Considerations for Managing Single-Use Plastic on a Regional Basis

April 19, 2022
Presentation to Ferguson Township

Lara B. Fowler, Penn State













Negotiation & Dispute Resolution Design Students Examining Single Use Plastics as part of a Sustainable Communities Collaborative Project



 Penn State's Sustainability Institute hosts the Sustainable Communities Collaborative





- Negotiation & Dispute Resolution Design
 - 36 law and graduate students (including 22 international students and 2 students from School of Int'l Affairs; 13 countries represented)



- Course goals:
 - Learn about negotiation and designing systems to better manage disputes
 - Think about how to apply what they learn in the real world

Current Project Builds Off 2019 Project on Ferguson Township Focus on Plastic Bags

- Fall 2018 Petition by Ferguson Township Residents
 - Ban on single use plastic bags
 - \$0.25/single use plastic bag fee at point of purchase
 - Education at point of sale
 - 6 months to implement program
 - Petition also submitted to the Borough of State College
- Township hearing on Nov. 20, 2018
- Request for assistance under the Sustainable Communities Collaborative, Jan. 2019
- Students in this class in 2019 reviewed background documents, conducted research, interviewed local stakeholders, and summarized findings
- May 2019 Pennsylvania "ban on bans"

Petition to the Board of Supervisors, Ferguson Township, Centre County, PA requesting an ordinance banning Single-Use Plastic Bags at point-of-purchas

and all life on earth, ourselves included, we the undersigned registered voters of ferguson Township, respectfully request for amendment to our Home Rule Charted which would ban the use of Single-Use Plastic Bags Homehout Earth.

It is our desire to pass into law an ordinance by November 1, 2018 which would require a fee of 25 cents for each Single-Use Plastic Bag used at point-of-purchase. This would apply to all relatist stores, restaurants, pharmancies and farmers markets. Ten cents of this would be paid to Ferguson Township monthly to be used for environmental protection and deducation. The remaining 15 cents would be kept by each business to help cover the costs of collection and disbursement. Any remaining would be required to be placed in an environmental protection and education fund for each business.

Businesses may offer brown paper bags which shall be made of 100% recycled material (a minimum of 40% post-consumer waste) and should charge 10 cents to cover cost while encouraging customers to carry their own bags. Re-usable, washable cotton carrivas cloth bags are the best option for carrying purchases. All businesses will be encouraged to offer these for sale.

Six months after the passage of the ordinance on May 1, 2019, enforcement will begin. This will give time for businesses and shoppers allike to acclimate to the idea and become familiarized with the ordinarized with t

Embedded within this action is a reduction of our dependence on fossil fuels. Virtually all plastics are derived from oil or gas. We need to reduce fracking, compressor stations, pipelines and cracker plants for a healthier Pennsylvania. This will also help our nation reduce greenhouse gas emissions as we face the catastrophic effects of climate change. A ban on Single-Use Plastic Bags will benefit both people and Planet.



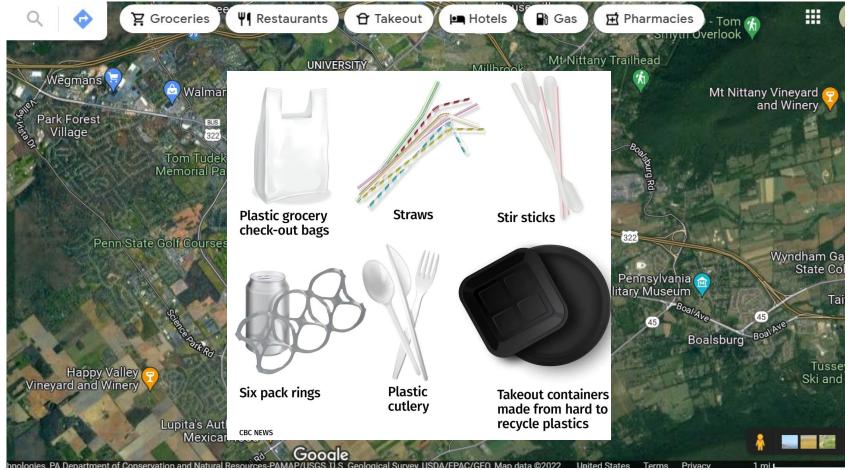
2022 Single Use Plastics Project

Working Assumption #1:

 Thinking about a more regional solution vs. community by community implementation

Working Assumption #2:

 More than just plastic bags; looking at single use plastics more broadly



Significant change since 2019

- Statewide moratorium on action ended; other PA communities taking action (6 and counting)
- Increasing understanding of impacts (local to global)
- Linkages between waste management and climate action (see, e.g., Centre COG's Climate Action and Adaptation Plan)

Pa. efforts to halt plastic bag bans recede as Philadelphia begins to enact its own law





https://whyy.org/articles/pa-efforts-to-halt-plastic-bag-bans-recede-as-philadelphia-begins-to-enact-its-own-law/

A statewide survey found microplastics in 4 Centre County waterways. Here's why that's important

BY JOSH MOYER

MARCH 04, 2021 7:00 AM



https://www.centredaily.com/article249602308.html

Single use plastics—our role in this project

Our roles as a class:

- Gather information
 - Research (37 different entities)
 - Interviews(contacted 70+ people/entities; ~35 interviews)
- Share information with local municipalities
 - How have others addressed single use plastics?
 - Who is potentially interested in this region?
 - What are their interests or concerns?
 - What could be considered for single use plastics management in this region?





Local community role:

 Decide if/how to proceed and whether/how to adopt more uniform or regional approach







Penn State Bookstore Introduces EcoCoins as Incentive to Reduce Plastic Bag Use



https://www.statecollege.com/penn-state-bookstore-introduces-ecocoins-as-incentive-to-reduce-plastic-bag-use/

One option: voluntary approach

- Numerous local stores voluntarily reduce single use plastics (especially plastic bags)
- Some charge a fee- e.g., Aldi
- Encourage/recognize voluntary approach with more education and incentives

Second option: charge a fee on any bag (Fees range from \$.05 to \$.20/bag)

- Create a forum to have retailers adopt voluntary fee they all agree upon
- Impose an ordinance where retailers must agree upon a fee within a certain range
- Impose same fee for all retailers or combine fee with free reusable bags
- Impose an ordinance with a planned increase in fee imposed up to certain level of fee/or a certain level of consumption (i.e. X bags consumed a year like in Europe)



https://www.cityofedwardsville.com/571/Single-Use-Bag-Fee

Third option: prohibit use of certain products

- Many "bag bans" resulted from community action/focus
- Most were implemented by town votes, committees, or local legislation
- 10 states now prohibit single use plastic bags (CA, CT, DE, HI, ME, NY, OR, VT, WA, NJ)
- 18 states have "ban on bans"- preemption of local action
- Numerous countries banned single use bags (Bangladesh 1st in 2002; Canada recently)
- Range of what is regulated (plastic bags, straws, polystyrene, other)

Single-use plastic bans in the U.S.

and bag ban/ bag levy



For more on state action, see National Conferences of State Legislatures summary:

https://www.ncsl.org/research/environment -and-natural-resources/plastic-baglegislation.aspx

Fourth option: Combination of ban + alternative products + fee

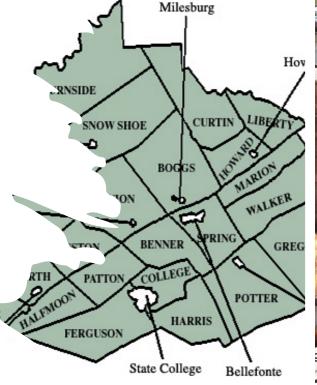


Washington State adopted a statewide ban + fee, effective in October 2021



Plastics part of local waste stream:

- 18 tractor trailers/day of waste shipped to Elk County Landfill
- Recyclable materials ~50% of waste stream (Act 101 requires recycling)
- Separate plastics collection available; separated by type
- Plastics recycling more challenging after 2017 ban from China; market more limited
- Some products like Styrofoam have no market
- Plastic bags recycled by customers, sold by stores; however, 87% bags not recycled (32 billion lbs/plastic film produced in US/year)
- Updated statewide waste characterization study results not yet available for PA

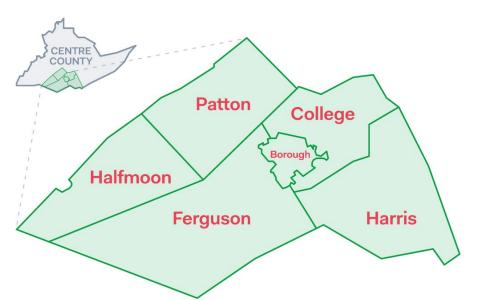




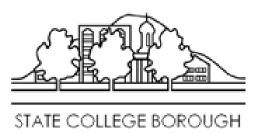














| Jurisdiction | Recent Action Taken | Coverage |
|--------------------------|---|--|
| Ferguson Township | Passed resolution in Nov. 2021; discussed draft ordinance in Dec. 2021; planning on ordinance in 2022 | Ban single use plastic bags, plastic straws; 6 months education, 12 months of 15c fee/bag (fee to businesses); 18 months ban |
| State College Borough | Passed resolution in Nov. 2021; planning on ordinance in 2022 | Work with other municipal governments to regulate single use plastic bags and straws |
| Patton Township | Pending on Board of Supervisors' Work Tasks as of April 2022 | Regulation of single use plastic bags, straws |

Student research on other jurisdictions (~37 jurisdictions or businesses)



Information sought:

- Jurisdiction (name, location, population or size if business)
- Action taken (ordinance, law)
- Definition
- Exemptions
- Transition/implementation
- Operation
- Impact of covid
- Anything else notable

Short summaries from each jurisdiction or entity will be included in the final report

Jurisdictions Researched:

- Pennsylvania in general, Philadelphia,
 Pittsburgh, Narbeth
- A range of cities (Boulder, CO; Chicago, IL; Gainesville, FL; Bedford, MA; Chestertown, MD, Portland, ME; Lewisboro, NY; Brattleboro, VT; Kenmore, WA; Seattle, WA; Washington, DC)
- A range of states (CA, CT, DE, HI, ME, NY, OR, VA, VT)
- A range of countries (Canada, European Union, Uzbekistan, Antigua/Barbuda)
- Businesses: Kroger, Aldi

Question #1: What is regulated?

- Examples of what jurisdictions have regulated:
 - Single-use plastic bags (for carryout; often defined by thickness or handle)
 - Non-recyclable paper bags at the point of sale
 - Single-use service ware (utensils), plastic straws, or stirrers
 - Expanded polystyrene (Styrofoam) food service products
 - Plastic ring carriers
 - Single use plastic bottles (under consideration in Hawaii)

Example Definitions:

- "Single-use Plastic Bag" means a bag made from plastic that is less than 2.25 mils thick or made through a blown-film extrusion process- Philadelphia Bill No.190610-A02, as Amended (approved 12/30/19 for ban on single use plastic bags and 10 cent fee for recyclable paper bags)
- Ban on use/sale of polystyrene (#6-PS) food service products. "Disposable food service ware means containers, bowls, plates, trays, cartons, cups, lids, [straws, forks, spoons, knives, napkins,] and other items that are designed for one-time use for beverages, prepared food, or leftovers from means prepared by a food service business." Montgomery County, MD (Amendment effective 01/28/21)

Question #2: Who is regulated?

Retailers and/or restaurants

- By type of store: convenience stores, grocery stores, restaurants, delivery services but not drycleaners or pharmacies (see <u>Pittsburgh</u>, <u>PA</u>)
- Sometimes defined by size (example: more than 10,000 square feet)
- Point of sale can be broadly defined: "The transfer to a customer of goods in exchange for payment occurring in retail stores, sidewalk sales, farmer's markets, flea markets, tag sales, sales by residents at their homes and sales by nonprofit organizations" (see <u>Lewisboro, NY</u>)

Exemptions by type of user

- SNAP, WIC, or other federal/state program beneficiaries
- Those who file for an exemption (no reasonable alternative or need to use up existing stock of bags after transition period- see Boston, MA)

Question #3: Potential exemptions?

Example Exemptions from Hawaii

- Bags used by customers inside a business to package loose items, such as fruits, vegetables, nuts, ground coffee, grains, candies, or small hardware items;
- Bags used to contain or wrap frozen foods, meat or fish, flowers or potted plants, or other items to contain dampness;
- Bags used to protect or transport prepared foods, beverages, or bakery goods, including takeout bags used at restaurants, fast food restaurants, and lunch wagons, to transport prepared foods;
- Bags provided by pharmacists to contain prescription medications
- Newspaper bags for home newspaper delivery;
- Door-hangerbags;
- Laundry, dry cleaning, or garment bags, including bags provided by hotels to guests to contain wet or dirty clothing;
- Bags sold in packages containing multiple bags intended for use as garbage, pet waste, or yard waste bags;
- Bags used to contain live animals, such as fish or insects sold in pet stores;
- Bags used to transport chemical pesticides, drain-cleaning chemicals, or other caustic chemicals sold at the retail level, provided that this exemption shall be limited to one bag per customer

Question #4: Program Implementation?

- Some places started with fee, then went to a ban; others banned plastic bags, then expanded what was regulated
- Usually phased in over time; range from ~6 to 18 months; time to use up existing stock

Vermont example: "This law was passed in 2019 but it went in effect July 1, 2020. However, stores/eateries may continue using plastic bags, straws, stirrers, and expanded polystyrene products until July 1, 2021, if the items were purchased before May 15, 2019."

- Education programs for customers (required signage, etc.)
- If fee charged, often must be listed separately as bag fee (see <u>Narbeth, PA's</u> "plastic carryout bag charge" for 10 cents/plastic bag fee)
- If fee charged, commonly returned to retailer, but not always (fees range from 5 to 20 cents)



Question #5: Enforcement?

Failure to comply?

Graduated fines against businesses for failure to enforce (range from \$50-\$500, although some jurisdictions like <u>CA much higher</u> at \$5,000/day for 3rd or subsequent violations)

— Washington DC example:

- Dept. of Energy and Environment inspects businesses (inspectors don't identify themselves so they are treated like regular customers)
- Non-compliant businesses issued notice of violation and must come into compliance
- If non-compliance, then notice of infraction (NOI) and \$100 fine
- Fine amounts double for each NOI up to \$800
- Appeals possible
- Office of Tax/Revenue also audits businesses for compliance with tax laws (including bag fees partially payable to local watershed restoration fund).

COVID impacts

Numerous programs planned but then delayed or rolled back due to covid concerns

Question #6: Impact of laws?

- Depending on how the law was set up, measurable reduction of single use plastics
 - Being used in stores
 - In waste stream
 - In waterways and as litter

Effectiveness of plastic regulation around the world

| Туре | ▲ Location - | Summary | Study Author | • Year |
|---------------------------------|----------------------------------|--|-----------------------------------|--------|
| Ban - bags | San Francisco, CA, USA | A ban on plastic bags (with no mandatory fee) was first implemented in 2007, only applying to large supermarkets and grocery stores with over \$2 million in annual sales. UseLessStuff conducted a survey on stores affected by this ban-only ordinance. Most retailers switched to offering paper bags, and retailers unaffected by the ban-only ordinance continued primarily offering plastic bags. Excessive use of paper bags was observed (with significant double bagging), and few customers brought their own reusable bags. | <u>UseLessStuff</u> | 2008 |
| Tax - bags | Chicago, IL, USA | After the implementation of a 7 cent tax, the number of plastic bags used at grocery stores decreased by over 40%, according to a joint University of Chicago-New York University study. After the implementation of the tax, the number of customers bringing reusable bags increased 2.5 times, and that the number of people who didn't use a bag nearly tripled. | City of Chicago (commissioned) Ne | 2017 |
| Fee - plastic and paper bags | Suffolk County, New York, USA | In Suffolk county, a fee on plastic and paper bags was implemented in 2018. After the fee was implemented, plastic bag usage decreased 82% (totalling 1.1 billion fewer plastic bags used in 2018) and paper bag usage decreased 79%. Grocery store observation studies showed that customers not using any bags or using reusable bags increased from 28% to 60%. Additionally, a 42% decrease in plastic bag litter and a 41% decrease in paper bag litter on shorelines was observed. | Annual Recycling Report, Progress | 2019 |

https://scaan.net/plastic_global/



Question #7: Unintended Consequences

- Ban on certain types of bags without fee may simply result in use of thicker bags and more impact from plastics— see Chicago, IL
- Ban + fee on recyclable or thicker bags had more of an impact (or fee on all bags)
- Smaller fee (5 cents/bag) less effective— see <u>Washington, D.C.</u>; Surfrider Foundation <u>recommendation</u> for at least 10 cents/any bag
- Litigation can result- see New York <u>statewide litigation</u> (recently dismissed to allow for statewide ban to go forward).
- One community or state's action can impact decisions elsewhere- see Wegman's recent announcement in PA and beyond



Surfrider Toolkit: http://publicfiles.surfrider.org/Plastics/Plastic_Bag_Law_ Activist Toolkit 2019.pdf



Student interviews

Sample questions:

- Perspectives on single use plastics in general?
- Use/management of single use plastics in business/workplace?
- If so, how?
- Thoughts on how they should be managed?
- Impact of covid?
- Anything else you'd like to share with local officials?
- Anyone else we should talk with?



<u>Types of interviewees:</u>

- Local government: elected officials, managers and staff
- County government: elected officials, managers, staff
- Local utilities: waste, water
- Businesses: restaurants, retail (grocery, clothing), gym, apartment manager
- Penn State: waste management, procurement, sustainability
- Local environmental groups, international environmental perspective
- Interested individuals (including students)

Notes: ~70 people contacted; some declined, some didn't answer; ~35 interviewed. Not scientific survey but gives some sense of what's on people's minds.

Overall themes- wide range of perspectives

- Somewhat wide recognition that single use plastics causing problem
- Some haven't thought about
- Others know there is a problem and don't know what to do
- Sense of urgency varies: need to do something yesterday to time needed for more education and study
- Some would like more education and voluntary measures
- Others want to see a fee and/or a ban + fee.
- Even among those who recognize a challenge, concern about cost and effectiveness of replacement products

"What started out as a convenience has turned into pollution and economic issues. It is so engrained in our society that moving away from those habits is hard."

Overall themes- education is critical

- About impacts of plastics
 - Long lasting impacts from cradle to grave (fossil fuels → disposal)
 - Local impacts to fish & wildlife and global impacts in oceans/waterways/land
 - Plastics impact on personal health (containers leaching to ingesting microplastics)
 - Lack of markets; plastics are down-cycled if recycled at all
 - "We all depend on the environment, and we are the environment, and the environment is we. Everything is circled."
- About alternatives to single use plastics and incentives to change behavior (slides #26-27)
- About any new program
 - Why are certain plastics to be regulated or managed differently?
 - What does a retailer or business need to do?
 - How does a change in management impact poorer populations? Jobs?
 - What is the effect of the program over time?

Overall themes- range of interests/needs

- Range of people or groups interested in this question
 - Corporations, food production companies; plastics manufacturers; retailers (small, large); restaurants; concerned citizens; conservation groups; local government (elected officials, managers, staff); utility providers (waste handlers)
- In enacting a program, need to think about different audiences (not complete list):
 - Consumers
 - Students, seniors, those on fixed budgets
 - Businesses
 - Campaign for business owners to illustrate potential options
 - Helpful for businesses to make it easier for consumers to recycle (concern about contamination and "wish cycling")
 - Response to change may depend on type of retailer (people might adjust to no plastic bags in a grocery store, but be more combative in a retail environment for something like clothes)
 - Employer/employee work load
 - Attendees at events (football games, Arts Fest, other events)
 - Different from regular point of sales type dynamics

Overall themes-regional, integrated approach

- Desire to see a regional set of solutions, not just one community at a time
 - If some jurisdictions adopt an approach, it might lead to others doing so as well
- Need to think about integrated solutions in organizations
 - Upper management needs to support action
 - If a regulation is adopted, business will figure out how to comply
- Several people noted desire to see more than just plastic bags
 - Straws/stirrers "easy"; plenty of alternatives
 - Plastic or Styrofoam containers vs. biodegradable (cost may be a factor)
- If fees charged, want to know who pays (businesses? Individuals?)

Overall themes- alternatives

- Want to see alternative, biodegradable products that are better for the environment and people
 - "Banning or establishing a fee without a fair alternative doesn't solve problem"
 - Want to understand costs of alternatives (paper, cloth) (paper costs more)
 - Some concerns include cost (compostable food packaging is more expensive) and quality (some products that keep food/beverages hot or cold are not environmentally friendly)
 - Front line managers have ideas about alternatives, but have to follow what management tells them to do (top down approach)
 - If make a switch to compostable packaging, need a system for breaking it down (efficiency of equipment and cost of transition both factors)

Overall themes- incentives

- Incentives at a range from manufacturers to retailers to consumers:
 - Want to see incentives at the manufacturing side to see less plastic used: "Against single use plastics. While recognize that individuals have a role to play in moving away from plastics use, challenge given how much plastic is in packaging (no choice for consumers)."
 - Incentives for businesses to implement good practices, get good publicity for efforts
 - Partner with local businesses on innovative programs or for more sustainable alternatives
 - tree planting efforts from big-box stores/local stores to offset paper bags?
 - Management of curbside pick up (default = plastic bags vs. reusable bags or bins)
 - More recycling containers up front for consumers (not just in back for store use)
 - At consumer levels, want to see incentives or alternatives:
 - Example: if bring own reusable bag, dish—you get a discount or extra benefit
 - Want to see reusable containers for take-out food

Overall themes- transition, enforcement

Engagement needed:

- Education of consumers & businesses alike to help make the change: "Getting people to think about the single use plastics issue is different from asking them to make changes to their own habits."
- Need to "engage with the business owners and the public about what is best for this community"
- Partner with local businesses to create systematic change

Transition needed

- "At least a couple of months to use up existing stock"
- "open to doing anything that would help merchants adjust"
- If enact a "ban", need transition or grace period. Educational materials needed;
 collaborate with members of the community during ordinance development
- "Give clear and direct action. We don't need any more halfway attempts, if you do it, commit."
- Once enacted, would need to think about enforcement
 - "Current staffing impacts already a challenge"
 - Helpful to have sustainability officers communicating with merchants (more focus on local "mom and pop" merchants)

Overall themes- impact of covid

- Less emphasis on managing plastics during last 2 years
- Huge volume of single use plastics, including PPE, in waste stream and as litter("masks like autumn leaves in the parking lot")
- Higher usage of single use plastics:
 - "For example, grocery stores did not allow you bring your own bag, water stations were turned off in parks and public areas, people had to buy or bring their own bottled water. Restaurants were producing more take-away food and providing single use plastics with it. Why give out single use plastics if people are taking their meals home anyway?"
- More takeout orders (more single use plastics/Styrofoam containers)
- Supply chain issues impacted ability to get plastic bags, but made them more affordable than paper alternatives
- Phased out plastic bags prior to covid but had to bring them back in due to concern about potential vector for virus

Overall theme- waste management

- Waste/recycling:
 - If increase recycling and decrease waste stream, can get rebate from state waste recycling program.
 - Plastic bags can't really be reused; reuse for paper greater
 - Residents in apartment buildings may "say they want to go green and recycle more, but refuse to walk their own trash to the dumpster."
 - County does a good job managing plastics overall, but not all types can be reused
 - Decrease trash, less profit for waste management companies; trash needs to be more expensive
- "Best way to avoid single use plastics is not to bring it [into circulation] in the first place. People often think of waste reduction and sustainability as how we manage it after it is used, but the biggest thing is not to have to throw it away in the first place."
- "Reduce, reuse, and recycle with heavy emphasis on 'Reduce'"

Sample responses- environmental

- Concerned about environment and single use plastics, both locally and what happens with waste when it leaves this region
- Seen huge increase in plastics (2.3 million tons in 1950 to 400 million tons/year now): big oil is ramping up production, time is limited on the use of fossil fuels, and people are limited on renewable resources. Number of resources devoted to plastics increasing.
- Concern about human health impacts- opportunity for education

Sample responses- businesses

- Penn State dining services- lot of single use plastics (bags, dishes, straws). Can recycle only two types (#1, 2); most goes in trash given limited facilities/desire to recycle. Want to see alternatives and incentives to use them (if bring own reusable bag, dishyou get a discount or extra benefit)
- Local restaurant- understand that that communities are trying to be more
 environmentally conscious, and people have expressed concerns about their
 Styrofoam take out containers. Not against using something other than the Styrofoam
 containers, but with keeping up with changing COVID regulations and making plans to
 open another restaurant, they really hadn't had time to consider switching away from
 single-use plastics. Concerns about the cost of single-use plastic alternatives.
- Local retailer: hadn't really thought about single use plastics; not a subject on which
 has a strong opinion on, but knows that some people feel very strongly about single
 use plastics. Notice multiple customers have started bringing in their own bags over
 the past couple of years. Relatively new development; most people didn't start doing
 this until about 3-4 years ago.

Sample responses- local government

- On board with plastic straw/stirrer ban as there are alternatives (paper/bamboo straws or wood stirrers); less for plastic bag ban if people use more paper bags (better for the environment overall)?
- Plastic bag management good first step, but focus should be broader
- Want to see more regional approach, because this is a small place.
- Would like to see more systematic change in community for sustainable options (rather use a paper bag and be charged a fee than get a plastic bag for free)
- Plastic also useful for issues like small trash cans, pet waste. Exemptions?
- Recommend avoiding word ban; use fee as it provides choice
- COG can help with model ordinance but has not yet been approached
- Grocery stores in particular can do a better job; community also needs to have a conscious shift to renewable options (and away from single use plastics altogether)
- Branding/marketing/education critical
- Want to see equal playing field for local and national level stores

Single use plastics— what next?

Our roles as a class:

- Gather information
 - Research (37 different entities)
 - Interviews(contacted 70+ people/entities; ~35 interviews)
- Share information with local municipalities
 - How have others addressed single use plastics?
 - Who is potentially interested in this region?
 - What are their interests or concerns?
 - What could be considered for single use plastics management in this region?





<u>Local community role</u>:

 Decide if/how to proceed and whether/how to adopt more uniform or regional approach

Overall summary + next steps

Summary:

- Big shift/ recognition since 2019 of the need to managing single use plastics
- A lot of change at all levels (local to international— even contemplation of an international treaty)
- Local interest in doing something to move this forward
- Adopting small changes can sometimes lead to larger changes
- Worthwhile to look at other jurisdictions for sample action
- Education/outreach critical piece no matter what might be done

Next steps:

- Finalizing interviews
- Working on summary report
- Sustainable Communities Collaborative <u>Spring Expo-</u> April 27, 5-7 PM
- We'll brief other communities as well (State College, Patton, others?)

Thank you!

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