

Solid Waste Management Services

Long Term Waste Management Strategy

March 19th, 2013 PWIC

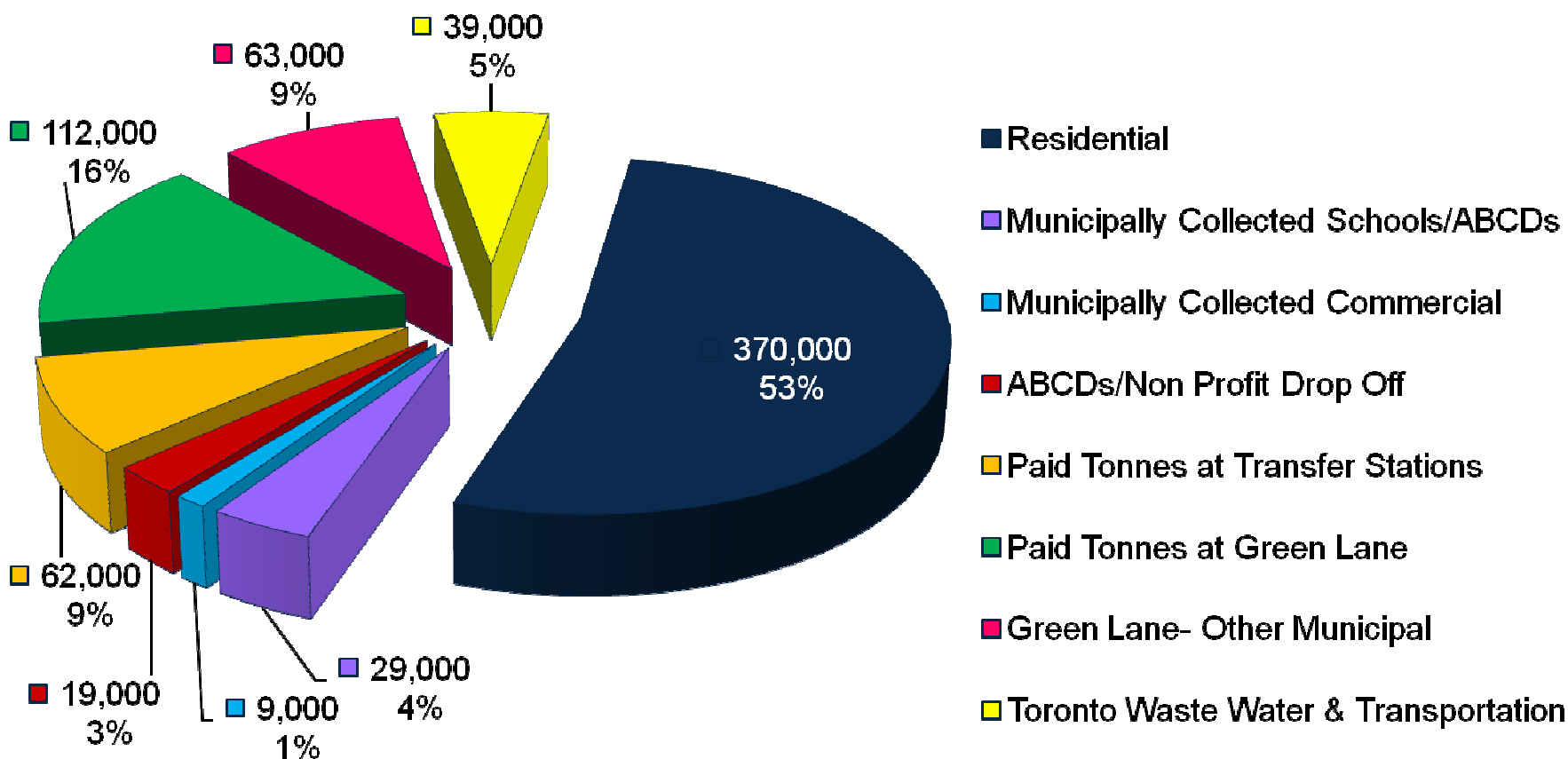


Background Information

- The “Target 70” initiative and the 2007 Council Report only focused on the residential waste and diversion
 - This only accounts for 53% of the waste that goes into the Green Lane Landfill (GLL)
 - The other 47% comes from ABCD, Schools, Commercial, Paid Tonnes at Transfer Stations, Paid Private Waste at GLL
- Target 70 also only measured one of the “R”s, Recycling
 - Need to look at the impact of Reduction, Reuse and other Recycling not captured in the Target 70 calculation
- Any Long-Term Plan needs to look at the entire issue
 - The environmental aspects of waste diversion
 - The cost effectiveness and value of various solutions
 - The positive impacts of **Reduction** and **Reuse**
 - The long term overall life cycle of Green Lane Landfill

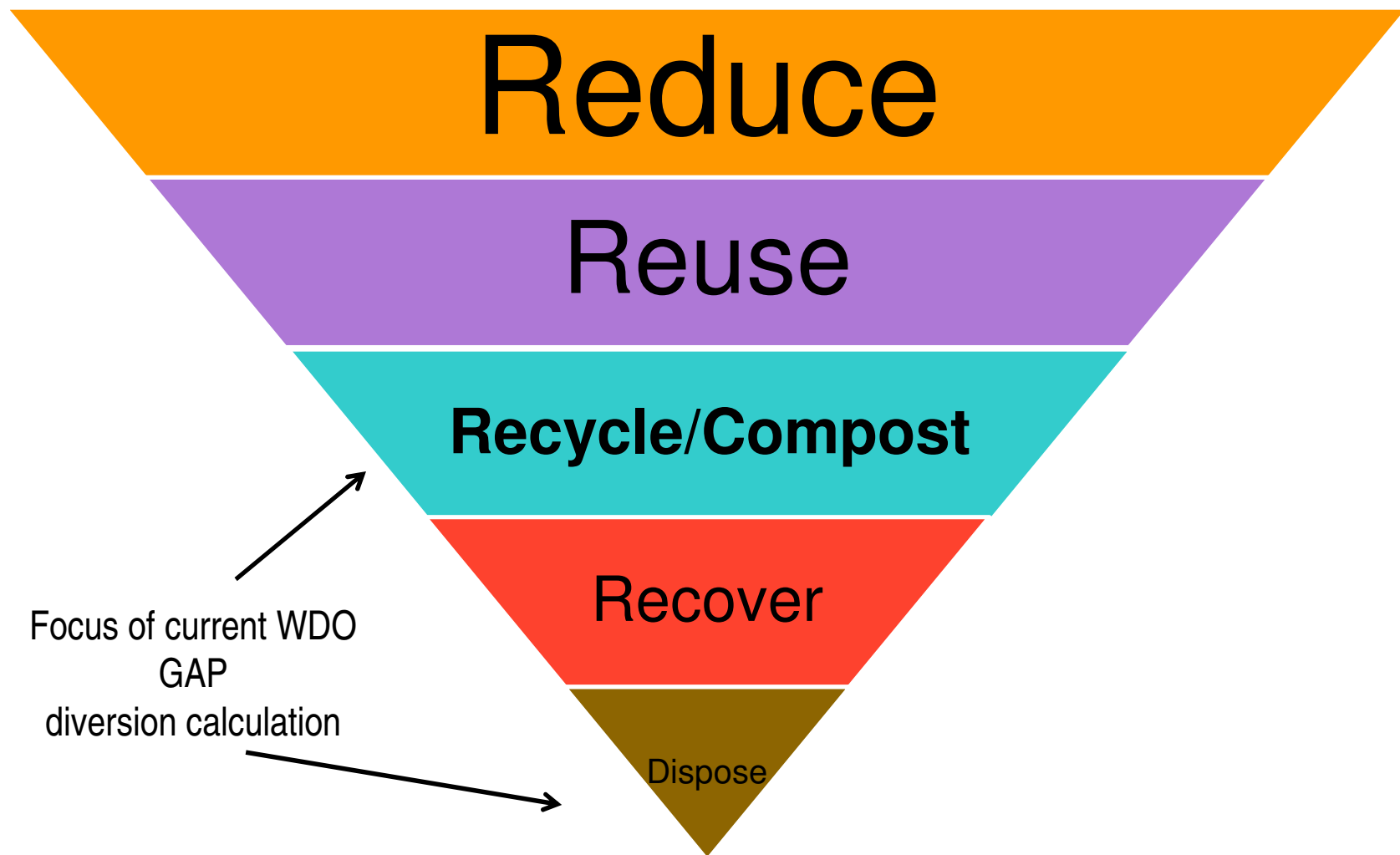
Waste to Green Lane Landfill by Generation

Waste by Generation (Tonnes, %)



Figures based on 2013 budget estimate

Solid Waste Management Hierarchy



Status of 70% Plan Initiatives



Part 1: Original 70% Plan Initiatives (2007)

1. Source Reduction Initiatives
2. Green Bin Organics in Apartments/Condos
3. Behavioural Change through Financial Incentives
4. Enforcement of Mandatory Diversion By-Law
5. New Materials for Recycling
6. Improved Recycling Capacity
7. Reuse/Disassembly of Durable Goods for Recycling
8. Townhouse Collection
9. Biological/Physical Processing of Mixed Waste



Part 1: Why 70% Diversion was Not Achieved

Issues with Program Implementation:

- Multi-Residential Green Bin not fully rolled out due to lack of processing capacity (public and private)
- Durable goods
 - Not in good enough condition for reuse by charities
 - Disassembly of padded furniture for recycling cost prohibitive
 - Difficulties in securing markets for materials such as wood
- Stable markets for some plastics (milk pouches, bread bags, etc.) did not materialize
- Mechanical/Biological Treatment (MBT) not pursued
 - Many risks with the project identified
 - No real markets for Class B compost established

Part 1: Why 70% Diversion was Not Achieved

Actual outcomes fell short of optimistic targets

- Successful implementation of programs such as Recycling Carts, volume-based rate structure and curb-side townhouse collection did not achieve anticipated diversion results

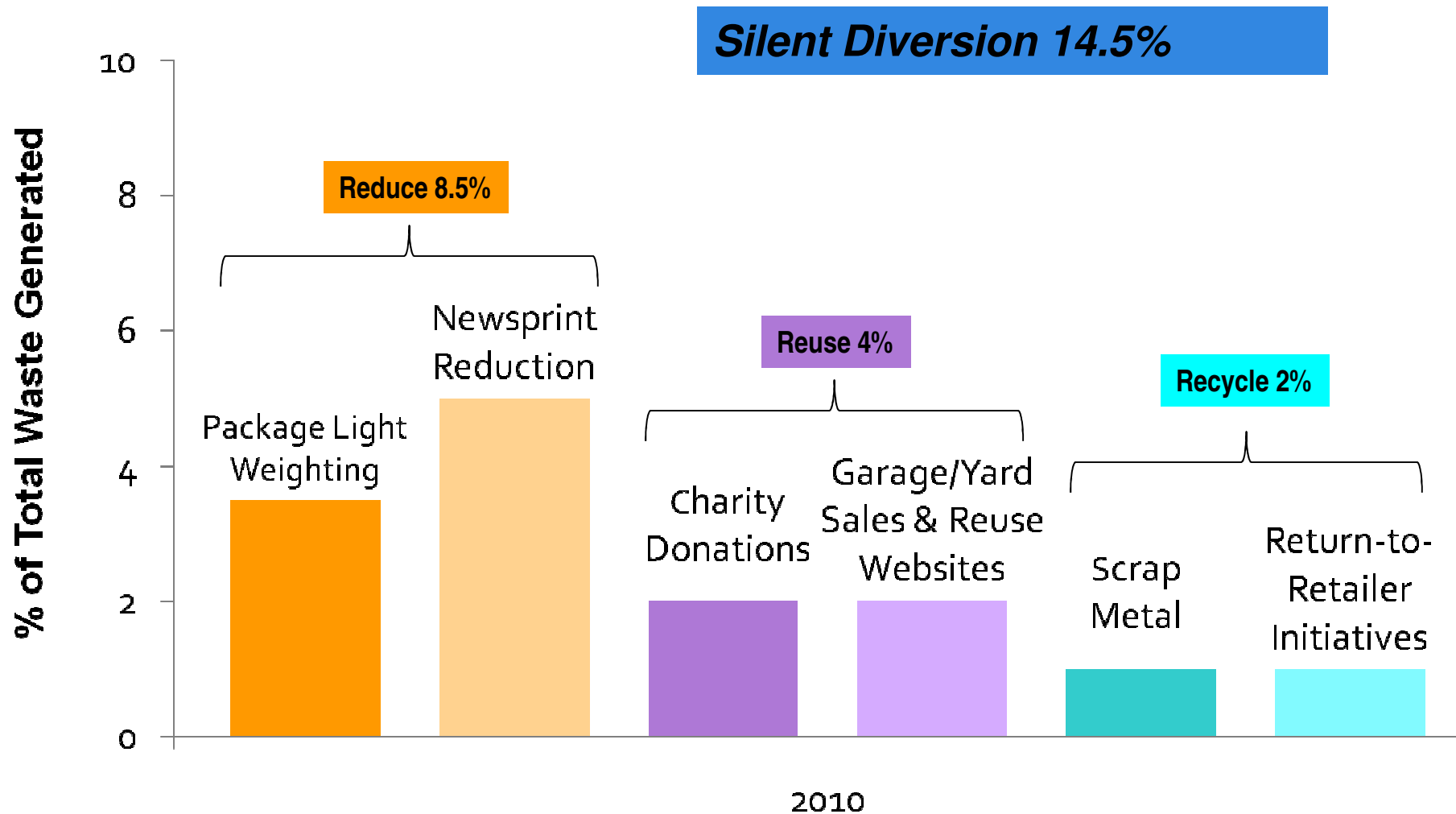
Changes in packaging

- Light-weighting of packaging- plastics replacing glass
- Decline in newspaper due to paperless trend- internet
- More units of packaging to divert a tonne of recyclables
- If packaging weights and volume of paper stayed the same diversion ratio would be higher

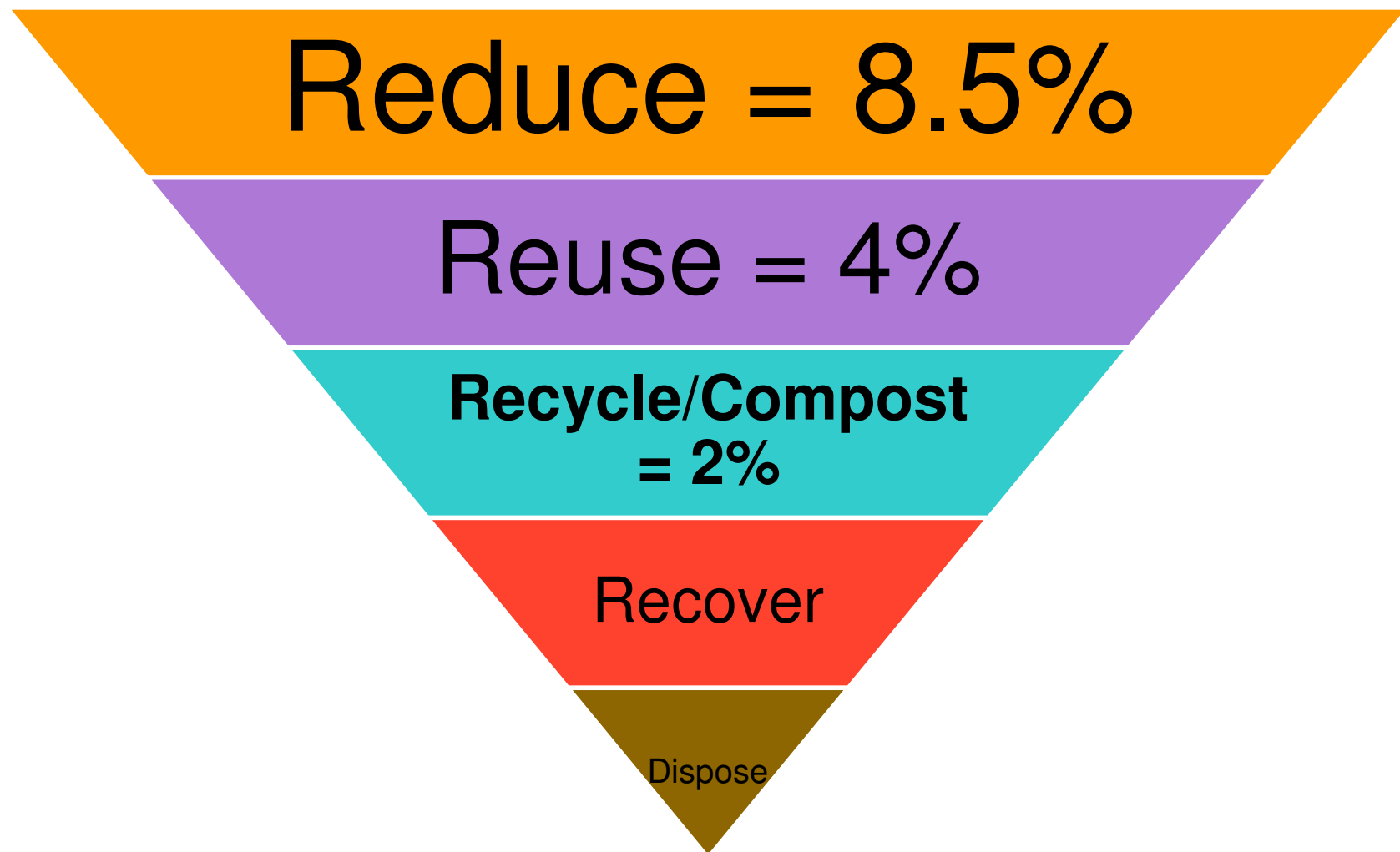
Lightweighting of Packages



Silent Waste Diversion



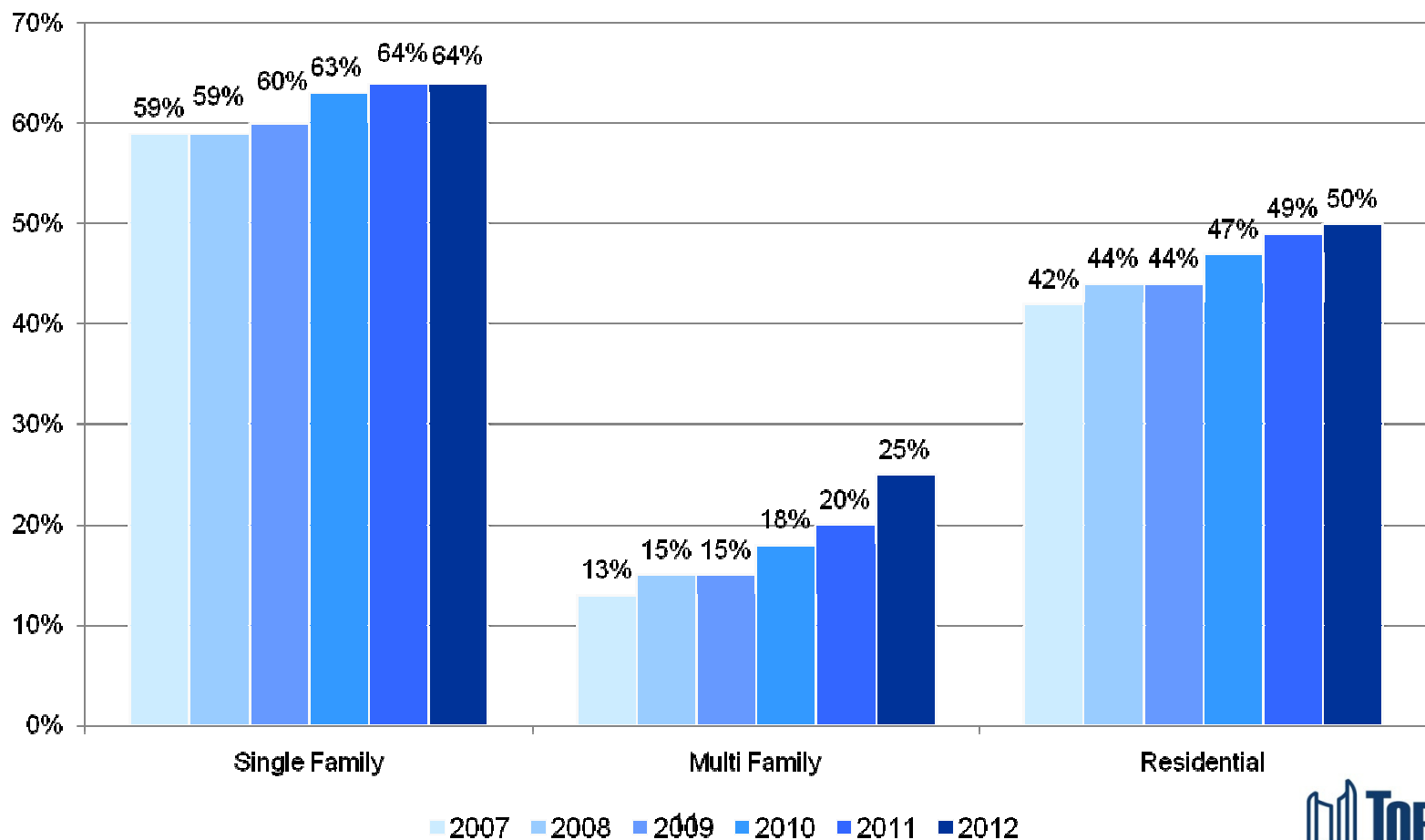
Impacts of other “R”s on Target 70



Part 1: Why 70% Diversion was Not Achieved

Cost of Diversion since 2007

- \$164 million in Capital – \$92 million in Operating Costs
- Increased diversion from 42% in 2007 to 50% in 2012



Part 2: Moving Forward in 2013

Multi-Residential Strategy:

A. Customer Service

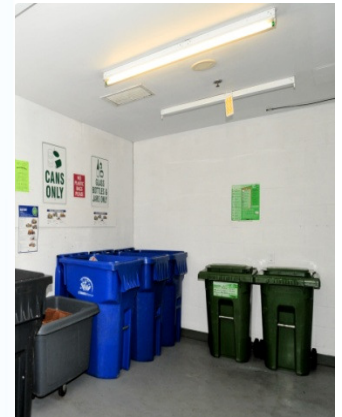
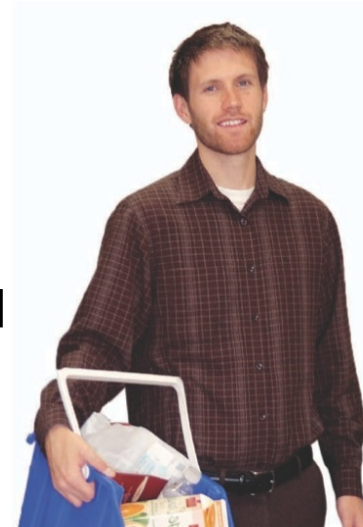
- Multi-Residential Customer Service Unit
- Customer service representatives- dedicated staff for multi-residential customers
- Site visits, presentations, trouble-shooting, reduce contamination, incentive programs

B. Additional 3Rs Ambassador Volunteer Program Coordinators

C. Indoor recycling carts- laundry rooms, parking levels, mailroom, common areas

D. Continue Green Bin roll-out

- 2000 total buildings on program by end of 2013 and 4000 by end of 2014



Part 2: Moving Forward in 2013

Addition of new materials to Blue Bin:

- Pursue and help develop markets for plastic film and hot drink cups

“Next Generation” Green Bin:

- Larger with more capacity
- Allows for automated collection
- Will have improved animal locking
- RFP has been issued



Part 2: Moving Forward in 2013

Processing Requirements – Source Separated Organics:

- 70% of ultimate tonnage at City facilities- 30% private facilities
- New Disco Road facility – 75,000 tonnes – completed in 2013
- Dufferin facility to be expanded to 55,000 tonnes – completed in 2015



Part 2: Moving Forward in 2013



Processing Requirements Single Stream Recyclables:

- City owned Dufferin MRF
 - 100,000 tonnes per year
 - Address storage capacity issues
- Canada Fibres new MRF
 - Up to 140,000 tonnes per year, with the ability to go to 400,000 tonnes/year

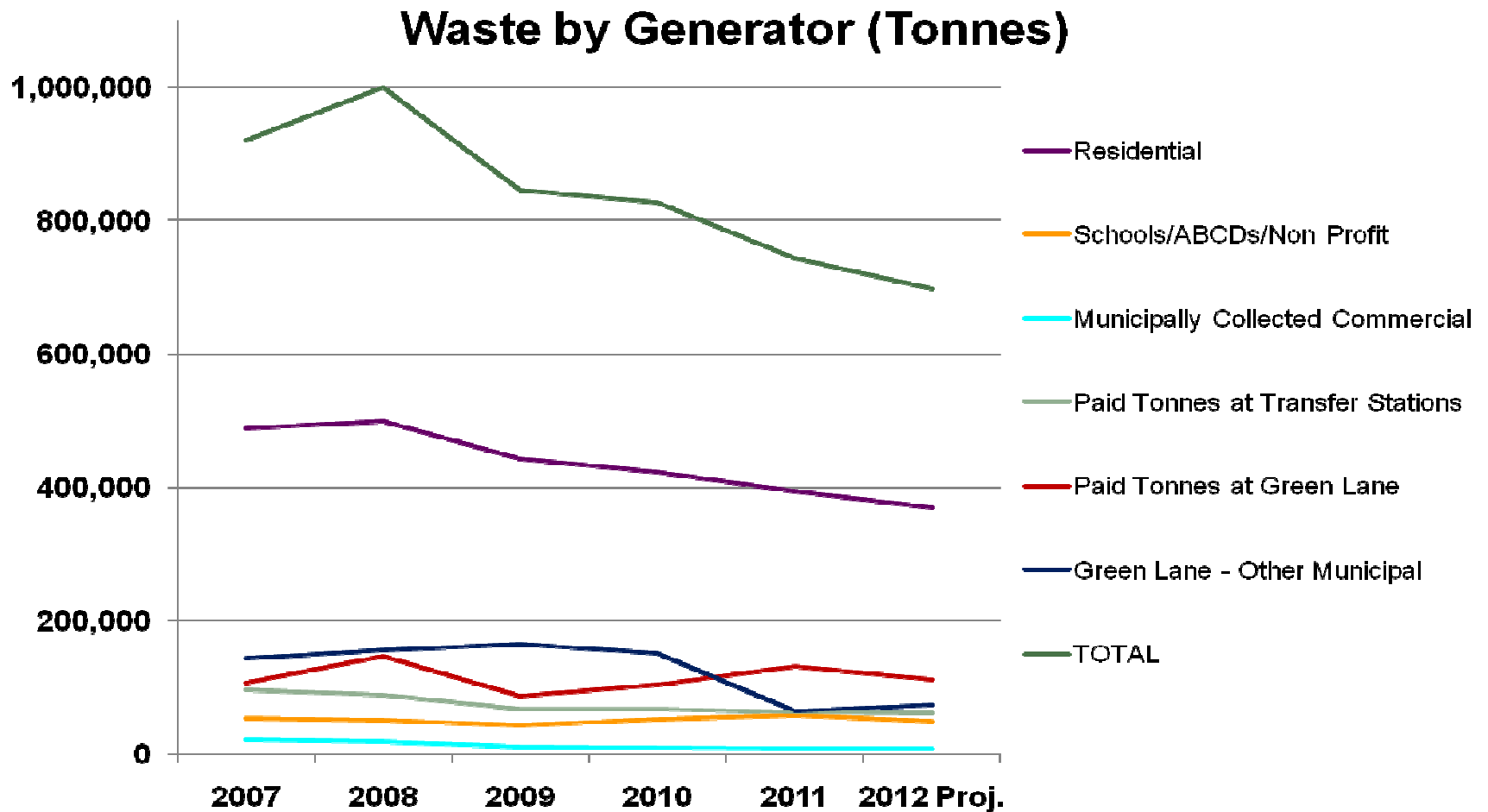
Part 2: Moving Forward in 2013

Other City Waste Generators

- Solid Waste Management Services provides collection services to:
 - Agencies, Boards, Commissions and Divisions
 - Schools
 - Small commercial establishments
 - Charities, institutions, religious organizations
- Current diversion rate for all City collected materials- 49%
- Green Bin Program
 - All Charities, Institutions and Religious Organizations have been invited to participate
 - In place for small commercial establishments
 - Schools phased in by district- January 2013 to September 2013
 - Offer to ABCDs late 2013



Waste to Landfill by Generator



There has been a 27% reduction in waste going to green Lane since 2007

Moving Forward to a Long Term Sustainable Waste Management Strategy



Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

Long Term Waste Management Strategy

- Develop long-term (30 – 50 year) Sustainability Plan
- Consider
 - New and emerging source separation technologies
 - Recovery technologies such as MBT or Energy from Waste (EFW)
 - Alternative disposal options, such as other landfills
 - Partnerships with other municipalities
- Recommend waste management strategies that are environmentally sustainable and economically viable
- Continue with source separation improvements
- Focus on all waste generators not just residential

Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

- Guiding Principles:
 - Waste reduction, reuse, recycling and recovery before disposal
 - Open and transparent review of options
 - Innovation and flexibility to adopt to emerging technologies, policies and opportunities for collaboration
- Meaningful and extensive public consultation and stakeholder involvement



Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

Mechanical Biological Treatment:

- Processes residual waste at Green Lane
 - Overall cost \$600+ (op/cap) Million over 20 yrs
 - Main feedstock is Multi-residential waste
 - If Multi-residential gets to 65% will essentially accomplish same thing
- Viability subject to finding markets for Class B compost
 - Would be land-filled if no markets exist
- Viability subject to finding markets for contaminated recyclables
 - Would be land-filled if no markets exist



Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

All other Waste Treatment Technologies:

- Various new and emerging energy from waste technologies
- Not considered as diversion by the Province of Ontario but would extend lifespan of Green Lane Landfill

Other Potential Options:

- Reduce or eliminate paid tonnes at Green Lane – 112,00 tonnes
- Reduce or eliminate paid tonnes at transfer stations – 62,000 tonnes
- Divert up to 150,000 tonnes to 3 other landfills
- Public/private partnerships including agreements with neighbouring regions
- Expansion of Green Lane Landfill
- Purchase another landfill

Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

Redirecting Waste to Other Landfills

- Contracts with 3 Ontario landfills
 - Total of 150,000 tonnes per year
 - 5 year contracts with additional 5 yr options

Green Lane disposal avoidance - 69%

- Residential diversion rate - 52%
- Redirect to other landfills - 17%
- Redirecting waste to other landfills for 10 years extends life of Green Lane Landfill **by 3.5 years**



Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

Annual Cost/Benefit Comparison

Initiative	Tonnes	Cost/Lost Revenue (in Millions)	Landfill Life Extension/YR
Redirect to Other Landfills	150,000	\$6.2	4.5 months
Eliminate Paid Tonnes at Green Lane Landfill	112,000	\$5.6	3.4 months
Eliminate Paid Tonnes at Transfer Stations	62,000	\$6.2	1.8 months
Mechanical Biological Treatment	143,000	\$25	4.3 months

Part 3: Moving Forward to a Long Term Sustainable Waste Management Strategy

Next Steps toward a Sustainable Long Term Strategy:

- Accelerate projects and programs that have already been contemplated and ensure the staff resources are in place accordingly
- Establish a Steering Committee of Key Stakeholders
- Issue RFP to hire a consultant to assist the City with a Long Term Sustainable Waste Management Strategy
- Regular updates to Public Works and Infrastructure Committee
 - First update to PWI will be on selection of consultant, cost, and timeline for study
- Initiate Public Consultation and Stakeholder Engagement
- Bring forward final report to Council on the findings once study is completed

