in fostering a positive attitude towards recycling.

By tackling these barriers through coordinated policies, improved tracking systems, clear communication, and consistent education, local government officials, the County of Muskegon, and business and community organization leaders can create a more effective and widespread recycling culture.

RECYCLING INFRASTRUCTURE OVERVIEW

Recycling infrastructure generally encompasses a variety of facilities, systems, and equipment such as:

- 1. Material Recovery Facilities (MRFs):** MRFs are large-scale facilities where recyclable materials are collected and sorted. They use a combination of manual and automated processes to separate different types of materials, such as paper, plastic, glass, and metal.
- 2. Recycling Centers:** Recycling centers are smaller facilities where individuals can drop off recyclable materials, such as bottles, cans, and paper. These centers often have separate collection bins for different types of materials to facilitate sorting.
- 3. Composting Facilities:** Composting facilities process organic waste, such as food scraps, yard waste, and agricultural residue, into nutrient-rich compost. These facilities use controlled decomposition processes to convert organic materials into compost, which can be used as a soil amendment.
- 4. E-Waste Recycling Facilities:** E-waste recycling facilities specialize in the recycling and proper disposal of electronic waste, including old computers, mobile phones, televisions, and other electronic devices. These facilities safely extract valuable materials and components from electronic waste while ensuring proper handling of hazardous substances.
- 5. Construction and Demolition (C&D) Recycling Facilities:** C&D recycling facilities process waste generated from construction and demolition projects. They separate and recover materials like wood, concrete, metal, and asphalt for reuse or recycling, reducing the amount of waste sent to landfills.
- 6. Scrap Yards:** Scrap yards are facilities that buy, sell, and process scrap metal, such as steel, aluminum, and copper. They collect and sort various types of metal for recycling and subsequent use in manufacturing processes.
- 7. Bottle Redemption Centers:** Bottle redemption centers are specific recycling facilities that accept and refund deposits on beverage containers, such as glass or plastic bottles and aluminum cans. They encourage recycling by offering financial incentives for returning empty containers.

These examples represent some of the different components of the recycling infrastructure that work together to promote the recycling and recovery of valuable resources, reduce waste, and minimize

environmental impact. This study determined a central collection center and drop off sites (a hub and spoke model) could provide additional countywide coverage.

NOTABLE MICHIGAN COUNTY RECYCLING PROGRAMS

Michigan is home to a number of county recycling programs that are making significant strides in comprehensive waste reduction that can serve as models, including:

Kent County Recycling Program (Kent County): Kent County operates a comprehensive recycling program that includes curbside recycling for residents in participating communities. They accept a wide range of materials, including paper, cardboard, plastics, glass, metal, and certain types of electronics. The county also provides drop-off recycling sites and hosts periodic household hazardous waste collections.

Emmet County Recycling (Emmet County): Emmet County offers a robust recycling program that includes curbside recycling for residents, as well as drop-off recycling centers. They accept various materials, including paper, cardboard, plastics, glass, and metal. The county also operates a recycling facility that processes collected materials.

Recycle Washtenaw (Washtenaw County): Washtenaw County's Recycle Washtenaw program provides curbside recycling services to participating communities. They accept a wide range of materials, including paper, cardboard, plastics, glass, and metal. The program also offers drop-off recycling sites, composting programs, and education initiatives to promote recycling awareness and best practices.

Bay County Recycling and Hazardous Waste Program (Bay County): Bay County's recycling program offers curbside recycling for residents in participating communities. They accept materials such as paper, cardboard, plastics, glass, and metal. The county also operates a Household Hazardous Waste Collection Center to safely dispose of hazardous materials.

Marquette County Solid Waste Management Authority (Marquette County): Marquette County provides recycling services through their Solid Waste Management Authority. They offer drop-off recycling sites where residents can recycle paper, cardboard, plastics, glass, and metal. The authority also operates a Household Hazardous Waste Collection Center and hosts periodic collection events for electronic waste.

Midland Recyclers (Midland County): Midland Recyclers is a nonprofit organization in Midland County that operates a recycling center. They accept various materials, including paper, cardboard, plastics, glass, metal, electronics, and household hazardous waste. The organization also offers educational programs and resources to promote recycling and waste reduction.

Ottawa County Resource Recovery Program (Ottawa County): Ottawa County's Resource Recovery Program offers comprehensive recycling services, including curbside recycling for residents in participating communities. They accept materials such as paper, cardboard, plastics, glass, and metal.

The county also operates a recycling center, hosts periodic household hazardous waste collections, and provides educational outreach.

STRATEGIC PARTNERSHIPS

Strategic partnerships are in evidence in many of these programs, and they involve multiple stakeholders, including local governments, recycling facilities, businesses, and communities, working together to improve recycling practices and reduce the environmental impact of waste disposal. In Michigan, solid waste recycling authorities or agencies are responsible for overseeing and managing recycling programs, waste reduction initiatives, and solid waste management within their respective jurisdictions. These authorities may operate at the county, regional, or municipal level. Here are some examples of solid waste recycling authorities in Michigan:

County Recycling Authorities: Many counties in Michigan have established county-wide recycling authorities or departments responsible for implementing and managing recycling programs. These authorities may provide recycling collection services, operate recycling centers or drop-off locations, and educate residents on proper recycling practices. Examples include the Kent County Department of Public Works, Washtenaw County Solid Waste Division, and Ingham County Department of Waste Management.

Regional Solid Waste Management Authorities: Some regions in Michigan have established regional solid waste management authorities that oversee waste management, recycling, and disposal activities across multiple counties or municipalities. These authorities typically coordinate regional recycling programs, manage recycling infrastructure, and provide educational resources. One example is the Southeast Michigan Council of Governments (SEMCOG), which works on waste management planning and coordination for communities in the southeast Michigan region.

Municipal Recycling Departments: Individual cities or municipalities in Michigan may have their own recycling departments or divisions responsible for managing local recycling programs. These departments often handle recycling collection services, curbside recycling programs, and educational outreach efforts. Examples include the Lansing Recycling Center in Lansing and the Ann Arbor Solid Waste Division in Ann Arbor.

Waste Management Authorities: Some areas in Michigan have established waste management authorities that oversee all aspects of waste management, including recycling. These authorities may provide recycling services, manage waste collection contracts, and implement waste reduction initiatives. An example is the Midland County Waste Management Department, which operates recycling programs and waste management facilities in Midland County.

These partnerships can help with cost sharing, and the purchase of recycling infrastructure. Collaborative partnerships facilitate coordinated community outreach and education campaigns. By collaborating on recycling initiatives, counties can also establish long-term plans for waste management, ensuring that recycling efforts are sustained and improved over time.

By combining efforts, resources, and expertise, partnerships can amplify the positive impact of recycling initiatives and create a more sustainable future for communities and the environment. We have our own local example of a collaborative partnership in the northern part of Muskegon County --the White Lake Area Solid Waste Authority.

WHITE LAKE AREA SOLID WASTE AUTHORITY: A SUCCESSFUL STRATEGIC PARTNERSHIP

The White Lake Area Solid Waste Authority was established in 1979 through Michigan Act 233 of 1955, which provides for the incorporation of certain municipal authorities to acquire, own, extend, improve, and operate sewage disposal systems, water supply systems, and solid waste management systems. The authority was jointly formed by the cities of Montague and Whitehall, along with the townships of White River, Montague, Whitehall, and Blue Lake.

Initially, its purpose centered around the management of a transfer station designed for the disposal of trash and brush. Over time, the authority's role has grown and diversified. It now encompasses not only recycling but also the collection and management of furniture, appliances, and tires. This evolution showcases a remarkable instance of collaborative synergy among municipalities, fostering enhanced access to services and cost efficiencies.

The success of the White Lake Area Solid Waste Authority serves as a noteworthy model for other Muskegon County communities seeking to establish similar bodies to oversee waste management. Furthermore, it offers a blueprint for potential expansions and partnerships with additional municipal entities.

In the pursuit of effective recycling initiatives, it is inspiring to look at successful models that have managed to overcome various challenges and make significant strides towards sustainability. By drawing inspiration from these noteworthy examples, we can gain valuable insights and guidance on how to navigate and overcome barriers, ultimately paving the way for a more efficient and impactful recycling system that benefits both the environment and the well-being of its residents.

RECYCLING DROP-OFF CENTERS IN MUSKEGON COUNTY

Recycling drop-off centers hold immense value for their communities, offering a convenient and accessible platform for residents to responsibly dispose of recyclable materials, diverting tons of waste from landfills each year. By encouraging recycling habits, they also foster a culture of environmental consciousness and resource conservation within the community.

Muskegon County boasts a number of recycling drop-off hubs, including the White Lake Area Solid Waste Authority's transfer station, referenced earlier, a long-standing center located in Fruitland Township, with decades of operational history, a more recently established one in Cedar Creek Township, which has been active for several years, and a new pilot program in Sullivan Township.

FRUITLAND TOWNSHIP ECOLOGY STATION

Since the 1980s, Fruitland Township has managed a twice weekly recycling drop-off center for its residents, facilitating the disposal of single stream recyclables and other items. The existing site spans

ten acres, and the township's board is currently contemplating the potential expansion of this facility. The proposed expansion aims to foster joint cooperative efforts with neighboring townships, as it seeks to align with Muskegon County's objectives under Pt. 115 to enhance recycling and waste management initiatives.

CEDAR CREEK TOWNSHIP INFRASTRUCTURE GRANT PILOT PROGRAM: RECYCLING DROP OFF CENTER

In early 2019, the Cedar Creek Township Board voted to approve an application to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for a recycling infrastructure grant to set up a recycling drop-off center at the township's Transfer Station.

The township hall had an existing transfer station with sufficient space to expand, making placing a recycling center possible. The supervisor wrote the grant with assistance from the Muskegon County Department of Public Works staff. The concept for the Cedar Creek Infrastructure Grant Pilot Program was to determine if a rural township recycling center could be sustainable. EGLE provided a liaison for program oversight to check on the grant progress and answer questions.

EGLE awarded the \$65,908 grant to Cedar Creek Township in 2019. The grant paid 75% of the project, and the township covered 25%. Because the new recycling initiative began during the pandemic, it was delayed until November 2020, and participation was initially slower than anticipated. Since opening, however, the 20-yard bin, which the township designed for the recyclables, has been emptied six times, diverting nearly eight tons of materials from being disposed of in a landfill.

Recyclables from the drop-off center are transported to the Kent County Recycling and Education Center, which costs \$350 plus an average tipping fee of \$100 for each load. The total cost to date is \$2,678. The township charges for recycling to help cover this expense, which has helped the effort to break even, with just over \$2,750 coming from user fees. A township board member volunteers to staff the center, which is only open on Saturdays. In June 2023, the board authorized a summer student position at \$12.50 per hour. While necessary, it will also cause deficit spending for the program.

The township also applied for and received a recycling education grant from EGLE. It will provide mailings to township residents to educate them on what materials can be recycled and how to prepare them properly. To date, the new drop-off center is considered a success. The township board is very supportive of the program. They encourage continuous education to grow and refine the recycling program, and they have learned a few lessons including that the residents who use the center understand the need for user fees, senior citizens are the most likely to recycle, and children often encourage their parents to recycle.

SULLIVAN TOWNSHIP TRASH AND RECYCLE PROGRAM

Sullivan Township is also embarking on a new initiative – the Sullivan Township trash and recycle Program. Inspired by the Village of Fruitport's model, this program is designed to improve recycling

waste management practices within the township by adopting an annual billing system and partnering with a single service provider.

Preliminary feedback from residents has been positive, noting the benefits of the pilot program, including less truck traffic, increased access to recycling services, and more affordable fees.

Presently, the program is at the "poll" stage, allowing township officials to gauge the level of community support and gather insights to refine the program, which will be presented for a decision at an upcoming election. As an alternative option, township officials are exploring collaboration with neighboring areas to establish a county-wide waste management program. Whichever path is chosen, Sullivan Township is poised to embrace a progressive approach to recycling and waste management, focusing on education, participation, and environmental responsibility.

Recycling drop-off centers like these local programs, recommended as part of comprehensive coverage for Muskegon County, offer many benefits. They play a vital role in a complete recycling system by offering convenient locations for recycling, aiding environmental preservation through proper handling of recyclables, and promoting responsible waste management practices.

PUBLIC EDUCATION CAMPAIGNS

A good municipal recycling education program aims to inform and engage residents within a specific municipality or jurisdiction about recycling practices and encourage their active participation. There are numerous effective education programs for recycling that can be implemented in schools, communities, or organizations to promote awareness, understanding, and engagement in recycling practices. Here are a few examples:

School Recycling Programs: These programs are designed to educate students about the importance of recycling and encourage them to participate actively. They can include initiatives such as waste audits, setting up recycling bins in schools, organizing recycling competitions, and providing educational materials or presentations about recycling.

Community Outreach Programs: These programs focus on raising awareness and providing education about recycling within the local community. They may involve hosting workshops, seminars, or public events on recycling practices, conducting outreach campaigns through local media or social platforms, and distributing educational materials to households and businesses.

Recycling Awareness Campaigns: Public awareness campaigns can be effective in reaching a broader audience and inspiring behavior change. These campaigns often utilize various media channels, including television, radio, billboards, social media, and online platforms, to convey messages about recycling benefits, guidelines, and the importance of waste reduction.

Recycling Education Resources: Developing and distributing educational resources can be valuable for individuals, teachers, and organizations. This can include informative brochures, fact sheets, online guides, or interactive websites that provide recycling information, guidelines, and tips for different target audiences.

Workshops and Training Sessions: Conducting workshops or training sessions for employees, community groups, or volunteers can help increase knowledge and skills related to recycling. These sessions can cover topics such as proper sorting of recyclables, composting, waste reduction strategies, and the environmental impact of recycling.

Collaborations and Partnerships: Collaborating with local recycling facilities, waste management companies, environmental organizations, or government agencies can enhance education programs. These partnerships can offer opportunities for site visits, expert guest speakers, and hands-on experiences to reinforce the learning process.

In conclusion, the implementation of a robust municipal recycling education program holds significant importance for Muskegon County. By targeting specific groups through diverse initiatives, from school recycling programs to community outreach and awareness campaigns, Muskegon County can effectively empower its residents to actively engage in recycling practices. These efforts not only enhance the overall recycling rates but also contribute to the reduction of waste, conservation of resources, and the mitigation of environmental impacts. Through collaborations and partnerships, Muskegon County can leverage the expertise of various stakeholders to create a comprehensive educational ecosystem that equips individuals, educators, and organizations with the knowledge and skills necessary for successful recycling.

THE CURRENT RECYCLING LANDSCAPE IN WEST MICHIGAN

In West Michigan, the demand for recycled materials experiences fluctuations due to market conditions, economic factors, industry demand, and environmental initiatives. However, it is noteworthy that the overall demand for recycled materials has been on the rise in recent years. Businesses and industries in the region are increasingly conscious of sustainability and environmental concerns, actively seeking recycled materials for their production processes. Additionally, consumers in West Michigan are showing a preference for products made from recycled materials.

DEMAND FOR RECYCLABLE MATERIALS IN WEST MICHIGAN

West Michigan, like many other regions, has seen a growing demand for recycling due to increased awareness of environmental issues, resource conservation, and waste reduction. Individuals, businesses, and communities in West Michigan are increasingly recognizing the importance of recycling as a means to protect the environment, conserve resources, and reduce the carbon footprint associated with waste disposal. Many businesses in West Michigan are adopting sustainable practices, including recycling, to align with corporate social responsibility goals, enhance their environmental reputation, and meet customer demands for eco-friendly products and services. The demand for recycled materials as feedstock for manufacturing processes is a critical driver for recycling. Industries in West Michigan, such as automotive, furniture, packaging, and construction, often seek recycled materials as a more sustainable alternative to virgin resources.

West Michigan is fortunate to have numerous local initiatives, recycling programs, and collaborations among stakeholders. These efforts, such as community-led recycling campaigns, partnerships between local governments and waste management companies, and educational programs, can contribute to increasing recycling demand and participation.

POTENTIAL MARKETS AND BUYERS FOR RECYCLED MATERIALS

In West Michigan, there are various recycling markets and opportunities for different types of materials. Common recycling markets in the region include:

- 1. Paper and Cardboard:** West Michigan has markets for recycling paper and cardboard materials. These materials are typically collected from residential curbside recycling programs, commercial establishments, and industrial sources. The recycled paper and cardboard can be used to manufacture new paper products such as packaging materials, boxes, and tissue products.
- 2. Plastics:** There is a market for recycling certain types of plastics in West Michigan. Plastics with recycling codes such as PET (Polyethylene Terephthalate) and HDPE (High-Density Polyethylene) are commonly accepted for recycling. These plastics can be recycled into new plastic products such as bottles, containers, and packaging materials.
- 3. Metals:** Recycling markets exist for various types of metals, including aluminum, steel, and copper. Metal recycling facilities in West Michigan accept scrap metal from individuals, businesses, and industries. The recycled metals are processed and used in the manufacturing of new metal products.
- 4. Glass:** While glass recycling options can vary in different areas, some recycling markets in West Michigan accept glass containers such as bottles and jars. Recycled glass can be used to produce new glass products, including bottles, fiberglass, and construction materials.
- 5. Electronics:** West Michigan has recycling markets for electronic waste (e-waste), such as computers, televisions, printers, and other electronic devices. Recycling facilities and specialized e-waste collection programs ensure proper disposal and recycling of these items, which often contain valuable and potentially hazardous components.
- 6. Automotive Materials:** With the automotive industry being prominent in Michigan, there are recycling markets for automotive materials such as scrap metal, tires, batteries, and fluids. These materials can be recycled or properly managed to recover valuable resources and minimize environmental impacts.

PRICING AND MARKET TRENDS FOR DIFFERENT RECYCLABLES

Recycling markets can be influenced by various factors, including global commodity prices, supply and demand dynamics, market conditions, and regional factors.

Paper and Cardboard: The pricing of recycled paper and cardboard can fluctuate based on factors such as quality, supply and demand, and global market conditions. In recent years, the paper and cardboard recycling industry has faced challenges due to changes in global trade policies and shifts in the paper market. However, there is generally a demand for high-quality recycled paper and cardboard, driven by industries such as packaging, printing, and tissue production.

Plastics: The market for recycled plastics has experienced volatility due to factors such as changes in international recycling policies, fluctuations in oil prices, and shifting consumer preferences. While there is a growing demand for recycled plastics, particularly those with high quality and consistent supply, the pricing can vary depending on factors like resin type, color, contamination levels, and market demand for specific plastic resins.

Glass: The glass recycling market has its own unique dynamics. In some cases, the recycling of glass faces challenges due to transportation costs, high energy requirements for processing, and fluctuations in demand for recycled glass cullet. However, glass recycling is often promoted as a way to reduce the use of virgin materials and minimize environmental impact.

Metals: The pricing and demand for recycled metals, such as aluminum, steel, and copper, are influenced by global commodity markets. Recycling metals is generally seen as economically viable and environmentally beneficial. The demand for recycled metals can fluctuate based on industrial and construction activities, infrastructure development, and global market trends.

It's important to note that the pricing and marketing trends for recycled materials can vary across regions, including West Michigan. Factors such as local recycling infrastructure, proximity to end markets, and the presence of recycling facilities can impact pricing and marketing dynamics. Local recycling authorities, waste management companies, and industry associations can provide more specific insights into the pricing and marketing trends for recycled materials in West Michigan.

SUCCESSFUL MUSKEGON COUNTY RECYCLING BUSINESS VENTURES

The potential for economic potential in recycled materials is exemplified by two inspiring examples of successful Muskegon County recycling-based business ventures. These instances demonstrate how recycling materials can be transformed into profitable opportunities, fostering a thriving economic landscape for the region.

HYDROBLOX PLASTICS RECYCLING BY GOODWILL INDUSTRIES OF WEST MICHIGAN

Goodwill Industries of West Michigan (GIWM) is primarily focused on accepting donations of used goods and selling them in their thrift stores to support their social service programs. They typically aim to minimize waste by reusing, recycling, or repurposing items to keep them out of landfills. Goodwill Industries of West Michigan (GIWM) is known for its commitment to sustainability and recycling efforts, including textile reuse, e-waste recycling and upcycling and repurposing.

The organization has recently joined with HydroBlox Technologies to create a plastics recycling venture. HydroBlox Technologies, headquartered in Pittsburgh, specializes in stormwater drainage

products made from 100 percent recycled plastic. Their proprietary mechanical recycling process transforms hard-to-recycle plastic into 7.5-foot stormwater management planks, used in various applications such as road and trail projects, retaining walls, hydroponic farms, solar fields, and green roofs.

The manufacturing process by HydroBlox utilizes low-grade, commingled, and mixed color plastic that would typically end up in landfills. It's noteworthy that no glue, binders, or hazardous materials are used in the process. The core product, the plank, ensures efficient water transport without being impacted by silt, sand, or soil. Additionally, the planks are used for drainage, road bases, retaining walls, hydroponics, solar fields, and green roofs, enabling plant growth without soil.

Goodwill purchased a 90,000 square foot facility to house the joint operation in the City of Muskegon and will be hiring 5 people to run the recycling operation. The collaboration will significantly reduce plastic waste, generate revenue to support Goodwill's employment and training programs, and align with their shared mission of environmental preservation.

In addition to GIWM's HydroBlox joint venture, GIWM is working with other partners to recycle glass, wood, and textiles. By 2025 GIWM should be taking these waste products and turning them into new, valuable products locally in the City of Muskegon. By utilizing this innovative approach, GIWM seeks to maximize the value of donated materials and eliminate waste through recycling, positively impacting the environment and advancing their mission.

AMERICAN GLASS MOSAIC'S RECYCLED GLASS BUSINESS

Founded in 2013 and operational since 2014, American Glass Mosaics, located in Norton Shores, has been at the forefront of sustainable manufacturing practices, utilizing recycled glass from the automotive industry in West Michigan and employing skilled glass mosaic engineers from Italy.

As the sole major glass mosaic tile manufacturer in the United States to employ 100% recycled glass and maintain Italian craftsmanship, the company is committed to continue making its high quality, durable, high end mosaic tiles.

In conclusion, the success of two recycling-based businesses in Muskegon County serves as a powerful testament to the economic potential inherent in recycled materials. These examples illustrate the capacity to turn recycling into profitable ventures, contributing to a robust and flourishing regional economy.

ATTRACTING RECYCLED-MATERIAL UTILIZING COMPANIES TO MUSKEGON COUNTY

Encouraging more companies that utilize recycled materials to establish their businesses in the County requires a multifaceted approach, involving incentives, awareness campaigns, and the cultivation of a supportive environment for sustainable practices. Demonstrating the success stories of established companies like Goodwill Industries of West Michigan and American Glass Mosaics, which have already incorporated recycled materials into their operations, can serve as a compelling catalyst for inspiring similar initiatives.

In addition, there are a number of other steps the County could take to take advantage of the economic opportunities associated with recycling, including:

- Identifying industries with potential for using recycled materials;
- Developing financial incentives or tax breaks for companies using recycled materials;
- Promoting recycled material usage through policies and regulation;
- Ensuring a robust recycling infrastructure for steady supply of materials;
- Launching awareness campaigns to educate businesses about recycling benefits;
- Offering workshops, webinars, and resources for incorporating recycled materials, and;
- Providing technical assistance to overcome barriers.

In conclusion, fostering the growth of companies that embrace recycled materials within the County necessitates a comprehensive strategy that encompasses various aspects. By employing a combination of incentives, targeted awareness campaigns, and the creation of a conducive ecosystem for sustainable practices, the County can effectively stimulate the establishment of such businesses. Notably, the success stories of trailblazers like Goodwill Industries of West Michigan and American Glass Mosaics showcase the potential for inspiring others to follow suit.

Moreover, seizing the economic prospects linked to recycling demands a proactive stance. Identifying industries primed for recycled material integration, instituting financial incentives and tax advantages, and advocating for recycled material use through effective policies are key steps. The establishment of a robust recycling infrastructure stands as a vital underpinning for a consistent supply of materials. Concurrently, launching educational initiatives, including awareness campaigns, workshops, and online resources, will enable businesses to grasp the advantages of recycling.

Technical support in surmounting obstacles to adoption further solidifies the County's commitment to sustainable practices. By weaving these diverse measures into a cohesive strategy, the County can nurture a thriving landscape of companies that harness recycled materials, fostering both economic growth and environmental responsibility.

THE CURRENT STATE OF RECYCLING IN MUSKEGON COUNTY

Resource Recycling Services (RRS) took on the task assigned by West Michigan Environmental Action Council (WMEAC) to update information contained in a 2017 County study on enhancing recycling efforts in Muskegon County. This new information and analysis is a critical component of this feasibility study, aiming to evaluate the current state of recycling programs, services, and infrastructure, aligning with Michigan's revised solid waste law of March 2023, which introduces ambitious recycling targets and reporting requirements.

The update focused on changes to the original inventory of material facilities, their tonnage, and the coverage of recycling services. The data was collected between September 2022 and March 2023. Notably, the update revised four tables from the 2017 report, which included information on public and private sector solid waste facilities, as well as curbside recycling services in Muskegon County and the surrounding region.

The changes observed since the 2017 report were as follows:

1. Two additional landfills in Pierson and Belding started receiving waste from Muskegon County, based on state landfill reporting data from 2022.
2. Recycling facilities now accepting Muskegon County recyclables include the Kent County Recycling & Education Center in Grand Rapids and the Westshore Recycling Facility in Holland. In 2017, data on the amount of recyclable material delivered from Muskegon County was not available. However, changes to documentation at Kent County showed that 1,335.31 tons of single stream recycling were delivered to the Grand Rapids facility from Muskegon County by private haulers. Republic Services also closed its Community Recycling Center in Muskegon in February 2019, affecting local recycling drop-off services.
3. Some local waste haulers were affected by mergers and acquisitions and are no longer listed in the report. Conversely, a new waste service provider, American Classic, now serves northern Muskegon County and operates a new Materials Recovery Facility (MRF) in Newaygo County.
4. Kent County announced plans to reconstruct a transfer station for residents and waste haulers in the northern part of the county, which may integrate commercial recycling transfer services, potentially benefiting Muskegon County by providing more cost-effective transportation for recyclables needing processing.

The analysis conducted by RRS underscores the recent dynamic shifts in Muskegon County's recycling landscape, brought about by changes in waste management practices and facility operations. With insights into newly established waste facilities, altered recycling services, and upcoming infrastructure developments, this update equips stakeholders and local officials with essential data to drive informed decisions and promote effective recycling practices that align with Michigan's new materials management and recycling goals. The comprehensive analysis, available in the Appendix, serves as a valuable guide for shaping the county's recycling accessibility and engagement.

ASSESSING RECYCLING PROGRAM OPTIONS FOR MUSKEGON COUNTY

Following thorough discussions, we have unanimously concluded that enhancing recycling efforts in Muskegon County demands strong leadership and the establishment of collaborative partnerships to broaden its impact among a larger population. A key aspect of our proposed strategy involves creation of a comprehensive recycling infrastructure, including a central collection site and strategically placed drop-off sites, using the hub and spoke model. This setup will ensure that recycling services cover the entire county, making it convenient and accessible to all residents.

In addition to infrastructure development, we recognize the importance of data-driven decision-making. To this end, we intend to gather valuable data through hauler licensing, which will help us better understand recycling patterns and optimize collection routes. Moreover, securing sufficient funding is imperative to sustain and expand the recycling initiative effectively. We aim to explore various funding sources and grants to ensure the long-term success of the program. We believe the

development of public education campaigns are critical to increasing participation in local recycling efforts.

Lastly, we are committed to seizing economic opportunities that come hand in hand with increased recycling efforts. By promoting a circular economy and supporting local businesses that utilize recycled materials, we can create a positive economic impact in the community while simultaneously reducing waste and conserving resources. These essential components together form the backbone of our holistic strategy, designed to elevate recycling practices in Muskegon County to new heights.

RECOMMENDATIONS FOR ENHANCED RECYCLING IN MUSKEGON COUNTY

As our community strives to embrace sustainable practices and protect the environment, we recognize the importance of a comprehensive approach to recycling. This feasibility study firmly supports and plans to collaborate with Muskegon County government in meeting the requirements of Pt. 115.

To lead this transformative journey, we propose a set of recommendations that involve the joint efforts of local elected officials, community organizations, and strategic partnerships between municipalities.

1. At the core of our vision is the establishment of a Leadership Team consisting of dedicated individuals from government and the community. This dynamic team can guide and support initiatives to cultivate a recycling culture and reduce waste, positioning our community as a leader in sustainability.
2. Emphasizing the value of collaboration, we intend to foster strategic partnerships between municipalities. By promoting cooperation and knowledge-sharing, we aim to drive initiatives that address recycling challenges on a regional level, resulting in a broader impact.
3. We further suggest targeted public awareness campaigns to inspire widespread participation in recycling efforts. These campaigns will engage and educate community members about the significance of recycling and empower them to play an active role in preserving our environment.
4. To ensure a streamlined and efficient recycling process, we propose exploring a plan for countywide coverage, which includes a central collection facility and strategically placed drop-off centers. This "hub and spoke" model will optimize the collection and processing of recyclable materials, making recycling accessible and convenient for all residents.
5. Enhancing accountability and adherence to recycling standards is crucial, and we recommend the implementation of a licensing system for trash and recycling haulers. This framework will promote responsible waste management practices and ensure that all entities involved in the process meet the highest environmental standards, thus aiding the County in fulfilling the requirements of Pt. 115 through data collection.
6. While the initial setup costs for a recycling program are a consideration, we firmly believe that funding should not hinder our aspirations. Therefore, we propose exploring various funding opportunities, including grants and public-private partnerships, to support the program's

establishment and long-term sustainability. By leveraging these resources, we can confidently take steps towards a greener future for our community.

7. Furthermore, we recognize the economic opportunities that lie in promoting recycling and wholeheartedly support the development of markets and economic incentives for recyclable materials. By encouraging innovation in recycling and supporting businesses that utilize recycled materials, we can not only bolster our local economy but also promote sustainability.

In summary, our recommendations seek to establish a dynamic, inclusive, and sustainable recycling ecosystem that fosters cooperation, awareness, responsibility, and economic growth. Together, as a united community, we have the power to transform recycling in Muskegon into a cornerstone of our environmental stewardship, shaping a brighter future for generations to come.

DEVELOPING AN IMPLEMENTATION PLAN TO ADVANCE THE FEASIBILITY STUDY RECOMMENDATIONS

The Leadership Team, once established, will play a crucial role in this countywide recycling vision by developing an implementation plan to drive the feasibility study forward. This plan will act as a comprehensive guide, delineating the necessary actions, timelines, and responsibilities involved in achieving the recycling vision. The plan should establish specific milestones and key performance indicators to measure the progress of the recycling initiatives. Additionally, it should actively involve the community through public awareness campaigns and inclusive decision-making processes.

Ultimately, the success of turning the countywide recycling vision into a tangible and achievable reality lies in crafting a well-thought-out implementation plan, driven by the dedicated Leadership Team, and closely aligned with Muskegon County government's efforts to meet the requirements of Pt. 115.

PROPOSED IMPLEMENTATION PLAN

Year 1:

1. Establish Leadership Team: Form a Leadership Team comprising local elected officials and representatives from community organizations with expertise in environmental issues and waste management. The team will meet regularly to develop a clear vision and strategy for improved recycling in the region.
2. Foster Strategic Partnerships: Initiate discussions between municipalities to foster collaboration and establish strategic partnerships. These partnerships will enable the sharing of resources, knowledge, and best practices to enhance recycling efforts.
3. Public Awareness Campaigns: Launch targeted public awareness campaigns to educate residents about the benefits of recycling and the importance of proper waste segregation. Utilize various communication channels, such as social media, local events, and educational materials, to encourage recycling participation.

4. Hub and Spoke System: Further explore the implementation of a countywide coverage plan with a hub-and-spoke system. This system would involve a central collection facility and multiple drop-off centers strategically located throughout the region for convenient recycling access.
5. Licensing for Haulers: Introduce regulations to require trash and recycling hauler licensing to ensure proper waste management practices, collect data, improve recycling rates, and monitor the quality of services provided.
6. Funding Exploration: Research and identify potential funding opportunities through grants and public-private partnerships to support the initial setup costs of the improved recycling infrastructure. This will help secure the necessary financial resources for the successful implementation of the plan.

Year 2:

1. Leadership Team Oversight: The established Leadership Team will continue to monitor and assess progress towards recycling goals, adjust strategies as needed, and provide ongoing guidance and support.
2. Strengthened Partnerships: Build upon the established strategic partnerships with municipalities, fostering cooperation and joint initiatives to further enhance recycling efforts and improve waste management practices.
3. Sustained Public Awareness: Continue public awareness campaigns, adapting messages to address specific challenges and opportunities encountered during the first year. Focus on maintaining and increasing recycling participation rates.
4. Hub and Spoke Implementation: If the hub-and-spoke system is deemed feasible, begin the implementation process. Establish the central collection facility and strategically set up drop-off centers across the county to ensure widespread access to recycling facilities.
5. Hauler Compliance: Enforce hauler licensing regulations, conducting regular inspections and audits to ensure compliance and maintain high-quality waste collection and recycling services.
6. Diversified Funding Sources: Continue seeking funding opportunities through grants and public-private partnerships, with a focus on diversifying funding sources to ensure the long-term sustainability of the recycling program.
7. Economic Opportunities for Recyclables: Support the development of economic opportunities related to recyclable materials, such as facilitating the growth of local recycling businesses and industries that use recycled materials in their production processes.

By the end of the two-year implementation plan, Muskegon County should have the beginnings of a well-structured and coordinated recycling system, with increased recycling participation rates,

reduced waste sent to landfills, and the establishment of programs that promote environmental protection and economic growth.

CONCLUSIONS

Based on the findings of the feasibility study, our conclusion highlights the following key points:

Viability and Benefits: The study confirms that establishing a county-wide recycling program in Muskegon County is feasible and comes with numerous benefits. The active participation of various stakeholders, including local elected officials, community organizations, businesses, and educators, indicates a strong level of support for the initiative.

Political Willingness: There is a notable political willingness to not only expand existing recycling programs but also to introduce new services and facilities. This suggests a commitment from local leaders to improve recycling practices in the county.

Timeliness: The study emphasizes that the timing is opportune for implementing a comprehensive recycling program. There is widespread acknowledgment of the deficiencies in the current recycling system, creating a favorable environment for substantial improvements and collaborative efforts.

Collaborative Approach: The proposed recommendations, such as establishing a Leadership Team and fostering strategic partnerships between municipalities, reflect the importance of working collaboratively to achieve recycling goals efficiently and effectively.

Environmental Sustainability: By adopting the recommended strategies, Muskegon County can significantly enhance its environmental sustainability. Promoting recycling and resource conservation will contribute to reducing waste, conserving valuable resources, and mitigating environmental impacts.

Waste Management Leadership: Implementing the proposed recycling program will position Muskegon County as a leader in waste management. It will demonstrate a proactive and responsible approach to handling waste, setting an example for other regions.

Legal Compliance: The study notes that the proposed strategies align with the requirements of Pt. 115 and can serve as a solid foundation for fulfilling these requirements.

In conclusion, the feasibility study supports the implementation of a county-wide recycling program in Muskegon County, as a vision and foundation for Muskegon County government's plans to meet the new state Pt. 115 requirements. The collaboration among stakeholders, along with the strong political support and recognition of the urgency to improve recycling practices, reinforces the potential success of the initiative. By adopting the recommended strategies, Muskegon County can promote environmental sustainability, conserve resources, and establish itself as a frontrunner in recycling and waste management practices while adhering to its new legal obligations associated with Pt. 115. For more information, see wmeac.org and direct comments to tcabala@wmeac.org.

APPENDIX

MUSKEGON COUNTY EXISTING CONDITIONS UPDATE JUNE 28, 2023

PUBLIC FEEDBACK

August 22, 2023

Dear WMEAC and Members of the Muskegon County Recycling Network,

I am writing to provide my feedback on the Muskegon County Recycling Feasibility Study. The study raises important points and concerns about the implementation and sustainability of recycling initiatives within our community. I appreciate the effort undertaken to address these issues and propose potential solutions.

1. The True Cost of Recycling

While the desire for curbside recycling is widespread, a challenge lies in reconciling this demand with the true cost. It is crucial to emphasize to the public that recycling services incur comparable expenses to waste disposal, including trucking, personnel, insurance, fuel, and related operational costs. Aligning the charges for recycling services with their actual cost is necessary and educating on this reality should be a collective countywide effort.

2. Sustainability of Recycling Initiatives

The sustainability of private recycling programs hinges on the willingness of waste haulers to engage in the effort. Many have struggled recently to sustain residential recycling programs due to financial losses. The risks and costs associated with launching and maintaining recycling initiatives underscore the importance of a county framework that encourages both customers and haulers to participate.

3. Obtaining Data from Existing Programs

It is important to leverage existing data sources, such as the recycling numbers from the State of Michigan's bottle bill program and insights from knowledgeable experts, such as waste reduction numbers from scrap metal and other similar recycling efforts.

4. Central Facility vs. Volume-Driven Model

Regarding the potential establishment of a central recycling facility, it is prudent to acknowledge the recycling industry's reliance on volume. Given our region's current volume constraints, the study's recommendation to collaborate with nearby counties, such as Kent County, for recycling purposes seems to be a logical approach. Such partnerships can not only address volume requirements but also contribute to overall cost-effectiveness.

5. E-Waste Management and Household Hazardous Waste Programs

The Household Hazardous Waste program is identified as an avenue for handling e-waste. Use of existing programs such as this can help avoid the challenges associated with processing smaller quantities of e-waste.

6. Local Initiatives and Partnerships

Townships with drop-off sites such as Fruitland and Cedar Creek townships, and the White Lake Area Solid Waste Authority exemplify how local efforts can contribute to recycling success. Exploring partnerships among neighboring townships could potentially enhance participation and operational efficiency.

The report prompts us to consider the balance between cost, demand, community engagement, and sustainability when crafting recycling initiatives. I commend the study team for their insightful analysis and recommendations, which can guide our county towards more effective and feasible recycling practices. It is my hope that these comments contribute constructively to the ongoing dialogue surrounding recycling in our community. Thank you for your time and dedication to improving recycling practices in Muskegon County.

Sincerely,

Jack Iwema, Member of the Muskegon County Recycling Network

August 22, 2023

Subject: Endorsement of Sullivan Township Pilot Program as a Model for Muskegon County Recycling Initiative

I am writing to suggest consideration of our Sullivan Township recycling and trash pilot program as a model for Muskegon County. The Sullivan Township pilot program, currently in the "poll" stage, has elicited a positive and enthusiastic response from residents, underscoring our community's eagerness to engage in recycling and waste management discussions. The new program is modeled after the Village of Fruitport's, which has a single provider and an annual billing system. It will reduce truck traffic in our community, increase recycling access for our residents, and save on costs if approved at a fall 2023 election to officially start in 2024.

I recommend considering the Sullivan Township pilot program as a blueprint for a countywide recycling initiative. By embracing this program and extending its principles across Muskegon County, we have the opportunity to contribute to reduced environmental impact, enhanced waste management practices, and a more sustainable future for our community. We also support countywide educational programs to help residents understand the importance of recycling, and how to participate. Thank you for your continued dedication to advancing sustainable practices in Muskegon County.

Sincerely,

Tracey McGhan, Trustee
Sullivan Township