

# QUARTERLY PROGRESS REPORT

October 1, 2019 to December 31, 2019

**PROJECT TITLE:** An Integrated Tool for Local Government to Track Materials Management and Progress toward Sustainability Goals

**PRINCIPAL INVESTIGATOR(S):** Timothy G. Townsend

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**COMPLETION DATE:** November 1, 2020

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**PROJECT WEB SITE:** <https://faculty.eng.ufl.edu/timothy-townsend/research/florida-solid-waste-issues/tool-to-track-progress-toward-smm-goals/>

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## Work accomplished during this reporting period:

### *Introduction to Source Reduction Measurement*

Source reduction, or the reduction of the generation of waste, is the highest priority in the waste management hierarchy. Source reduction involves activities such as design, manufacturing, purchase, or use that prioritize minimizing or eliminating the amount of waste that is created. The goal of activities such as these is to eliminate pollution prior to recycling, treatment, or disposal and reduce the generation and toxicity of waste.

Contributions to source reduction are very difficult to measure given the waste is stopped before it happens, and therefore its success is not clearly depicted. Although the reduced generation of waste is preferred over recycling, recycling is more heavily focused on due to the easy ability to track and monitor the progress of recycling activities. With source reduction you're measuring waste that has not occurred, and putting quantitative data toward a prevention or an inaction.

### *Potential Source Reduction Actions*

- Methods to decrease volume
- Methods to decrease weight
- Methods such as buying in bulk
- Methods such as buying items with less packaging
- Methods such as reusing existing items

### *Source Reduction Measurement Methods*

There are different ways to go about measuring source reduction, and listed below are three possible perspectives to approach the complexity of measuring what does not exist. Depending on

available data, differing lifespans, and waste type, along with other factors, one may choose different formulas or techniques to most accurately depict the waste not generated.

**Work planned for the next reporting period:**

***Development of Source Reduction Measurement Methods***

The ability to measure the amount of waste prevented and the process in doing so will depend on the category of waste being tracked. There are different categories of Municipal Solid Waste (MSW) that carry different lifespans, and a differing lifespan impacts what route to take when measuring source reduction.

***Suggested Steps to Tracking Waste Reduction***

- Take inventory of waste
- Monitor quantity and composition of waste generated
- Calculate costs avoided from not needing to remove the waste that was not produced
- Calculate the costs avoided from not purchasing the items contributing to waste

***Preparation for first Stakeholder Working Group Meeting***

The project team will hold a meeting during the next reporting period with solid waste industry representatives to present the data that we have collected so far, explain our proposed project approach, and to receive their input.

**Metrics:**

Name	Rank	Department	Professor	Institution
Malak Anshassi	PhD Student	Environmental Engineering	Dr. Townsend	University of Florida