CITY OF
Lethbridge

# INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL IMPLEMENTATION STRATEGY

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# BACKGROUND

The City of Lethbridge plans to implement an Industrial, Commercial and Institutional (ICI) Waste Diversion Strategy in alignment with City Council's Strategic Plan. Of the six strategic priorities that were identified by City Council, Goal #5 takes into account the importance of protecting and preserving our natural environment in Lethbridge and aims to promote and provide opportunities for waste diversion. The implementation of the ICI Waste Diversion Strategy will help achieve this goal by providing opportunities to divert waste from the ICI sector.

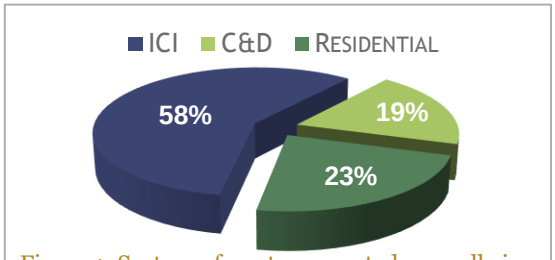

Figure 1: Sectors of waste generated annually in Lethbridge (Sonnevera 2008).

Of the 110,000 tonnes of municipal waste generated annually in Lethbridge, 23% of the waste is generated by residents, 19% by the Construction & Demolition(C&D) sector and 58% by the ICI sector (Figure 1). Waste collected from ICI facilities, such as schools, offices, hospitals, retail and restaurants is categorized separately from C&D waste, as C&D waste contains significantly different characteristics such as building materials. The high contribution of ICI waste in Lethbridge likely comes from the heavy concentration of large industrial operators, combined with Lethbridge as a regional hub that services a wide geographic area (*Sonnevera 2008)*. Based on its significant contribution to Lethbridge's waste stream, the ICI Waste Diversion Strategy, through program options, will promote and provide waste diversion opportunities for the 77% of generated ICI and C&D waste.

In 2008, a Comprehensive Waste Diversion/Waste Prevention Master Plan was completed by Sonnevera International Corp. to guide the future of waste diversion and to conserve landfill space within the City of Lethbridge. The plan included all sectors of waste generation, but it was recommended that the ICI sector be a priority target for waste reduction and diversion initiatives. A range of potential program options were presented, and included a suite of progressively aggressive options, with corresponding increasing regulatory and budgetary requirements. Waste reduction and diversion program options can therefore be developed as a staged approach when broken down into three categories; voluntary, economic and regulatory program options.

Voluntary programs primarily focus on the education and awareness of waste diversion, encouraging increased engagement and participation. Voluntary programs can reach 10%-30% diversion and are considered optional in that stakeholders involved decide whether or not to directly participate (Table 1). Economic programs are more aggressive than voluntary programs in that they provide financial incentive or disincentive for stakeholder participation. Economic programs generally incorporate infrastructure enhancements and are similar to voluntary programs in that they rely on social marketing for effective implementation reaching 20%-50% diversion. Lastly, regulatory programs incorporate strong incentives and would require significant behaviour change from participants. Regulatory programs, often in the form of landfill bans, require businesses and the surrounding community to participate in diversion programs and can result in 40%-75% diversion.

| | PROGRAM DETAILS | DIVERSION ESTIMATES |
|---|---|---|
| VOLUNTARY | Education, awareness, social marketing | 10%-30% |
| ECONOMIC | Infrastructure development, program enhancements, differential tipping rates | 20%-50% |
| REGULATORY | Landfill bans, mandatory recycling | 40%-75% |

Table 1: Voluntary, economic and regulatory program details with corresponding diversion estimates.

## Targets & Performance Monitoring

IN ORDER TO MONITOR THE IMPACTS OF A NEW PROGRAM AND TO CONSERVE LANDFILL SPACE, DIVERSION TARGETS CAN BE DEVELOPED TO HELP TRACK PERFORMANCE OVER A PERIOD OF TIME. Currently, the ICI and C&D sector generate 820 kg/capita of waste. The Alberta target for residential, ICI and C&D waste is 675 kg/capita/year for 2013. Diversion targets can be developed by establishing a baseline of waste generation in a given base year, where decrease in waste generation is measured as increased diversion.

$$\frac{\text{(Base Years kg/capita)} - \text{(Current year kg/capita)}}{\text{(Base year kg/capita)}} = \text{\% diverted}$$

Waste characterization becomes difficult to measure in the ICI sector due to the high variation of waste generated by a wide range of businesses. The approach taken above allows for fewer waste streams to be measured and provides comparable output numbers between baseline and current data. It is assumed that the implementation of diversion programs will change both the type and amount of waste being sent to the City's Landfill. Prolonging the life of the landfill will ensure future disposal capacity for the community and defers the investment required to site a new landfill. By 2030, diversion efforts could reach 45% compared to 2013 baseline levels (Figure 2). Given that 45% diversion can be reached by 2030, it is estimated that the life of the landfill could be extended 3 years and save approximately $4 million based on current costs to build landfill capacity at $9.25/t.

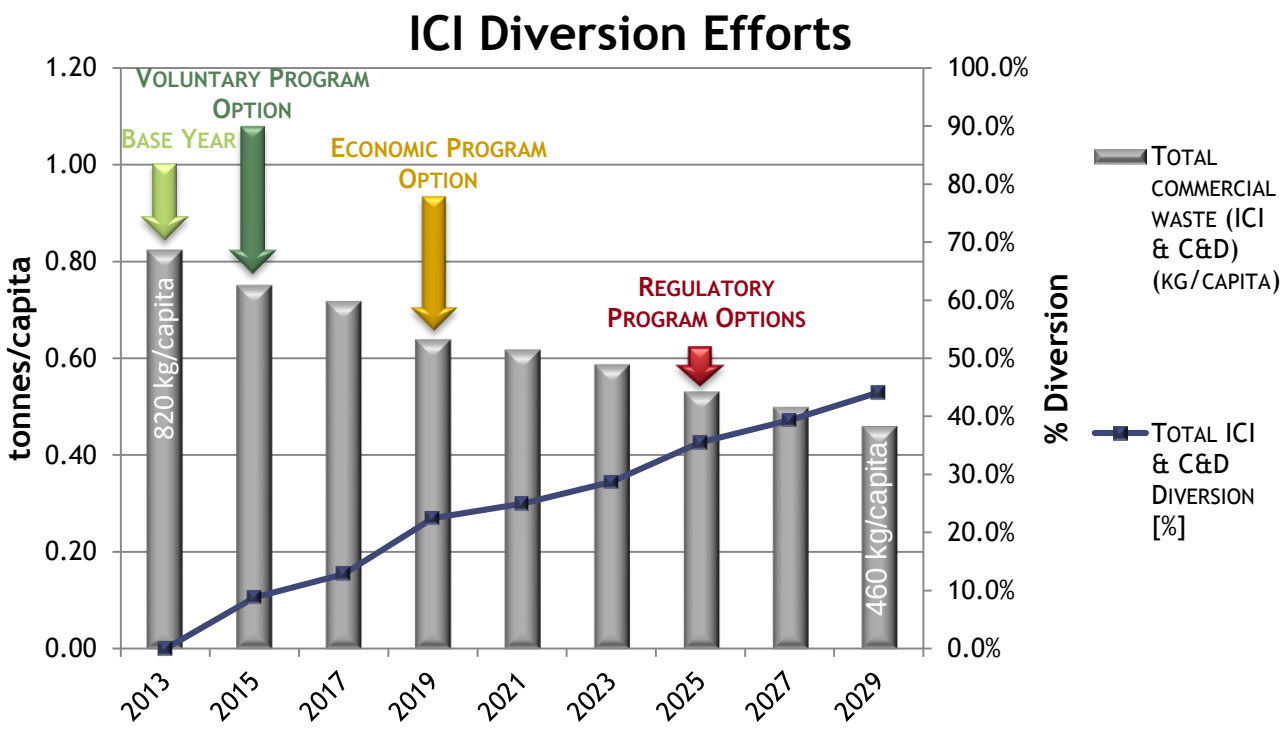


Figure 2: Projected Waste Diversion and per/capita generation for ICI and the C&D sector waste (See Appendix 3 – *Waste Diversion Target.)*

# UNDERSTANDING THE ICI AND C&D SECTOR

## ICI Waste Characterization

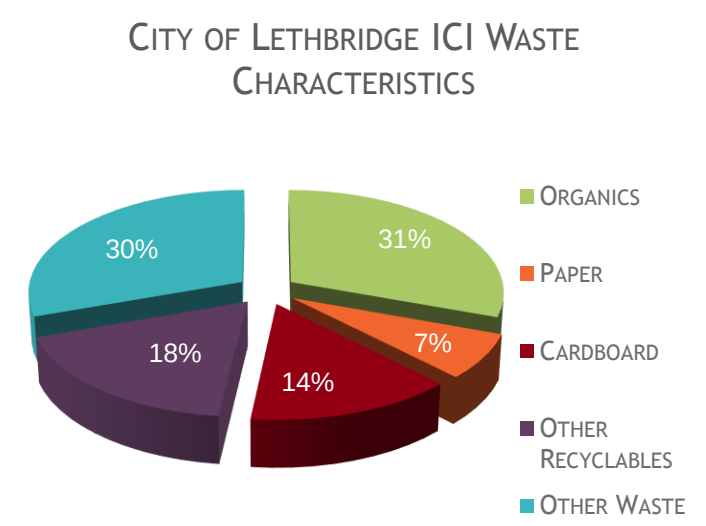


Figure 3: Lethbridge ICI waste characteristics, excl. Manufacturing, Agriculture and Mining (City of Lethbridge,

In order to successfully deliver a diversion program, it is important first to understand the type of waste that is generated. As shown in figure 3, organics constitute as the largest portion of ICI waste in Lethbridge with an estimated 31%. The next largest waste stream is 30% of other waste, with paper and cardboard following at 21%. Unlike residential and C&D, ICI waste varies depending on the type of business. Organics tend to be concentrated within restaurant and grocery sectors, whereas the majority of paper and cardboard is accumulated within an office or retail setting. Waste diversion programs will need to target specific materials depending on the relevant generator.

## C&D Waste Characterization

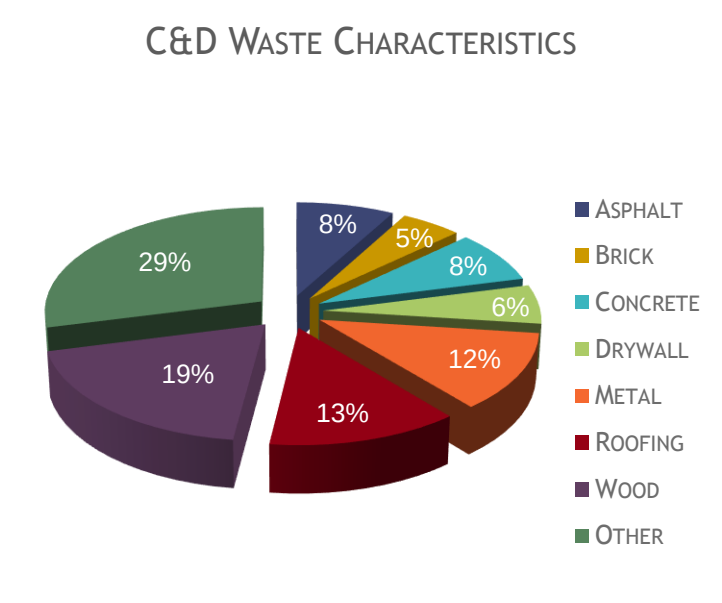


Figure 4: Average Alberta C&D Composition (Sonnevera, 2008).

The characterization of C&D waste is even more challenging because the waste will vary depending on the stage of construction and the type of project. Waste that is generated from a construction site will have different materials compared to a demolition or renovation site.

The breakdown of C&D waste shown in figure 4 represents the average Alberta municipality. Lethbridge C&D waste appears to fall within this average based on discussions with the construction industry, material weighed at the landfill and spot-check waste audits.

## Targeted Waste Streams & Market Development

BASED ON THE CHARACTERIZATION OF WASTE, MATERIALS WITH THE HIGHEST PROPORTION WILL BE TARGETED TO MAXIMIZE DIVERSION. Target materials require local markets to be in place and to have the capacity to receive them. It is also important to note that market prices will fluctuate and are dependent on the quality and volume of the material. Already today, there are developed markets for established recyclable material such as cardboard and paper. Materials that do not have existing markets will require further investigation. Currently, the City is looking at providing capacity to collect and process C&D material at the Waste and Recycling Centre and for opportunities to use the aggregate in local construction projects (Appendix 4 - *ICI Processor Analysis Report*). Wherever possible, markets for recyclables should be developed locally to establish the need for the material within the community.

Table 2: Target materials in the ICI and C&D sectors.

| SECTOR | MATERIALS TO TARGET |
|---|---|
| ICI | → Fibre (Cardboard & Paper)<br>→ Organics |
| C&D | → Building Materials (Wood, drywall, metal, asphalt shingles and aggregate) |

# STAKEHOLDER CONSULTATION

## Stakeholder Engagement Opportunities

SUCCESSFUL IMPLEMENTATION OF THE ICI STRATEGY RELIES ON A NUMBER OF STAKEHOLDERS EACH WITH THEIR OWN ROLE TO PLAY. A series of stakeholder engagement workshops were held in 2013 inviting representatives from the C&D and ICI sector, as well as the haulers and processors servicing the community. The objective of the engagement workshops was to gain feedback from stakeholders regarding diversion programs and to understand the challenges and opportunities of waste diversion at a business level. The first stakeholder engagement session was held on June 26, 2013 where a number of diversion program options were presented for discussion and explained in detail to the stakeholders (See Appendix 2 – *Stakeholder Engagement Report*). A second stakeholder engagement session was held on September 12, where information gained from the first session was used to further discuss program feasibility. During this session, stakeholders were asked to describe in detail their feedback on the City's role and key stakeholders' roles for a successful diversion program.

## City's Role

In the second workshop session all stakeholders agreed it was the City's responsibility to provide waste diversion education and communicate program details. Stakeholders felt it is the City's role to set the direction and bring credibility to waste diversion initiatives. It was also discussed that the City structure programs in a way that it is economically viable for industry to participate and allocate resources. Based on the views collected from the stakeholders, the city's role is:

- → Create waste diversion strategy
  - Promote and facilitate
- → Establish targets and diversion goals
- → Develop a comprehensive waste measuring and reporting system & establish a solid baseline
- → Communicate and keep industry engaged on decisions and program option updates
- → Promote stakeholder success stories and recognize environmental leaders
- → Provide a full suite of collection services for our customer base
- → Continue to provide diversion and processing options at the Waste and Recycling Centre
- → Facilitate appropriate levels of infrastructure investment to meet the needs of the community

## Hauler's Role

At the time of the first stakeholder engagement workshop, 23 different hauling companies were invited to participate and provide their feedback on the future of waste diversion from a hauler's perspective. 14 different hauling stakeholders attended the workshop. This included a number of front load and roll off haulers, as well as residential and commercial recycling collection providers. Again, participants were asked their view of the different roles stakeholders would play regarding waste diversion programs. Below summarizes how stakeholders' view the role of haulers:

- → Provide education and promotion of waste diversion options offered through their service to their customers
  - Ensure their programs are used correctly to decrease the chance of contamination
- → Provide tracking and performance monitoring information to the City in regards to baseline data collection
  - Ensure the right information is provided
  - Report any issues

In working with the City, haulers will need to report any issues with tracking or performance monitoring in regards to baseline data collection. The City should have clear objectives and work with haulers on multiple levels to ensure the right information is being collected. Haulers will also be the source of education for their clientele by informing them of waste diversion options and initiatives offered through their service. It will be the role of the hauler to ensure that their customers and employees are using the collection system correctly. Contamination creates challenges for the processor and affects the quality of the recycled commodity.

## Processor's Role

Local processors play an important role in preparing the material for market. In both stakeholder engagement sessions, 12 local processors were invited to participate and provide their outlook on the various roles that should be established for successful diversion. 10 different processors attended the engagement sessions. This included a number of organics, metal and wood processors, as well as representatives from the fibre and plastics field. Below provides a summary of how stakeholders' view the role of processors:

- → Accept recyclable material for processing and locate available markets
  - Ensure programs are used correctly to decrease the chance of contamination
- → Educate employees and clientele of program details and waste diversion options
- → Stay informed on new technologies and opportunities; work with the City at creating new waste diversion options for the community

It will be the responsibility of industry to be aware of future changes and actions proposed by the City. Processors will need to be informed of any policy changes related to waste disposal and diversion. This provides processors the opportunity to prepare their business for waste diversion programs. Similar to haulers, processors will play an important role in educating both their own employees and the community.

## Generator's Role

ICI generators encompass a number of different organizations and businesses providing a wide range of services. Over one hundred ICI generators were contacted during the stakeholder engagement period, as well as the major associations of the Downtown Lethbridge Business Revitalization Zone (BRZ), Industrial Association of Southern Alberta (IASA), and the Lethbridge Chamber of Commerce. A cross section of businesses were selected from different sector categories: retail, grocery stores, restaurants, hotels, healthcare providers, office buildings, property managers, professional firms, recreational facilities, education, transportation and warehousing service providers. 23 different ICI generators attended the sessions representing the following:

Table 3: Sector specific ICI categories in Lethbridge.

| Institution Sector | Commercial Sector | Industrial Sector |
|---|---|---|
| University of Lethbridge | Restaurants | Manufacturing |
| Lethbridge Community College | Grocery Stores | Agriculture Processing |
| School Districts | Accommodation | Food Processing |
| Health Region | Small, Mid & Large Retail | Distributing |

Similarly to ICI generators, a number of C&D stakeholders were contacted through various associations within Lethbridge and included the Canadian Homebuilders' Association, Lethbridge Construction Association, and the Lethbridge Chapter of the Urban Development Institute. Over 35 C&D generators were invited to participate and included roofers, drywallers, home builders, facility owners, developers, demolition services and renovators. 14 different C&D stakeholders attended the engagement workshops.

Below summarizes the stakeholders' view of the role of ICI and C&D generators:

- → Stakeholders share the responsibility of providing accurate data to the City in terms of tracking and performance monitoring
  - Ensure the right information is provided
  - Report any issues
- → Ensure internal staff are aware of any program changes and waste diversion options
- → Provide communication and education to customers
- → In some situations stakeholders may be required to sort/separate materials on site
  - Ensure employees are informed of program specifics to mitigate contamination

## City Leadership

WITHIN THIS STRATEGY, IT IS IMPORTANT FOR THE CITY OF LETHBRIDGE, AS AN ORGANIZATION, TO LEAD BY EXAMPLE. This aligns with the City of Lethbridge's Corporate Environmental Policy which helps to establish corporate ownership and creates common values within the business community. City Leadership will create a culture of environmental sustainability. This will be achieved through the continuous improvement, implementation of best practices, and the integration of green considerations into daily business operations.

## Stakeholder Working Groups

A KEY COMPONENT OF SUCCESSFUL DIVERSION NOT ONLY LIES IN THE ROLES OF INDIVIDUAL STAKEHOLDERS, BUT ALSO HOW THOSE STAKEHOLDERS AND THE CITY WILL WORK TOGETHER TO ACHIEVE SPECIFIED TARGETS AND GOALS. This can be met through the establishment of working groups which provide a positive component to waste diversion and encourages the distribution of success stories. Stakeholder working groups require participation from a variety of stakeholders and City of Lethbridge Waste and Recycling administration staff. This not only allows stakeholders to have a say in the over-all decision making process, but also highlights their ability to provide their industry knowledge and intuition to develop and create ownership within the diversion programs under review. Within each working group a champion will be identified to assist in leadership and help model behaviour within sector specific areas.

Table 4: Sector specific stakeholder working groups.

| PROCESSORS | HAULERS | WASTE GENERATORS | |
|---|---|---|---|
| | | C&D | ICI |
| **STAKEHOLDER ROLES & PARTICIPATION** | | | |
| → Assist in the development of a market strategy<br>→ Create education package for customers<br>→ Stay informed on new technologies and market opportunities<br>→ Educate employees on waste diversion programs | → Assist in development of market strategy<br>→ Create education package for customers<br>→ Conduct regular meetings on:<br>▪ Issues of tracking<br>▪ Performance monitoring<br>▪ Feedback mechanisms | → Involve associations' executive directors in implementation<br>→ Identify champions within the group<br>→ Incorporate multiple stakeholder views to provide a diverse outlook<br>→ Review and validate implementation plan<br>→ Include trade professionals from framing, drywalling and roofing companies<br>→ Provide education to staff and customers | → Involve associations' executive directors in implementation<br>→ Identify champions within the group<br>→ Incorporate multiple stakeholder views to provide a diverse outlook<br>→ Review and validate implementation plan<br>→ Includes multiple sector specific working groups<br>→ Provide education to staff and customers |
| | | **ASSOCIATIONS INVOLVED** | |
| | | → Lethbridge Homebuilders Association<br>→ Lethbridge Construction Association<br>→ Urban Development Institute | → Lethbridge Chamber of Commerce<br>→ Industrial Association of Southern Alberta<br>→ Downtown Lethbridge Business Revitalization Zone |

# WASTE DIVERSION PROGRAM OPTIONS

## Identify Barriers and Motivators

IT IS RECOGNIZED THAT THERE ARE BARRIERS AND MOTIVATORS TO EACH PROGRAM OPTION. In order to capture multiple views, stakeholders were asked in the first workshop session to describe in the detail the current issues and challenges for diversion programs. Below outlines the barriers and motivators for C&D, ICI, haulers and processors:

Table 5: Barriers and motivators of stakeholders.

| Stakeholders | | Barriers | Motivators |
|---|---|---|---|
| Generators | ICI | → Cost<br>→ Convenience<br>→ Lack of knowledge & awareness<br>→ Service providers | → Corporate mandate |
| | C&D | | |
| | Haulers | → No processing capacity<br>→ Increases cost to customer | → Fee for service<br>→ Financial incentive<br>→ Service differentiation<br>→ Market share |
| | Processors | → No markets for processed product<br>→ Market for services | → Increase commodity volumes |

While the majority of the barriers focused on program cost, there were also a number of business-specific issues, such as space restriction, or locations that prevented participation in waste diversion programs. Going forward, it will be important to identify these barriers and motivators when constructing and implementing new waste diversion programs.

## Tiered Approach

Based on the views of stakeholders, voluntary programs options were well supported along with economic options. In both C&D and ICI consultation sessions, voluntary programs were the highly favoured options. Voluntary and economic programs provide stakeholders the opportunity to reduce barriers by providing education, awareness, and assistance for participating stakeholders. Economic program options provide an incentive to reduce waste as compared to the cost of disposal.

Regulatory options, on the other hand were not as favoured, but were considered important and most effective at meeting waste diversion targets. Although voluntary options are more widely accepted, they are not as effective at reducing waste as regulatory and economic options. Voluntary programs can lead to the development of economic or regulatory programs if the program itself is ineffective or when targets are not achieved. Educating stakeholders early on during the voluntary phase about the importance of the program will encourage the success of the program and help mitigate the need for economic and regulatory action.

The pyramid below outlines the tiered approach towards waste diversion program options:

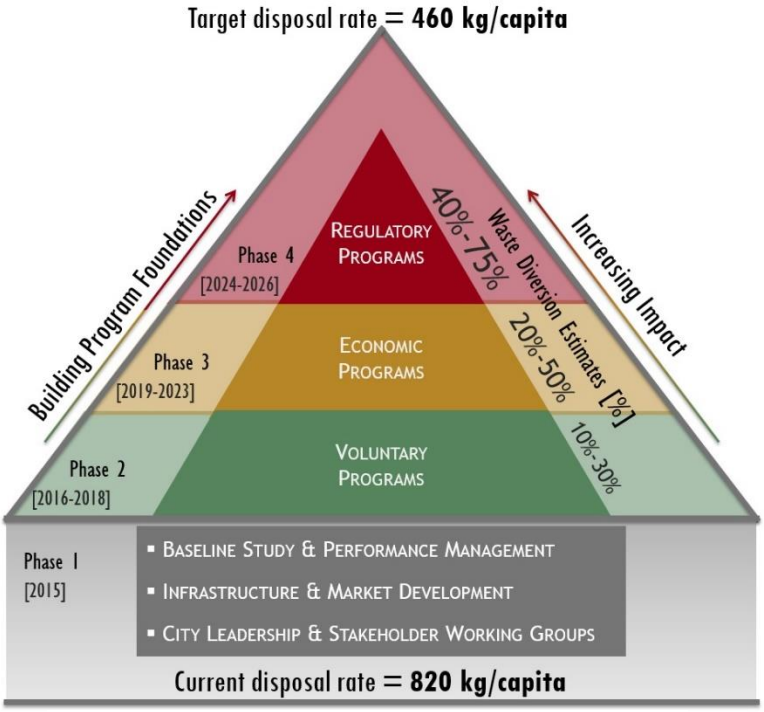


Table 6: Tiered approach of waste diversion program options.

## PERFORMANCE MANAGEMENT:

BASELINE STUDY: ***data collection that will be used to track and compare waste diversion into the future. The baseline study requires a monitoring and reporting system that gathers waste data from key stakeholders.*** The baseline study would be the initial step of implementation and ties into the formation of the stakeholder working groups. Data collection will focus on material tonnages and will require stakeholders to provide accurate data. The City will identify clear objectives for data collection while ensuring the privacy of the stakeholders involved.

PERFORMANCE MONITORING: ***ongoing data collection that follows the establishment of a baseline study. Performance monitoring allows for the continuous management and collection of data used for comparing future to baseline data and provides a tracking method for targets and goals.*** Another aspect of performance monitoring is the ability to identify areas where diversion may not be as successful and if there is a need for further action through the form of economic or regulatory programs.

## INFRASTRUCTURE DEVELOPMENT & MARKETING:

INFRASTRUCTURE DEVELOPMENT: ***identify areas that need development and ensure recycling options for designated materials prior to the implementation of regulatory programs.*** This needs to be addressed early on to ensure processing and market capacity for designated or target materials. Processing facilities and markets should be developed locally for the collection and processing to reduce the distance the material will travel.

## VOLUNTARY PROGRAMS:

EDUCATION AND AWARENESS PROGRAM: ***accomplished through communication tools, stakeholder working group meetings and other interactive tools to promote waste diversion in the C&D sector.*** Education and awareness would be conducted throughout to ensure the success of program effectiveness and to encourage stakeholder participation. The program is the key element to supporting voluntary participation in C&D diversion programs and would include announcements of upcoming economic and regulatory initiatives.

WASTE DIVERSION ASSISTANCE: ***provides technical assistance and information to businesses interested in waste reduction programs.*** The program would begin once working groups are established to provide background information and to support current and future waste diversion options in the ICI sector.

WASTE DIVERSION PROMOTION: ***promotes specific waste reduction activities in the business community through public acknowledgement of accomplishments and reinforcement of positive behaviours aimed at waste diversion.*** Ties into Waste Diversion Assistance program and would be carried out as a resource for educating, communicating and marketing waste diversion programs.

## ECONOMIC PROGRAMS:

DIFFERENTIAL TIPPING FEES & DESIGNATED MATERIALS: ***following the initial voluntary education period, differential tipping fees encourage diversion by creating a financial incentive to separate designated materials from the waste load.*** Differential tipping fees introduce the economic tools to influence behaviour by increasing the cost of disposal for loads containing designated materials. Program implementation would occur if voluntary programs are unsuccessful in reaching diversion targets and goals.

SURCHARGES: ***introduce a financial disincentive for waste loads containing designated materials.*** Surcharges place a levy on all waste that contains designated materials, while ensuring economic viability for materials with diversion options.

## REGULATORY PROGRAMS:

MANDATORY RECYCLING/SOURCE SEPARATION: ***regulation that requires generators to separate/divert designated materials from the waste stream through recycling alternatives.*** Mandatory recycling/source separation occurs after differential tipping fees are unsuccessful in reaching diversion targets and goals.

DISPOSAL BANS: ***regulation that influences behaviour by prohibiting disposal of target materials.*** In order to be successful, recycling infrastructure needs to be in place to process banned material. Disposal bans occur after differential tipping fees and surcharges do not result in waste diversion initiatives reaching disposal targets and goals.

**More information provided in Appendix 1 – *ICI Waste Diversion Program Options: Keys to Successful Implementation.*

# CONCLUSION

THERE ARE A NUMBER OF KEY ELEMENTS THAT ARE REQUIRED TO HAVE A SUCCESSFUL WASTE DIVERSION PROGRAM.

**KEYS TO SUCCESS:**

- Focus on target material:
  - Fibre & organics in the ICI sector
  - Wood, drywall, metal, asphalt shingles and aggregate in the C&D sector
- Build a performance management system consisting of:
  - A baseline
  - Performance targets
- Develop a series of stakeholder working groups that fully engage generators, haulers and processors
  - Promote success stories
  - Communicate and keep industry engaged on program details
- Create an understanding of the motivators and barriers
- Facilitate infrastructure investment to meet the needs of the community

THE IMPLEMENTATION OF THE ICI STRATEGY WILL CONSIST OF A NUMBER OF PHASES. THROUGH THE IMPLEMENTATION THERE WILL BE A PROGRESSION BEGINNING WITH VOLUNTARY PROGRAMS, FOLLOWED BY ECONOMIC, WITH REGULATORY OPTIONS IN RESERVE IF THESE SOFTER APPROACHES ARE NOT SUCCESSFUL IN MEETING DIVERSION GOALS. AS PART OF THIS STRATEGY THE CITY IN COOPERATION WITH STAKEHOLDERS WOULD COMPLETE THE FOLLOWING TASKS:

- PHASE 1 [2015]:
  - City Leadership
  - Establish stakeholder working groups: generators, haulers & processors
  - Develop baseline and performance management system
  - City's role – educate, service provider (provide full suite of service), lead by example
- PHASE 2 [2016-2018]:
  - Voluntary options
    - Education and awareness
    - Provide waste diversion assistance & promotion
  - Infrastructure and market development
- PHASE 3 [2019-2023]:
  - Economic options
    - Update and expand differential tipping fees
    - Create designated material list
    - Implement surcharges for mixed loads containing designated material
- PHASE 4 [2024-2026]:
  - Regulatory Options
    - Mandatory recycling (ICI)
    - Disposal bans for designated materials

A more detailed schedule is provided below.

# C&D SCHEDULE:

2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026

## PERFORMANCE MANAGEMENT

**[1 YEAR] PRELIMINARY TASKS:**
- ICI Strategy completed
- City Leadership
- Presentation to Environment Committee
- Identify SH working groups
- Finalize the role of the City
- Endorsement of targets
- Presentation to Council

**[1 YEAR] BASELINE STUDY:**
- Create SH working groups
- Identify target C&D material
- Create reporting and monitoring system for C&D waste & recycling streams
- Collect baseline data
- Review diversion targets and engage SHs
- Provide incentives to participate

**[2 YEARS] PERFORMANCE MONITORING:**
- Review and evaluate data
- Identify successes and improvements
- Recognize differential tipping fees feasibility
- Refine targets & communicate to SH

**[8 YEARS & ONGOING] PERFORMANCE MONITORING:**
- Review and evaluate data
- Identify successes and improvements

★ Assess the need for differential tipping fees

★ Assess the need for disposal bans

## PROGRAM OPTIONS

VOLUNTARY → ECONOMIC → REGULATORY

**[3 YEARS] EDUCATION AND AWARENESS PROGRAM:**
- Partnership with C&D SH
- Develop master list of processing options & share success stories
- Communicate diversion targets and goals
- Build, engage and promote education and awareness package
- Engage haulers Share best practices & success stories;
- Update social marketing practices
- Education and promotion of future differential tipping fees

**[3 YEARS] *DIFFERENTIAL TIPPING FEES & DESIGNATED MATERIALS:**
- Implement differential tipping fees
- Identify and designate materials for diversion
- Ensure alternative diversion options for designated materials
- Communicate, educate and promote to all SH
- Update bylaw & develop enforcement program
- Ensure promotion and adequate adoption time for all SH's involved

**[2 YEARS] *SURCHARGES:**
- Implement surcharges for designated materials
- Identify enforcement issues

**[3 YEARS] *DISPOSAL BANS:**
- Used when tipping fees don't achieve diversion target
- Publicize early on to give lead time
- Enforcement at the scale

***As required**

## DEVELOPMENT & MARKETING

**[3 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Create full inventory of existing processing capacity
- Facilitate market development
- Facilitate development of infrastructure

**[3 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Infrastructure and processing capacity are in place for diversion and designated materials

**[2 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Ensure local processing & markets for proposed banned materials in 2024

☆ MILESTONE

*AS PART OF THIS STRATEGY THE CITY IN COOPERATION WITH STAKEHOLDERS WOULD COMPLETE THE ABOVE TASKS*

# ICI SCHEDULE:

2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026

## PERFORMANCE MANAGEMENT

**[1 YEAR] PRELIMINARY TASKS:**
- ICI Strategy completed
- City Leadership
- Presentation to Environment Committee
- Identify SH working groups
- Finalize the role of the City
- Endorsement of targets
- Presentation to Council

**[1 YEAR] BASELINE STUDY:**
- Create SH working groups
- Identify target ICI material
- Create reporting and monitoring system for ICI waste & recycling streams
- Collect baseline data
- Review diversion targets and engage SHs
- Provide incentives to participate

**[2 YEARS] PERFORMANCE MONITORING:**
- Review and evaluate data
- Identify successes and improvements
- Recognize differential tipping fees feasibility
- Refine targets & communicate to SH

**[8 YEARS & ONGOING] PERFORMANCE MONITORING:**
- Review and evaluate data
- Identify successes and improvements

★ Assess the need for differential tipping fees

★ Assess the need for disposal bans

## PROGRAM OPTIONS

VOLUNTARY → ECONOMIC → REGULATORY

**[3 YEARS] WASTE DIVERSION ASSISTANCE:**
- Provide technical and information assistance to SH
- Understand company's background and research corporate mandate regarding diversion
- Develop master list of diversion options & share success stories
- Partnership with major ICI associations (see Table 4)

**WASTE DIVERSION PROMOTION:**
- Research best practices from other communities
- Develop recognition programs
- Apply social marketing tools & techniques
- Develop education, communication and marketing package
- Identify champion stakeholders

**[3 YEARS] *DIFFERENTIAL TIPPING FEES & DESIGNATED MATERIALS:**
- Implement differential tipping fees
- Identify and designate materials for diversion
- Ensure alternative diversion options for designated materials
- Communicate, educate and promote to all SH
- Update bylaw & develop enforcement program
- Ensure promotion and adequate adoption time for all SH's involved

**[2 YEARS] *SURCHARGES:**
- Implement surcharges for designated materials
- Identify enforcement issues

**[1-2 YEARS] *MANDATORY RECYCLING:**
- Used when differential tipping fees & surcharges don't achieve diversion targets
- Review permit requirements for recycling capacity
- Develop enforcement program
- Promote program and publicize early on to give lead time

**[1-2 YEARS] *DISPOSAL BANS:**
- Publicize early on to give lead time
- Enforcement at the scale

***As required**

## DEVELOPMENT & MARKETING

**[3 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Create full inventory of existing processing capacity
- Facilitate market development
- Facilitate development of infrastructure

**[3 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Infrastructure and processing capacity are in place for diversion and designated materials

**[2 YEARS] INFRASTRUCTURE & MARKET DEVELOPMENT:**
- Ensure local processing & markets for proposed banned materials in 2024

☆ MILESTONE

*AS PART OF THIS STRATEGY THE CITY IN COOPERATION WITH STAKEHOLDERS WOULD COMPLETE THE ABOVE TASKS*