

Materials Management and Manufacturing Newark

Community Development Studio Spring 2014

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The Community Development Studio will explore Newark's manufacturing waste stream and potential opportunities for reusing durable manufacturing discards and shipping materials to generate new jobs. The City of Newark wants to support its manufacturing sector in becoming more resource efficient and it is interested in creating jobs for Newark residents while diverting waste from landfills and incineration. The city would like to focus on reuse strategies that generate new businesses. Arts and culture might play a role in materials reuse complementing job generation. This vision reflects Newark's mission to advance social, economic, and environmental health, as prioritized in the City's 2013 Sustainability Action Plan.

Studio Objectives

I. Explore Newark's manufacturing discards and consider options for reuse.

- Develop a comprehensive inventory of Newark's manufacturing and shipping discards.
- Create a list of and map the facilities that process waste (waste processing, transfer, recycling, incineration, scrap metal, and upcycling/materials re-use) in Newark. Identify each facility, classify it by type, describe the type of materials and where they come from and estimate the material volume, where possible.
- Identify examples of value-added production for remanufactured goods with a focus on high-margin as well as non-polluting, high-volume industrial processes (i.e. glass and tires in paving).
- Survey (identify) existing manufacturing and re-use facilities in and around Newark.
- Identify and explore existing working models for economically viable re-purposing of durable manufacturing waste as well other materials such as shipping pallets, construction and building materials, and tires (work with the city to refine the list as we learn about the options) nationally (globally).

II. Produce a written report.

III. Create a slideshow

Summarize the report and present it to Newark partners and other collaborators.

Grading

Participation 40%

Report 40%

Presentation and citizenship 20%

Studio Resources

Sakai - The course Sakai website includes readings and background materials. As you uncover research materials, websites, and other resources, please add your materials to Sakai to share them with your studio colleagues.

511CDS14 on Common - On the Common Drive, there is a folder called 511CDS14 that contains the base mapping files. Please work out a system to maintain the original layers and to keep your work organized. All studio work should be on the common drive so that its accessible to the class. Please post final maps to the Sakai course website in the enhanced jpegs format.

Google Docs - The studio will work collaboratively through a set of Google docs. This will include a shared research design, report draft document, spreadsheet with studio contact information (so you can find each other if you need to call/email), timeline, and work plan.

Course Outline

January 21. Introduction to Project, Studio 101

- Student Introductions
- Studio 101
- The project and partners, in brief
- Fall 2013 Studio background (Katie, Cailean, Katherine)
- Organizational structure
- IRB - ensure that everyone has completed certification, dates are recorded, and modified forms are sent to IRB with all students

Made in Newark <http://madeinnewark.net>

Fall 2013 Community Development Studio. Studio Report. (available on Sakai)

January 28 Tentatively in Newark

Client meeting at City Hall

Tour a manufacturing facility and everyone fills out a survey

Visit NJIT

Mistry, Nisha. 2013. Newark's Manufacturing Competitiveness: Findings and Strategies. May 28. <http://www.brookings.edu/research/reports/2013/05/28-newark-manufacturing-mistry-vey-shearer>

City of Newark. 2013. The City of Newark Sustainability Action Plan. http://www.sustainablenwk.org/NewarkSustainabilityActionPlan_2013.pdf

Materials exchange

- NYC example and waste match <http://www.reusenyc.info/materials-exchange-faq>

Rutgers Business School's Manufacturing Resource Hub to the list? <http://www.brookings.edu/-/media/research/files/reports/2013/05/28%20newark%20manufacturing/newark%20manufacturing%20press%20release.pdf>

February 4 Studio Organization

- Teams formed
- Collaborative systems developed, everyone signs in

- Create research design(s)
- Allocate tasks
- Create work plans and timelines

TENTATIVE - CLASS DECIDES *** February 7 FIELD TRIP - FRIDAY ***

Bus trip to NYC to view waste re-use in action

Materials for the Arts <http://www.nyc.gov/html/dcla/mfta/html/home/home.shtml>

WasteMatch <https://www.reusenyc.info/who-we-are/about-nyc-wastematch>

February 11 Roundtable at EJB

February 18 Field work/research

February 25 Field work/research

March 4 Field work/research

March 11 Mid-semester Partner Meeting

- Meeting with City of Newark staff to review programs
- Studio team compiles a presentation of work to date with findings and questions about where to focus energies for the remainder of the term

March 18 SPRING BREAK/ report drafting

March 25 Report drafting

April 1 Draft Report

April 8 Draft report finished

- graphics completed
- text edited
- acknowledgements
- bibliography and citations

April 15 Report finished, draft slide show

- Report is ready to be formatted in graphics program

- Draft slide shows is completed with text, graphics, photos

April 22 Presentation slides and text finished and polished, report in final format

April 29 Presentation Dry Run through EJB, report is sent to printer

book days and times for dry run practices

May 6 Final Presentation at EJB

Report is handed to partners

Guide for Manufacturer Interviews

Objectives

Gain as comprehensive as possible an understanding of:

- The manufacturer's durable byproducts (type, volume, frequency of production)
- The manufacturer's waste removal processes and costs
- The manufacturer's interest in a reuse program (incentives, challenges, feedback)

Introduction

We are graduate students at Rutgers' Bloustein School of Planning and Public Policy. We are working with the City's Department of Sustainability to investigate the durable byproducts and other materials that Newark manufacturers discard. The city would like to support manufacturers by redirecting some of their waste away from landfills and into a reuse program, hopefully generating cost savings and increased efficiency through minimized waste removal needs. The goal is that these discards be reused as raw products by other manufacturers, and that more manufacturing jobs and businesses will be created as a result.

We've come to visit you because we would like to:

- better understand your manufacturing process, the durable byproducts that you generate, and what you do with them;
- gauge your interest in a reuse program that would recycle manufacturing byproducts; and,
- learn how the City might structure a reuse program to maximize your cost savings and other potential benefits.

Before beginning the interview, have the manufacturer read and sign the IRB consent form. Ask permission to take photos, prioritizing photos of byproducts and removal processes.

Questions

- Manufacturing Process, Byproducts, and Discards
- What products do you make?
- Can you walk us through your manufacturing process for these products?
 - What are the raw inputs? Where do they come from? In what packaging materials are they delivered?
 - Do you use any recycled materials in your production process?
 - Who are your buyers? How do their needs/preferences affect your production process?
- What are your byproducts?
 - Which byproducts do you generate regularly? Which are one-time or infrequent byproducts?
 - What volume of each byproduct do you typically discard? Are the volumes constant, or do they vary depending on your current orders (or something else)?
- Waste Removal Processes and Costs
 - Where do you store byproducts after the manufacturing process? How do you dispose of them?
 - Are different byproducts stored separately, or are they combined?
 - How often are byproducts taken to the dumpster?
 - Is there any chance of contamination, either between byproducts or by any other types of waste? Are byproducts exposed to food waste?
- How do you dispose of shipping and packaging materials?
- Who is your trash hauler?
 - How often does the hauler pick up waste?
 - Do you have a recycling hauler?
 - What are your typical monthly hauling costs? May we refer to a past bill to check the exact amount?
 - Are you charged by number of pick-ups or weight of discards?
 - Do you have a contract with the hauler? If so, what are its terms?
 - Are there fees for additional/unscheduled pickups or for items outside the dumpster?

- Do you currently have any donation/bartering practices in which you give away or trade any of your byproducts or discards with other manufacturers, organizations, or individuals?

Manufacturer Interest and Feedback

- What are your three biggest challenges as a firm? What, if any, are your biggest waste disposal challenges?
- What would make you most interested in participating in a reuse program?
- What are your biggest concerns about participating in a reuse program?
- Do you have space to temporarily store some of your byproducts for reuse?
- Would you be willing for the City (or another user) to pick up some of your byproducts for reuse?
 - How frequently would you need these byproducts to be picked up?
 - What are the best days/times for byproducts to be picked up?
 - Would you be willing to pay an additional small fee to have these items picked up?
- Would it be feasible for you to keep an updated list of your discards on an online platform, so that interested users could come and pick them up?
- Do you have any additional suggestions as to how a reuse program might work best for your manufacturing business?

Bibliography

Mistry, Nisha. 2013. Newark's Manufacturing Competitiveness: Findings and Strategies. May 28.
<http://www.brookings.edu/research/reports/2013/05/28-newark-manufacturing-mistry-vey-shearer>

City of Newark. 2013. The City of Newark Sustainability Action Plan.
http://www.sustainablenwk.org/NewarkSustainabilityActionPlan_2013.pdf

Recycling and Reuse within NJ

List of recycling places in NJ for many different products
<http://www.ecuanj.com/docs/Non-traditional%20Material%20Markets.pdf>

Clothing recycling - re-fashionNYC
<http://www.nyc.gov/html/nycwasteless/html/stuff/clothing.shtml>

Newark Recycled Paperboard Solutions
<http://www.newarkgroup.com>
<http://www.businesswire.com/news/home/20131120005200/en/Newark-Recycled-Paperboard-Solutions-Unveils-Construction-Products#.Ur483XITgpE>

Carpetcycle, LLC in Elizabeth
<http://www.carpetcycle.com>

Terracycle
<http://www.terracycle.com/en-US/>

Homasote, West Trenton
<http://www.homasote.com>

GreaseLightening
http://www.nj.com/homegarden/index.ssf/2012/08/company_helps_restaurants_recy.html

Everygreen Recycling in Newark
<http://www.youtube.com/user/ERS110>

Cooking Oil in Newark
<http://www.freerepublic.com/focus/news/2740367/posts>

Wood etc...(used pallets)
<http://www.harvestpower.com>

Government

NJ DEP- Ecycle NJ

<http://www.state.nj.us/dep/dshw/recycling/>

Recycle centers in NJ by type - class a and b, by type of product - interesting to map

http://www.state.nj.us/dep/dshw/recycling/recymkts_directory.htm

Class B recycling centers - would be interesting to map these by what they take

<http://www.nj.gov/dep/dshw/lrm/classb.htm>