Technical Guide

- Boston Food Retailers
- Boston Food Access Index Score
- Boston Opportunity Areas

Data shared by the Metropolitan Area Planning Council with the Boston Office of Food Access, July 2018.

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MAPC
METROPOLITAN AREA PLANNING COUNCIL
SMART GROWTH AND REGIONAL COLLABORATION

1) Food Retailers

Description: Boston food retailers, assigned weights based on estimated healthy food availability.

Data Provided:

- Shapefiles provided to Boston Office of Food Access are:
    - Boston food retailers (FoodRetailers_Boston.shp)

Summary Information

a) Format: Spatial
b) Source: Reference USA, MassGIS and Tufts University
c) Date: 2016 (retailers), April 2016 (MassGIS – Farmers Markets)
d) Description of Dataset: This is a Massachusetts food retailer and farmers market dataset. Food retailer data was compiled, cleaned, and categorized for food retailers with one of the eight relevant primary NAICS codes: 445110, 445120, 445210, 445220, 445230, 452910, 446,110, 445110. This data was downloaded from ReferenceUSA. This dataset also includes farmers markets, downloaded from MassGIS.
e) Description of Source: This Dataset is part of the Food Access Index completed in partnership with the 2016 Tufts University Field Project and MAPC. See the Food Access Index report for more details.
f) Updating data: This dataset will be updated when data is validated on a more granular level when working with Mass in Motion communities or municipal partners.

Metadata:

Company_Na	**Company Name**
Address	**Address**
City	**City**
State	**State**
ZIP_Code	**Zip Code**
Record_Typ	**Record Type**
Longitude	**Longitude**
Latitude	**Latitude**
Primary_NA	**Primary NAICS Code**
Primary_1	**Primary NAICS Code Description**
Square_Foo	**Square Footage**
Weight	**Weight**
Source	**Data Source**
MARKET_ID	**Unique identifying number given to each retailer**

Symbology Guidance: Symbolize by "Weight" value field, where the numbers indicate estimates of relative level of healthy food availability by retailer type. "1" represents the least amount of healthy food available, and "5" represents the most. See the Food Access Index Report for the methodology of assigning weights.

2) Travelshed Polygons: Food Access Index

Description of Results: The Food Access Index assigns a score to census tracts that estimates the availability of healthy food and the variety of food stores within ½ mile and ¼ mile travelsheds. A higher score indicates both a greater availability of healthy food and variety of food stores, where a lower score indicates lesser availability of healthy food and variety of food stores.

Data Provided:

- Shapefiles provided to Boston Office of Food Access are:
  - ½ mile food access score shapefile (Food Access Score_HalfMile.shp)
  - ¼ mile food access score shapefile (Food Access Score_QuarterMile.shp)

Summary Information

a) Format: Spatial
b) Source: Tufts University
c) Date: 2016
d) Description of Dataset: Network analyst-generated food retailer travelsheds at different distances, and weighted by store type. These were generated using the Food retailer dataset. The network distances are ¼ mile (400 meters) and ½ mile (800 meters). Analysis for 1 mile (1600 meters) and 5 miles (8000 meters) were also produced, but are appropriate for rural and suburban assessments, not urban assessments.
e) Description of Source: This Dataset is part of the Food Access Index completed in partnership with the 2016 Tufts University Field Project and MAPC. See the Food Access Index report for more details.
f) Updating data: Polygons will be reproduced when analysis is conducted with validated food retailer data on a more granular level when working with Mass in Motion communities or municipal partners

Metadata:

FID	**Field Identification**
Shape	**Shapefile Type**
objectid	**Unique, not null integer field to identify rows assigned by ArcGIS**
Bg10_id	**10-digit block group identification number**
Ct10_id	**10-digit census tract identification number**
Muni_id	**Municipal identification number**
Comm_type	**Community Type, according to MAPC typology**
Mean800m (or Mean400m)	**Mean Food Access Index Score in 800 meters or ½ mile (or 400 meters or ¼ mile)**
Idx800m (or Idx400m)	**Food Access Index Score category grouping**
St_area_sh	**The area of the shapefile in square meters**
St_length_	**The length of the shapefile in meters**

Symbology Guidance: Symbolize by "Mean800m" or "Mean400m", separating into three (3) categories: 0-4.999999 (Limited Healthy Food Availability); 5.000000-10.999999 (Moderate Healthy Food Availability); and 11.000000-15.000000 (Significant Healthy Food Availablity). See the Food Access Index Report for more information on the meaning of the Food Access Index Scores.

3) Travelshed Polygons: Opportunity Areas

Description of Results: The Opportunity Areas analysis is a derivative of the Food Access Index analysis. It isolates census tracts that scored at or below 4.999999. These are areas within which no supermarkets/grocery stores are present within the travelshed distance (1/4 or ½ mile), and they represent opportunity areas for increasing healthy food access. This analysis could be used to encourage investments in target areas to increase healthy food availability (i.e. Massachusetts Food Trust investment); support existing food retailers to modify their business models to offer healthy and fresh options, or encourage new food retailers, where there is need or where there are none.

Data Provided:

- ½ mile opportunity areas shapefile (OpportunityAreas_HalfMile.shp)
- ½ mile opportunity areas shapefile (OpportunityAreas_QuarterMile.shp)

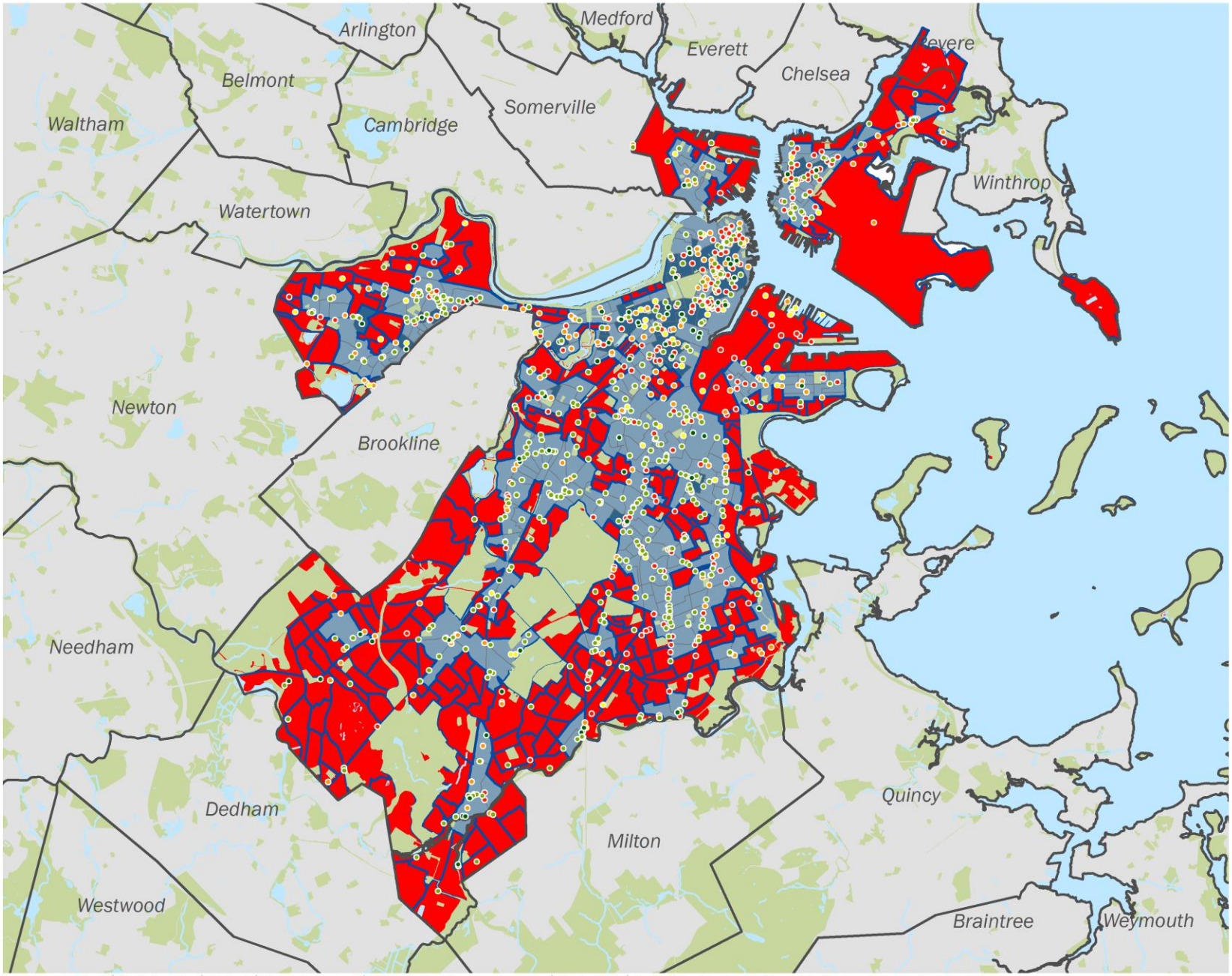
Summary Information

a) Format: Spatial
b) Source: Tufts University
c) Date: 2016
d) Description of Dataset: Network analyst-generated food retailer travelsheds at different distances, and weighted by store type. These were generated using the Food retailer dataset. The network distances are ¼ mile (400 meters) and ½ mile (800 meters). Analysis for 1 mile (1600 meters) and 5 miles (8000 meters) were also produced, but are appropriate for rural and suburban assessments, not urban assessments. The resulting shapefiles include only those census tracts that received a score of 4.999999 or less, isolating census tracts without grocery stores/supermarkets within the associated travelshed.
e) Description of Source: This Dataset is part of the Food Access Index completed in partnership with the 2016 Tufts University Field Project and MAPC. See the Food Access Index report for more details. Additional analysis was conducted by MAPC.
f) Updating data: Polygons may be reproduced when analysis is conducted with validated food retailer data on a more granular level when working with Mass in Motion communities or municipal partners

Metadata:

FID	**Field Identification**
Shape	**Shapefile Type**
objectid	**Unique, not null integer field to identify rows assigned by ArcGIS**
Bg10_id	**10-digit block group identification number**
Ct10_id	**10-digit census tract identification number**
Muni_id	**Municipal identification number**
Comm_type	**Community Type, according to MAPC typology**
Mean800m	**Mean Food Access Index Score in 800 meters or ½ mile, limited to scores 4.999999 and under, by census tract**
Idx800m	**Food Access Index Score category grouping, limited to 0-3 and 3-6**
St_area_sh	**The area of the shapefile in square meters**
St_length_	**The length of the shapefile in meters**

Symbology Guidance: Symbolize by "Mean800m" or "Mean400m", separating into five (5) categories: 0-0.999999; 1.000000-1.999999; 2.000000-2.999999; 3.000000-3.999999; and 4.000000-4.999999. This will show the relative estimated availability of healthy food in the opportunity areas. Include over the opportunity areas shapefile the food retailer dataset, and symbolize as suggested above. See the Food Access Index Report for more information on the meaning of the Food Access Index Scores.



Boston

Food Retailer Landscape by Census Tract

Food Retailers by weight value, Boston

- 1 (Least amount of Healthy Food Available)
- 2
- 3
- 4
- 5 (Greatest Amount of Healthy Food Available)

Opportunity Areas, 1/4 Mile

- Opportunity Areas, 1/4 Mile

Food Access Score, 1/4 Mile

- 0-4.9 (Limited Healthy Food)
- 5 - 10.9 (Moderate Healthy Food)
- 11 - 15 (Significant Healthy Food)

Data Sources:
MAPC. MassGIS.
MassDOT. Census 2010.
ReferenceUSA.

July 2018

0 0.75 1.5 3 Miles

MAPC

Document Path: K:\DataServices\Projects\Current_Projects\Boston_Healthy_Food_Access\ProjectFiles\BostonHealthyFoods_FoodRetailerLandscape_QuarterMile.mxd