Street Commerce
Creating Vibrant Urban Sidewalks

Andres Sevtsuk
Assoc. Professor of Urban Science and Planning
Director, City Form Lab
DUSP, MIT
Street commerce is part and parcel of building inclusive, diverse, and vital local economies.
Many functions of streets
Few urban spaces where such different constituents meet
Faith organization

School / Interest Organization

Work

Family
Faith organization

School / Interest Organization

Work

Family

Sidewalks with Street Commerce
a. Social ties and equity

Strength of Weak Ties
Granovetter 1973

People are more likely to find a job via someone they meet twice a year than someone they see more than twice a week.
a. Social ties and equity

**Strong ties**
e.g. workplace

**Weak ties**
e.g. conference

**Latent ties**
e.g. dense street

**No ties**
e.g. busy road
Benefits

b. Environmental  

Over 2/3 of all trips in the US are for shopping, personal, family, and social purposes. Amenity clusters—agglomerations of retail, food and beverage, and personal service establishments—that are accessible on foot or by public transit, play an important role in reducing daily transportation energy consumption.

c. Economic  

A significant share of revenues generate by small, locally owned stores reverberate back into the local economy via subcontracting from local providers, payments and benefits made to local employees.
Paris mayor unveils '15-minute city' plan in re-election campaign

Anne Hidalgo wants to create self-sufficient communities with amenities nearby, to cut pollution and stress

The Paris mayor, Anne Hidalgo, has made phasing out vehicles and creating a “15-minute city” a key pillar of her offering at the launch of her re-election campaign.

The Socialist politician wants to encourage more self-sufficient communities within each arrondissement of the French capital, with grocery shops, parks, cafes, sports facilities, health centres, schools and even workplaces just a walk or bike ride away.
Factors affecting street commerce

Demographics

Location

Regulation and Zoning

Transportation and Mobility

Technology and E-Commerce

Building and street typologies

Clustering between stores

Organizing between stores

Urban Form and Land Use Patterns

Costs
Contents

1. Macro picture – predictability of retail location patterns.
2. Micro picture – survival of the individual store.
3. Economic view of retail densities.
4. Clustering between stores.
5. Coordination between stores.
6. COVID-19 impacts on street commerce.
1. Macro picture – predictability of retail location patterns.
Defining retail clusters as agglomerations, where a minimum number of stores co-exist and where the distance between stores is less than a given limit.
Clusters of street commerce around Cambridge MA.
Predictability of retailers by city size

Log-Log scatter plot of retail, food and service establishments versus population size in 273 US metro areas, where population is greater than 40,000 people.

Example: Washington - Arlington - Alexandria metro population was 5.582 million in 2010. The trend line predicts a metro area of this size should have 46,505 retail, food and personal service establishments. The actual number is 41,453
Scaling of retail clusters: there are exponentially more small clusters than large clusters.

Virginia Beach, VA
Example
In Phoenix AZ, Zipf’s Law predicts 25 retail clusters with 25-52 establishments, while the actual number of such clusters is 23.

The trend also predicts 9 clusters with 53-104 establishments, while the actual numbers is 8.

And the predicted number of clusters with 105-199 establishments is three, which exactly matches three such clusters in reality.

No clusters over 4,000 stores predicted, but there actually is one...
Predictability of retailers by city size
Log-Log scatter plot of retail, food and service establishments versus population size in 273 US metro areas, where population is greater than 40,000 people.
San Luis Obispo / Paso Robles
Predicted: 2550 establishments.
Actual: 3850 establishments.
Los Angeles

Largest cluster: 14% of all stores

Source: brighamyen.com

Chicago

Largest cluster: 7% of all stores

Source: flickr.com

New York

Largest cluster: 33% of all stores

Source: winick.com

Houston

Largest cluster: 1% of all stores

Source: houston-texas-us.blogspot.com
Percent of population living within 1,000 meters of at least one retail cluster of more than 25 establishments in cities with populations over 350,000 inhabitants.

<table>
<thead>
<tr>
<th>City</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detroit, MI</td>
<td>4%</td>
</tr>
<tr>
<td>Memphis, TN</td>
<td>6%</td>
</tr>
<tr>
<td>Fort Worth, TX</td>
<td>6%</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>7%</td>
</tr>
<tr>
<td>Oklahoma City, OK</td>
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<td>San Antonio, TX</td>
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</tr>
<tr>
<td>Cleveland, OH</td>
<td>8%</td>
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<tr>
<td>Tucson, AZ</td>
<td>9%</td>
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<tr>
<td>Jacksonville, FL</td>
<td>9%</td>
</tr>
<tr>
<td>Omaha, NE</td>
<td>9%</td>
</tr>
<tr>
<td>El Paso, TX</td>
<td>10%</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>11%</td>
</tr>
<tr>
<td>Tulsa, OK</td>
<td>12%</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>13%</td>
</tr>
<tr>
<td>Albuquerque, NM</td>
<td>13%</td>
</tr>
<tr>
<td>Fresno, CA</td>
<td>13%</td>
</tr>
<tr>
<td>Sacramento, CA</td>
<td>16%</td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td>16%</td>
</tr>
<tr>
<td>Austin, TX</td>
<td>16%</td>
</tr>
<tr>
<td>Houston, TX</td>
<td>20%</td>
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<tr>
<td>Dallas, TX</td>
<td>24%</td>
</tr>
<tr>
<td>San Jose, CA</td>
<td>29%</td>
</tr>
<tr>
<td>Denver, CO</td>
<td>30%</td>
</tr>
<tr>
<td>Las Vegas, NV</td>
<td>31%</td>
</tr>
<tr>
<td>Long Beach, CA</td>
<td>32%</td>
</tr>
<tr>
<td>Minneapolis, MN</td>
<td>33%</td>
</tr>
<tr>
<td>Portland, OR</td>
<td>34%</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>37%</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>37%</td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td>39%</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>40%</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>41%</td>
</tr>
<tr>
<td>Oakland, CA</td>
<td>51%</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>54%</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>55%</td>
</tr>
<tr>
<td>Honolulu, HI</td>
<td>62%</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>67%</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>69%</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>84%</td>
</tr>
<tr>
<td>New York, NY</td>
<td>88%</td>
</tr>
</tbody>
</table>
Cities, where more than $\frac{1}{2}$ of all residents have a retail cluster within a 15min walk (top) and those with the least (bottom).

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Population within 1000m of a retail cluster</th>
<th>Population 2010</th>
<th>Land Area (km²)</th>
<th>Residential Density</th>
<th>FAR</th>
<th>Built Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York City, NY</td>
<td>88%</td>
<td>8,175,133</td>
<td>783.0</td>
<td>10,890 km²</td>
<td>1.66</td>
<td>35.38%</td>
</tr>
<tr>
<td>2</td>
<td>San Francisco, CA</td>
<td>84%</td>
<td>805,235</td>
<td>121.5</td>
<td>7,174 km²</td>
<td>0.43</td>
<td>27.42%</td>
</tr>
<tr>
<td>3</td>
<td>Boston, MA</td>
<td>69%</td>
<td>617,594</td>
<td>125.4</td>
<td>2,700 km²</td>
<td>0.71</td>
<td>16.14%</td>
</tr>
<tr>
<td>4</td>
<td>Miami, FL</td>
<td>67%</td>
<td>399,457</td>
<td>93.2</td>
<td>4,866 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Honolulu, HI</td>
<td>62%</td>
<td>337,256</td>
<td>156.7</td>
<td>2,236 km²</td>
<td>1.50</td>
<td>14.16%</td>
</tr>
<tr>
<td>6</td>
<td>Los Angeles, CA</td>
<td>55%</td>
<td>3,792,621</td>
<td>1,214.0</td>
<td>3,275 km²</td>
<td>1.40</td>
<td>18.67%</td>
</tr>
<tr>
<td>7</td>
<td>Washington, DC</td>
<td>54%</td>
<td>681,170</td>
<td>158.1</td>
<td>4,308 km²</td>
<td>0.83</td>
<td>16.47%</td>
</tr>
<tr>
<td>8</td>
<td>Oakland, CA</td>
<td>51%</td>
<td>390,724</td>
<td>144.8</td>
<td>2,901 km²</td>
<td>0.69</td>
<td>17.04%</td>
</tr>
<tr>
<td>9</td>
<td>Chicago, IL</td>
<td>41%</td>
<td>2,695,598</td>
<td>589.6</td>
<td>4,572 km²</td>
<td>-</td>
<td>14.15%</td>
</tr>
<tr>
<td>10</td>
<td>Atlanta, GA</td>
<td>40%</td>
<td>417,735</td>
<td>344.9</td>
<td>1,211.17 km²</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Mean**: 61% 1,831,252 373.1 4,413.4 km² 1.03 19.93%

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<th>Residential Density</th>
<th>FAR</th>
<th>Built Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Omaha, NE</td>
<td>9%</td>
<td>383,964</td>
<td>329.2</td>
<td>1166.35 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>32</td>
<td>Jacksonville, FL</td>
<td>9%</td>
<td>822,050</td>
<td>1,934.7</td>
<td>425 km²</td>
<td>0.05</td>
<td>1.23%</td>
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<tr>
<td>33</td>
<td>Tucson, AZ</td>
<td>9%</td>
<td>520,116</td>
<td>611.7</td>
<td>868 km²</td>
<td>0.21</td>
<td>6.52%</td>
</tr>
<tr>
<td>34</td>
<td>Cleveland, OH</td>
<td>8%</td>
<td>396,815</td>
<td>201.2</td>
<td>1,972 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>35</td>
<td>San Antonio, TX</td>
<td>7%</td>
<td>1,469,845</td>
<td>1,193.7</td>
<td>1,147 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>36</td>
<td>Oklahoma City, OK</td>
<td>7%</td>
<td>579,999</td>
<td>1,556.9</td>
<td>360 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>37</td>
<td>Columbus, OH</td>
<td>7%</td>
<td>787,033</td>
<td>562.5</td>
<td>1,399 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>38</td>
<td>Fort Worth, TX</td>
<td>6%</td>
<td>854,113</td>
<td>886.3</td>
<td>842 km²</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>39</td>
<td>Memphis, TN</td>
<td>6%</td>
<td>646,889</td>
<td>816.0</td>
<td>770 km²</td>
<td>0.26</td>
<td>6.42%</td>
</tr>
<tr>
<td>40</td>
<td>Detroit, MI</td>
<td>4%</td>
<td>713,777</td>
<td>359.4</td>
<td>1,900 km²</td>
<td>0.25</td>
<td>14.78%</td>
</tr>
</tbody>
</table>

**Mean**: 7% 717,460 845.2 1,084.9 km² 0.19 7.24%
San Francisco
84% population has an amenity cluster within 15min of their home.

Boston
69% population has an amenity cluster within 15min of their home.
2. Micro picture – survival of the individual store.
1. How big of a catchment area (# of people) does this Starbucks shop in Cambridge, MA need to break even?
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Rent: $12,500 / month
Utilities: $1,000 / month
Staff: (10 baristas x $12/h)x20h/week + (2 managers x $20/h)x40h/week = $4,000/week = $16,000/month
Total: $29,500 / month
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Store uses 70% of proceeds on covering fixed costs
Typical customer spends $5, of which 0.7*5 = $3.5 go to fixed costs
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In order to generate $29,500 / month, the shop needs 29,500 / 3.5 = 8,429 customers a month or **281/day**.
1. How big of a catchment area (# of people) does this Starbucks shop in Cambridge, MA need to break even?

Rent: $12,500 / month  
Utilities: $1,000 / month  
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Total: $29,500 / month

Store uses 70% of proceeds on covering fixed costs  
Typical customer spends $5, of which 0.7*5 = $3.5 go to fixed costs

In order to generate $29,500 / month, the shop needs 29,500 / 3.5 = 8,429 customers a month or 281/day.

If only one in 40 ppl in the area visit Starbucks once a day on average, then 281*40 = 11,240 ppl needed in the daily catchment area to sustain the store.
2. How big of a catchment area (# of people) does this taxidermy store on Essex Road in London UK need to break even?
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Rent: $ 0/ month  
Utilities: $2,000 / month  
Staff: 3 x $2,000 = $6,000/month  
Total: $8,000 / month
2. How big of a catchment area (# of people) does this taxidermy store on Essex Road in London UK need to break even?

Rent: $ 0/ month
Utilities: $2,000/month
Staff: 3 x $2,000 = $6,000/month
Total: $8,000 / month

Store uses 57% of proceeds on covering fixed costs
Typical customer spends $465, of which 0.57*465 = $265 go to fixed costs
2. How big of a catchment area (# of people) does this taxidermy store on Essex Road in London UK need to break even?

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Utilities: $2,000 / month
Staff: 3 x $2,000 = $6,000/month
Total: $8,000 / month

Store uses 57% of proceeds on covering fixed costs
Typical customer spends $465, of which 0.57*465 = $265 go to fixed costs

In order to generate $8,000 / month, the shop needs 8,000 / 265= 30 customers a month or 1/day.
2. How big of a catchment area (# of people) does this taxidermy store on Essex Road in London UK need to break even?

Rent: $0/ month  
Utilities: $2,000 /month  
Staff: 3 x $2,000 = $6,000/month  
Total: $8,000 / month

Store uses 57% of proceeds on covering fixed costs  
Typical customer spends $465, of which 0.57*465 = $265 go to fixed costs

In order to generate $8,000 / month, the shop needs 8,000 / 265= 30 customers a month or 1/day.

If only one in 10,000 ppl in the city buy stuffed animals once in 3 years, on average, then (365*3)*10,000 = 10,95 million ppl needed in the daily catchment area to sustain the store.
Median number of residents per business establishment among the 50 most populous US cities in 2010.

Source: Sevtsuk (upcoming 2019).
3. Economic view of retail densities
A one-dimensional model
Classical retail location theory (Di Pasquale & Wheaton 1996)

Distance between stores (D) is determined by:

\[ D = \left( \frac{C}{kvF} \right)^{\frac{1}{2}} \]

- \( v \): Frequency of purchase trips for a given good
- \( k \): Transportation costs for consumers
- \( F \): Density of customers
- \( C \): Fixed costs for a retail facility
- \( P \): Unit price of good
- \( mc \): Marginal (wholesale) cost of a good to retailers

When fixed costs \( C \) ↓, then distance between stores ↓
When customer density \( F \) ↑, then distance between stores ↓
When frequency of visits \( v \) ↑, then distance between stores ↓
When transportation costs \( k \) ↑, then distance between stores ↓
When frequency of visits $v \uparrow$, then distance between stores $\downarrow$.
When frequency of visits $v \downarrow$, then distance between stores $\uparrow$.
When fixed costs $C \downarrow$, then distance between stores $\downarrow$.
When fixed costs $C \uparrow$, then distance between stores $\uparrow$.
When customer density $F \uparrow$, then distance between stores $\downarrow$. 
When customer density $F \downarrow$, then distance between stores $\uparrow$
When transportation costs $k \uparrow$, then distance between stores $\downarrow$. 

Venice, Italy
When transportation costs decrease, then distance between stores increases.
Transportation costs

In car-oriented cities, cheaper to move a mile
Transportation costs

In pedestrian/transit-oriented cities, more expensive to move a mile
Relative effects of destination size VS proximity
On store patronage.

In walkable/transit-oriented cities, retail patronage depends more on proximity...

Numerous but smaller destinations

In car-oriented cities, retail patronage depends more on destination size

Fewer but larger retail destinations
Interactions between urban form, transportation mode share and retail density.

A
- Denser retail pattern (more shops per sq. km)
  - High walking and public transit mode share
  - Shorter average trips (all trips, not just retail)
  - Higher density (more residents and jobs per sq. km)

Built environment (urban form and land use pattern)

B
- Sparser retail pattern (less shops per sq. km)
  - Lower density (less residents and jobs per sq. km)
  - High automobile mode share
  - Longer average trips (all trips, not just retail)
4. Clustering between stores.
Central Places
W. Christaller, 1933
A two-dimensional schema
Classical retail location theory: Christaller and Losch

Assumptions

1. Customers undertake a separate trip for each good
2. Each good is obtained from the nearest available store
3. Customers are free travel in any direction along straight-line travel paths (Christaller 1933)
Accessibility to customers plays a key role for patronage, but accessibility is not evenly distributed in space.

A city is not a “featureless plain” (Alonso 1964) → retail pattern not hex.
Introducing environmental geometry, uneven street networks

Classical retail location theory

Exogenous clustering
Difficult to distinguish exogenous VS endogenous clustering empirically...
Retail densities emerge at locations with better accessibility.
Retail clustering

1. Complimentary

2. Competitive
Retail clustering
Lessons from Brasilia, 1956

Retail clustering
Lessons from Brasilia, 1956
Retail clustering
Lessons from Brasilia, 1956

Source: panoramio.com
Why do clusters form?
Neo-classical retail location theory

Complementary clustering

Multi-purpose shopping → Consumer savings in transportation costs
Eaton & Lipsey, 1982
Positive demand externalities between stores
(Brueckner, 1993)

Competitive clustering

Lower risk for unexpected behavior between competitors
Hotelling, 1929
Price and product comparison → Lower search costs
Eaton & Lipsey 1975
Lower prices through Cournot competition
Dudey, 1990
### Which stores are most likely to cluster with like stores?

Stores selling “comparison goods” cluster, “Convenience goods” do not!

<table>
<thead>
<tr>
<th>Rank</th>
<th>Description</th>
<th>Clustering Coeff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sporting Goods, Hobby, Book, and Music Stores</td>
<td>0.817***</td>
</tr>
<tr>
<td>2</td>
<td>Food Services and Drinking Places</td>
<td>0.556**</td>
</tr>
<tr>
<td>3</td>
<td>Electronics &amp; Appliance Stores</td>
<td>0.425*</td>
</tr>
<tr>
<td>4</td>
<td>Clothing and Clothing Accessories Stores</td>
<td>0.326**</td>
</tr>
<tr>
<td>5</td>
<td>Food &amp; Beverage Stores</td>
<td>NONE</td>
</tr>
<tr>
<td>6</td>
<td>Miscellaneous StoreRetailers</td>
<td>NONE</td>
</tr>
</tbody>
</table>

Source: Sevtsuk 2010
5. Coordination between stores.
Coordinated retail clusters: joint management
Uncoordinated retail clusters: fragmented ownership
Types of retail clusters

**Shopping centers**
- Coordinated lease contracts
- Controlled tenant entry
- Coordinated management

**Street commerce**
- Independent lease contracts
- Uncontrolled tenant entry
- Fragmented management
Average Sales Volume per Business Establishment
in Los Angeles for year 2010

- Retail
- Food & Beverage
- Services

$1,980,613
$913,363
$745,830
$1,199,041
$671,107
$434,008

Shopping Centers
In Cluster (Not Shopping Centers)
Uncoordinated retail clusters: fragmented ownership

Public benefits:

- More resilient to economic downturns and market shifts.
- Supports shared wealth creation, with more owners.
- Foster democratic public space between stores.
- Produces a genuinely diverse built environment that is more serendipitous and enriching than malls.
Rise of Life-Style centers... Assembly Square, Boston
Characteristic features:

• Outdoor circulation between stores, reminiscent of traditional main streets.

• Mixed use, including retail, food services, leisure and sometimes housing + office.

• Catering to higher end customers.
Rise of Life-Style centers... The Grove, LA
Rise of Business Improvement Districts - BIDs
Flatiron - 23rd Street Partnership
Establishment of a BID

- BIDs are private-public partnerships
- Governed by a privately elected BID board
- But publicly incorporated and fees collected by the municipality
- 60% of property owners need to agree to establish a BID
- BID dues are usually levied on top of normal property taxes
- All property owners within boundary pay, regardless of agreement
- 5-year renewal cycle
Rise of Business Improvement Districts – BIDs
Flatiron – 23rd Street Partnership

Establishment of a BID

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- Governed by a privately elected BID board
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- 60% of property owners need to agree to establish a BID
- BID dues are usually levied on top of normal property taxes
- All property owners pay, regardless of agreement
- 5-year renewal cycle

Typical BID activities

- Extra street cleaning and security patrols
- Join marketing of the cluster – ads, festivals, events.
- Public space improvements – street furniture, flowers, sidewalk paving.
- New tenant recruitment to vacant spaces
- Grants to attract desired tenants
- Coordinate opening hours of stores.
Los Angeles BIDs

9 BIDs in downtown, 41 in the city as a whole
Rise of Business Improvement Districts – BIDs

- Events and marketing
- Area upkeep
- Business recruitment
- Public space improvement
Are BIDs successful?
Depends on how we measure success. Most evaluations performed by the BIDs themselves, hotly debated question...

Before-After Vacancies in NYC BIDs

<table>
<thead>
<tr>
<th>BID</th>
<th>First Recorded Commercial Vacancy Rate</th>
<th>Rate in 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flatbush Avenue</td>
<td>30%</td>
<td>3%</td>
</tr>
<tr>
<td>North Flatbush Avenue</td>
<td>22%</td>
<td>9%</td>
</tr>
<tr>
<td>Sunset Park – 5th Avenue</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>34th Street</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>Lower East Side</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Times Square</td>
<td>25%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: nyc.gov

Sales per employee in LA BIDs VS non-BID clusters

Types of retail clusters

**Shopping centers**
- Coordinated lease contracts
- Controlled tenant entry
- Coordinated management

**Street commerce**
- Independent lease contracts
- Uncontrolled tenant entry
- Fragmented management

**BIDs**
- Independent lease contracts
- Uncontrolled tenant entry
- Partly joint management
- Common services, upkeep
5. COVID-19 impacts on street commerce
Major retail problems pre-date COVID19

- Rise of E-commerce
- Shift from stores to services
- Over-leveraged chains
- Retail leasing structure is outdated
- Lack of affordable retail space
What are the key factors impacting the patronage of amenity clusters?

- Built Environment
- Regulations (e.g. COVID-19 closures).
- Behavior / Preferences
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- Built Environment
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Add slide about which NAICS lost most from online site

Middlesex County activities
Visits to amenity clusters in and around Somerville, MA.


Same as expected
Visits to amenity clusters in and around Somerville, MA.

88% lower than expected
Visits to amenity clusters in and around Somerville, MA.

65% lower than expected
South Medford Main St
% Comparison
A 1% increase in comparison-goods stores is perceived as:

% F&B
A 1% increase in F&B stores is perceived as:

% Convenience
A 1% increase in convenience-goods stores is perceived as:

% Personal
A 1% increase in personal-goods stores is perceived as:

% Entertainment
A 1% increase in entertainment stores is perceived as:
(a) April 2020 Expected vs Actual Percent Change
Expected Trips: 359,575
Actual Trips: 45,975

(b) November 2020 “New Lockdown”
Scenario 1: Prediction vs Actual
Predicted Trips: 68,175
Actual Trips: 74,100

(c) November 2020 Expected vs Actual Percent Change
Expected Trips: 266,400
Actual Trips: 74,100

(d) November 2020 “Full Reopen”
Scenario 2: Prediction vs Actual
Predicted Trips: 112,525
Actual Trips: 74,100

Percentage Change in Trips, September 2020 Scenario 1 Prediction Deciles (Fixed Bins For All Maps)
COVID19 impacts?

- More trips originate from homes → amenities that were used to relying on demand from employees have suffered more.

- Heterogeneity in the relative importance of policy VS public behavior.

- Unclear how far the urban escape trends will last. Will people prefer suburbs again or return to inner cities with a vengeance?

- Remote working could stretch beyond COVID, giving people more time to spend time outside the office in other places they enjoy → street commerce benefits?
What can cities do to support street commerce?

- Don’t subsidize big box stores (with infrastructure, tax breaks etc) but small, locally owned stores.
- Ease zoning to allow more flexible uses on commercial streets.
- Support density and land use mixing.
- Support transit/walking/biking, organize car-free days etc.
- Establish Affordable retail space policies.
- Support F&B businesses doing their own online orders and organizing their own deliveries.
Thank you!

http://cityform.mit.edu
asevtsuk@mit.edu