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LIS 546

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Municipal Recycling Protocol

Project Pitch

The data set that is presented here is meant to address the efficacy in recycling initiatives, with a focus on which materials are consistently recycled compared between multiple municipalities. The municipalities looked at are California, Maine, and Thurston County, Washington and draws from their 2014 datasets.

Project Audience

A potential audience for this topic would be municipalities who are interested in seeing what recycling initiatives would best benefit their resources. Many city governments have a limited budget and must split their funds between various projects, so to help city governments decide how best to direct their funding for recycling initiatives, this project would benefit those project managers.

Project Definition and Scope

The initial datasets were sourced from the United States Environmental Protection Agency's, "U.S. State and Local Waste and Materials Characterization Reports" (1). This website maintains available local and state waste summary reports and analysis. The California summary was located through the CA.gov, Cal Recycle Page, which has several waste characterization studies, pulled from table ES-3 (2). Maine's data comes from Maine's Department of Environmental Protection from the January 2016 report for 2014, table 2 (3). Thurston County's report was prepared by the County's Solid Waste department from table E-2 (4).

Project Goal

The goal of this project would be to create an open source data set with clear protocol instructions that would allow users to further add other datasets and create new protocols when it benefits the shareholders of this project. I hope to create a dynamic dataset that can be added to at both the state and year values of the set.

User Stories

Persona 1: Policy Maker

Name: Kelly Shaw

Gender: Female

Education: Master of Urban and Regional Planning

Features Desired: Totals of the materials are presented as a percentage of waste and total tonnage.

Goal of Feature: The goal of this feature is to present a clear numerical value on what materials are recycled more frequently at a given rate. The feature is normalized across the datasets so that the user does not have to calculate any of the percentages needed to complete a one to one evaluation.

Transformations and Quality

The challenges in accessing this data set are that presentation of information greatly varied from County to County. For example, Maine does not provide a breakdown of the types of waste collected as was the case with Washington and California. Instead, Maine grouped all types of materials and gave the data for these groupings. This made it difficult for a direct comparison that is possible with Washington and California. In addition, it is difficult to draw direct comparison between these sources because of the different sample sizes they reflect. While California and Maine's dataset reflects the entire state's 2014 data, Thurston County only is for one county in Washington State.

The audience for this dataset is made for legislators and researchers who would be interested in the efficacy of recycling programs. For that reason, the data is presented in an easy access CSV. Legislators across a variety of municipalities may not be technically savvy and data stored in a CSV is often more accessible to those who are not dedicated researchers. Also, the dataset is presented in an itemized chart of materials, that could better help identify which materials can be better collected in a county.

Researchers who use this data could better use this data in other comparison across municipalities and see how materials collected affects the recycling rates statewide. In addition, users can see which materials could be better recycled, collected, or promoted in community use to be recycled.

Metadata:

Attribute	Value
accessLevel	public
Fn	Wendy Dorantes
hasEmail	wdora@uw.edu
description	Recycling rates are described across three municipalities at the state and local level.
accessURL	https://github.com/wd0ra/Recycle
downloadURL	https://github.com/wd0ra/Recycle

Format	CSV
Issued	2023-05-29
Keyword	“Recycle”, “waste removal”, “Maine”, “California”, “Thurston County”, “Washinton”
Language	en-US
Modified	2022-05-29
References	US EPA, O. (2015, September 22). U.S. State and Local Waste and Materials Characterization Reports [Collections and Lists]. https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/us-state-and-local-waste-and-materials Ca.Gov. (2015, October 6). Publication Summary. Cal Recycle. https://www2.calrecycle.ca.gov/Publications/Details/1546 Maine Department of Environmental Protection, Anderson, L., & Bergeron, M. (2016). Maine Solid Waste Generation and Disposal Capacity Report: Calendar Year 2014. Maine Department of Environmental Protection. https://www1.maine.gov/dep/ftp/Juniper-Ridge/additional_documents/Maine%20Solid%20Waste%20Generation%20and%20Disposal%20Capacity%20Report%20Calendar%20Year%202014.pdf Green Solutions, LLC. (2014). Thurston County Waste Composition Study. Thurston County Solid Waste. https://www.co.thurston.wa.us/solidwaste/regulations/docs/ThurstonCountyWasteComp2014.pdf
license	"https://creativecommons.org/publicdomain/zero/1.0/"
Title	Municipal Recycling

The dataset was described following the schema set by Project Open Data. This was the chosen metadata schema because the aim is for users to be legislators who may be familiar with this schema since many .gov websites and sites follow this schema. This will allow for better connections to be made when looking for data related to the keywords referenced.

Reflection:

The data collected was challenging and pushed me to rethink how I wanted to present the dataset. While I aimed to focus on one state initially, it was difficult to access multiple municipalities within one state because many counties do not have that information or the funding to be able to report. For this, it was easier to look at the statewide solid waste collection, such was the case for California and Maine. Counties, operating at smaller, local levels do always have the resources to publish this data. In addition, when data is available it is often part of a report summary of the year which comes with additional analysis and context and not just the raw dataset. How the summaries are presented come with downflow curation upsides and problems.

The PDF summaries are not easily machine readable and so, extraction was done through tabula to gather the data present in these reports. While this is not a difficult task, it takes executive decision for how to highlight the tables and extract the data. The summary does not give directions for downstream use. The dataset where this is most noticeable is with the Maine summary. The charts heavily rely on the language within the summary to make use of and understand the percentages within the different sections within the dataset. In addition, it does not give a clear itemized breakdown which makes it difficult for further analysis besides those presented in the summary. Downstream data use has to rely heavily on the wording and variable definitions to make use of this. However, with pulling data from these summaries downstream users are given a basis for further analysis. The summary reports this data is found in act as readme guides that give context and information for how the data was collected.

Works Cited

1. US EPA, O. (2015, September 22). U.S. State and Local Waste and Materials Characterization Reports [Collections and Lists]. https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/us-state-and-local-waste-and-materials
2. Ca.Gov. (2015, October 6). Publication Summary. Cal Recycle. https://www2.calrecycle.ca.gov/Publications/Details/1546
3. Maine Department of Environmental Protection, Anderson, L., & Bergeron, M. (2016). Maine Solid Waste Generation and Disposal Capacity Report: Calendar Year 2014. Maine Department of Environmental Protection. https://www1.maine.gov/dep/ftp/Juniper-Ridge/additional_documents/Maine%20Solid%20Waste%20Generation%20and%20Disposal%20Capacity%20Report%20Calendar%20Year%202014.pdf
4. Green Solutions, LLC. (2014). Thurston County Waste Composition Study. Thurston County Solid Waste. https://www.co.thurston.wa.us/solidwaste/regulations/docs/ThurstonCountyWasteComp2014.pdf