New Haven Mill River Community Meeting
Agenda

01 Overview: Study area, Goals of Study, Process & Timeline

02 Waterfront Planning

03 The Future of Manufacturing

04 Industrial Preservation: Zoning and Land Use
Study Area

Mill River “Proper” .... 109 acres  
4,761,478 sf

Tail ....................... 27 acres  
1,194,700 sf

Island ..................... 12 acres  
519,537 sf

Fair Haven Edge......... 58 acres  
2,525,160 sf

TOTAL..................... 206 acres  
9,000,875 sf

New Haven Green......... 16 acres  
705,130 sf
Goals of Study
Goals of Study

1. Preserve + protect, and grow existing businesses, while fostering opportunities for future growth.

2. Consider needs of all community members, business and residents, and integrate into the long-term plan.

3. Build on the district’s diversity of food manufacturing and distribution, construction and design support, as well as precision manufacturing.

4. Enhance the distinctive role that the Mill River serves in the overall economic health of the city.

5. Identify future district improvements and infrastructure to lower barriers to additional growth on underutilized parcels.

6. Prepare design and development guidelines to enhance district character and provide a framework to further integrate district to the City.
Schedule

**PHASE I**

- **Mapping + Interviews**
- **Market Analysis + Redevelopment Strategies**
- **Land Use Strategy + Development Scenarios**
- **Waterfront Plan + Information Synthesis**

**2011**
- June

**2012**
- November
- PHASE II

**2013**
- July
- March
- May
- IMPLEMENTATION

PUBLIC MEETING #1: JUNE 29, 2011
PUBLIC MEETING #2: NOVEMBER 29, 2011
PRESS EVENT: JULY 24, 2012
PUBLIC MEETING #3: MARCH 27, 2013
FINAL REPORT
Observations from earlier Public Meetings

- New Haven’s economy remained relatively stable during the recession due to major jobs gains in the areas of healthcare and education offsetting losses in sectors like information and professional services.

- Most of the businesses in the Mill River are locally-owned entrepreneurial family companies.

- Much of Mill River lies within the coastal management zone presenting a range of issues from storm surge, flood plain and public access that may influence development patterns.

- Mill River provides a location to continue New Haven’s tradition in manufacturing and an opportunity to build on some emerging strengths.
Today’s focus

• Specific potential concepts and strategies to preserve and enhance Mill River’s continued viability as an employment center for New Haven
• Waterfront storm surge and flood management
• Zoning adaptations to reflect changes in manufacturing industries
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Flood Zones in the Mill River

The waterfront along the Mill River is in transition; currently its future as usable maritime infrastructure is questionable as the industries that fall within the district are being threatened by increased flooding by stormwater and hurricane surges.
Existing Conditions:
Marine Infrastructure

NORTH OF GRAND AVE
- Non-navigable waterway (no dredging, low bridge); no useable waterfront
- Mostly soft edge (riprap, grass, earth, and vegetation)
- Remnants of prior wood structures

GRAND AVE TO CHAPEL ST
- Mostly usable waterfront; various conditions (newly installed to completely degraded)
- Interspersed soft edges where infrastructure has been removed

SOUTH OF CHAPEL ST
- Mostly riprap as river widens
Marine Infrastructure

1. 

2. 

3. 

4. 

5. 

6.
Marine Infrastructure
Scenario I: Intensive Infrastructure Investment

- Significant infrastructure
- Flood Gate, Berm, Pumps
- Storm Surge/Flood Capacity
- New Park
- No Dredging

Interim Uses (0-10yrs):
- Interim open-space uses established for Simkin site
- Decision should be made to stop dredging in the Mill River above Chapel Street bridge

Long Term Strategies (10-50):
- New flood gate and pumps at Chapel Street bridge
- Create berms on east and west sides of river to protect areas outside of surge area
- Saint-Gobain and Simkin sites are cut to create large surge capacity
- Radiall site filled to create protected development site
- River basis is used for large park as well as major flood control and surge protection
- Development sites can be created along the berm and the riverine open space.
City-wide Waterfront Planning

Example of Possible Flood Gate location

Example of Possible Flood Gate location
City-wide Waterfront Planning

Example of Possible Flood Gate location

Example of Possible Flood Gate location
Scenario II: Paired Capacity Investment

- Raise/Protect Two Development Sites
- Lower Two Sites for Stormwater Parks
- East Parcels Not Protected
- Some Marine Infrastructure maintained

Interim Uses (0-10 yrs):
- Interim open-space uses established for Simkin site
- Decisions made about dredging the Mill River

Long Term Strategies (10-50):
- Cut Simkin site for flood/surge capacity
- Site will manage stormwater for adjacent site and have integrated long-term open space programming.
- Cut Saint Gobain site for flood resilience
- Program low-intensity recreation
- Fill salt pile site for flood prevention and to create development potential
- West development sites raised out of flood plain and incorporate hybrid typologies
- East sites require parcel-by-parcel decisions
Scenario II:
Paired Capacity
Investment
Scenario III: Natural Attenuation

- Minimal Intervention
- Waterfront Parcels Continue to Flood
- Augmented Natural Ecological Succession
- Reclaimed Land Becomes Nature Park
- Select Marine Infrastructure Maintained

Interim Uses (0-10 yrs):
- No flood/storm surge control infrastructure investment
- Limited intervention to assist natural restoration processes (seeding strategies)
- High risk sites used as interim open space

Long Term Strategies (10-50):
- Businesses in flood area move elsewhere due to financial pressure
- Natural processes reclaim land
- Site regains flood resilience and can be reclaimed as passive recreation space
- Working waterfront can be maintained but should integrate storm water management
Scenario III:
Natural Attenuation
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The death of manufacturing in the US is greatly overstated

Nationally manufacturing has stopped shedding jobs....

In part because the economics of China are becoming less compelling

Source: NP analysis of BLS data
The China Gap is closing

PWC
Chinese vs. US Supply Chain Advantage
Steel Products
% of Revenues

Advantage US

2006 2007 2008 2009 2010

0.34% 1.72% 1.01% 2.06%

Advantage China

-3.57%

Hackett Group Global Supply Chain Study
China Cost Advantage

2005 2010 2013

51% 31% 38% 30% 16%

Labor Landed Cost

Source: PWC, Alix Partners, Hackett Group; NP graphics
China gap is closing (continued)...

- Time, not only freight costs, are an increasingly important consideration
- Transit alone from China can take 4-6 weeks
  - A client has a lead time of 7 months
  - Drives carrying excess inventory
- Each day in transit equal to a .5% to 2.3% tax - NBER working paper
- If a product is late to market by 6 months 33% of gross margins are already lost – McKinsey

Source: Journal of Commerce; Logistics Performance Indicator, World Bank
So what might this mean – more than ½ of US manufacturing firms are investigating the potential to bring jobs back to the US

- Most analysts believe movement will become more noticeable beginning in 2015
- Boston Consulting Group estimates that another 600k-1 million direct manufacturing jobs with another 1 million in support jobs could be created by 2020
- However, most analysts believe that the opportunities will principally be for the industrial south and selected areas in the midwest

Source: Boston Consulting Group; Hackett Group
Small batch / Bespoke / Niche product manufacturing has been growing in the region

- All the growth has been in firms with less than 20 people

**Example**

### Connecticut’s New Manufacturers

<table>
<thead>
<tr>
<th>Industry</th>
<th>1998</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverage</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Custom Woodwork</td>
<td>28</td>
<td>45</td>
</tr>
</tbody>
</table>

### Newport County RI New Manufacturers

<table>
<thead>
<tr>
<th>Industry</th>
<th>2007</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Mfg</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Glass/Ceramics</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

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Mill River Planning Initiative | March 27, 2013
Industrial startup space is creating new product-based companies

Collaborative Industrial Tools

Garment Incubators

Food Incubators
Manufacturing in the future will look very different from 20 years ago

### Additive Manufacturing
- Creating products by layering materials rather than subtracting materials
- Technologies
  - 3D printing
  - Laser sintering
- Examples of current products
  - High speed gearboxes
  - Jet engine ducts
  - Dental implants
- Future products
  - Biomaterials
  - Precision parts

### Molecular / Nano Manufacturing
- Creating products through assembly at the molecular level
- Nano products
  - Carbon nanotubes
- Synthetic biology

### Personal / Bespoke Production
- Creating small batch or custom products
- Typically found in jewelry, food products, textiles, clothing, furniture
Projected growth rates

**Additive Manufacturing**
- Equipment sales growing an average 26.4% per year
- Projected global sales of $6.9 billion by 2019
- For perspective Chinese Plastics Injection Machine market is $3.9 billion

**Molecular / Nano Manufacturing**
- Consumer nano-based products have increased from 54 in 2005 to 1317 in 2010
- Silver represents 25% of the involved material

**Personal Production**
- Unknown but as examples
  - Nike custom shoe business is now $100 million annually
  - Makerbot sold 10000 3-D printers in 2011
  - Zazzle, an online mass custom retailer, web traffic has increased from 1 million per month to 4 million per month

Source: Wohlers Associates; Research and Markets
Source: Project on Emerging Nanotechnologies
Technology has made defining manufacturing for purposes of land use and zoning more interesting

Traditional Print Shop usually found in industrial areas

Kinkos

Plastic injection molding machine

3-D Plastic Printer
Industrial arts are a key industrial reuse opportunity but business models can be challenging for most zoning codes.

Boutique Foods

Glass Production

Metal Fabrication
Time for “New Industrialism” zoning?

- Time to market is critical for most manufacturers – a long regulatory process is an impediment
- Changes in manufacturing technology and processes is making a NAICS – use based approach obsolete
- Emerging business models challenge the Euclidean (industrial, commercial, residential) zoning model
  - The manufacturing service bureau – think Kinkos for products
  - Retail front end / manufacturing back end sites commonly found in food, industrial arts, garment products
  - Logistics for some manufacturers involves UPS more than 18 wheelers
- Better to address the real conflict issues through performance-based approach that leverages advancements in environmental and safety standards
  - Noise, smell, light, air, vibration, traffic, hazard materials
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Existing
Land Use

The Mill River is nearly completely industrial.
Existing Zoning

The existing industrial uses are broken down into light industrial (IL) and marine industrial uses (IH).

Farnam Courts is the lone residential parcel in the district.

General business (BA) zoning is discontinuous along Grand Avenue in the Mill River.
New Approaches

Continuing general business (BA) zoning along Grand Avenue facilitates the development of Grand Avenue into a vibrant mixed-use connector street, but complementary to protecting the industrial nature of the

Industrial preservation district to promote and protect industrial and wholesaling enterprises through a property tax stabilization structure to protect them from rising land values

Context-based zoning for industrial and wholesale operations
Presently zoning is based on use tables with an attempt to minimize conflict.

A context-based approach considers the role of form, building reuse potential and external impacts in the industrial district that is supportive of changing business models and reflective of new processes and technologies.
Next Steps!
Next Steps!

• Final Mill River Report - Spring 2013
• Second Phase Mill River Zoning – Fall 2013