Community Development Analytics: From Data to Decisions for Boston Main Streets

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Problem motivation

- Community data analytics project 2012 – 2014 highlighted CBO data needs and lack of use of available datasets (Johnson 2015)
- Boston Main Streets directors dissatisfaction with data reporting requirements
- Gap in IT & analytics research and practice knowledge regarding data needs in urban communities and communities of color
Boston Main Streets

- Structure: 20 neighborhood-based districts across Boston’s residential communities
- Mission: Improve the quality of life in Boston’s neighborhoods through jobs and entrepreneurship
- Stakeholders: Businesses, property owners, nonprofits, residents, visitors, shoppers
- Tasks: Stakeholder education, capacity-building, business development, physical improvements
- Origin: National Main Streets initiative focused on small-town economic development
Problem description

Statement:
- Identify metrics associated with success in local economic development
- Generate decision opportunities for improved program design and implementation

Goals:
- Use principles from PAR, analytics and decision sciences to enable professionals to improve practice based on values, data and analysis
- Embrace systems-type thinking to broaden concept of outcomes (vs. outputs) and decision opportunities (vs. defined tasks)
- Adapt mixed-methods, inductive, community-engaged methods to needs of diverse service areas
What can a successful community data analytics project look like?

NSF–funded project on decision modeling for foreclosure response

- Dorchester CDC
- Fitchburg & Leominster CDC

Emphasis in Dorchester CDC is on individual and neighborhood impacts of specific housing activities

Source: Keisler, Turcotte, Drew and Johnson (2014)
How will we solve the problem?

**Theory:**
- Participatory action research (Maria Torre 2009)
- Community–based operations research (Johnson 2012)
- Qualitative, quantitative and mixed–methods research design (Creswell 2013)

**Data collection:**
- Surveys, interviews, direct observations, focus groups, administrative datasets

**Analytic methods:**
- Qualitative data analysis (Maxwell 2012)
- Quantitative data analysis (Albright, Winston and Zappe 2009)
- Value–focused thinking & decision analysis (Edwards, Miles and von Winterfeldt 2007)
- Geographic information systems (Gorr and Kurland 2015)
Project design and timeline

- Problem identification with BMS directors data committee (2014)
- **Survey of BMS directors (Spring 2015)**
- Field data collection at three BMS sites (Summer 2015)
- Individual and cross-site analysis (Summer – Fall 2015)
- Cross-site VFT focus group (Fall 2015)
- Findings, recommendations (Fall 2015 – Spring 2016)
Survey findings (N = 12)

“Is there anything that you want to measure in your district, but do not have the means to measure?”

- “Impact special events have on small businesses”
- “I wish I knew how to measure how businesses in the district were performing economically”
- “In general I have the means to measure the things I need to – what I lack is the capacity/systems to easily and regularly collect data.”
Survey findings, continued

“How do you use data in your day-to-day operations?”

◦ “We don't use data because we don't have data for day-to-day operation. We only track data for special events.”
◦ “I don't know that I use it in day-to-day other than to recruit businesses.”
◦ “I refer to market and demographic data in development proposals mostly.”
Survey findings, continued

“What would you say are the 3 biggest concerns in your district?”

3 Biggest Concerns

- Abandoned Buildings and Vacant Storefronts: 3
- Accessibility by either T or car: 2
- Aesthetics and Design: 4
- Commercial Space Affordability: 4
- Crime: 5
- Litter and Waste Management: 7
- Other: 4
- Parking: 7
Survey findings, continued

What are Main Street boundaries?

- Defined by Department of Neighborhood Development
- Defined by respondents
- DND approximation using Census units for demographic analysis

Sources: Bureau of the Census (2010), Boston Redevelopment Authority (2015)
Service area boundaries: East Boston Main Streets
Service area boundaries: Brighton Main Streets

Legend

- Roads
- BrightonBusRoutes
- MS District as Defined by DND
- MS District as Defined by the District Manager
- Parcels_2015

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Boston Main Streets community characteristics

Racial and Ethnic Breakdown

Sources: Bureau of the Census (2010), Boston Redevelopment Authority (2015)

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Boston Main Streets community characteristics, continued

Sources: Bureau of the Census (2010), Boston Redevelopment Authority (2015)
Boston Main Streets community characteristics, continued

Households with Children

Sources: Bureau of the Census (2010), Boston Redevelopment Authority (2015)
Boston Main Streets community characteristics, continued

Sources: Bureau of the Census (2010), Boston Redevelopment Authority (2015)
What have we learned?

- We’ve had to create data where none existed
- Enthusiasm across Main Streets organizations to identify community success metrics
- Main Streets directors have well-defined data needs and challenges
- Main Streets communities show great diversity across socio-demographic measures
- Direct engagement of community stakeholders essential for project success

We will focus on three communities for in-depth analysis: Upham’s Corner (Dorchester), East Boston and Hyde Park
Next steps

- Field data collection in case study sites
- Approximation to community-level, cross-stakeholder values structures
- Analysis of values structures across case study sites
- Develop common values structures representing collective priorities of Boston Main Streets and communities served
- Policy recommendations
  - Performance metrics
  - Improved data collection procedures
  - Decision opportunities