## JHS NETS Data Brief Summary

Business data for food stores, recreational facilities, social engagement, and popular walking destinations were purchased using the National Establishment Time Series (NETS) data from Walls and Associates for all zip codes within a 5-mile buffer of any JHS address. This data is available for the years 2000-2010 which covers most time of JHS Exam 1 (2000-2004) and Exam 2 (2005-2011). Data for 2011 will be added when available. The NETS-based data is linked to the JHS addresses at the year of the address as described in Table 2. For any addresses after Dec 2010, these are linked with the 2010 data for analysis purposes. Data may be missing for addresses that could not be geocoded (ie: incomplete information or foreign addresses).

Densities of NETS-based data were created for buffer sizes of ¼, ½, 1, 3, and 5 miles around each address. Both simple densities and kernel (using the Silverman kernel as specified in the ArcGIS kernel density function) densities were created. These densities are straight line distances and do not take into account any barriers such as water or roads. These measures are also available at the census tract level (ie: number of businesses of that type within the census tract). To date, most people have used the 1 mile kernel or simple densities.

Further documentation on coding and collection of this data is in “*Documentation of NETS data.docx*”.

### Table 2: Timing of NETS data linked to address data

| **Time of JHS address** | **Year of NETS data used** |
| --- | --- |
| Jul 2000-Dec 2000 | 2000 |
| Jan 2001-Dec 2001 | 2001 |
| Jan 2002-Dec 2002 | 2002 |
| Jan 2003-Dec 2003 | 2003 |
| Jan 2004-Dec 2004 | 2004 |
| Jan 2005-Dec 2005 | 2005 |
| Jan 2006-Dec 2006 | 2006 |
| Jan 2007-Dec 2007 | 2007 |
| Jan 2008-Dec 2008 | 2008 |
| Jan 2009-Dec 2009 | 2009 |
| Jan 2010-Apr 2012 | 2010 |

The subsections below describe the coding of the food stores, recreational facilities, social engagement, and popular walking destinations.

### 1. Food Stores Data

The food stores data consists of various types of food stores including supermarkets, fast food, other restaurants, drinking places, and liquor stores.

The food stores are categorized into 15 categories as follows:

1. **Grocers**
   1. *Technical definition:* Any food store with fewer than 25 employees, sales less than $2million, and not on the supermarket name list, and a primary SIC code of 54110000, 54110100, 54110101, 54110102, 54110103, 54110104, 54110105, 54119900, 54119901, 54119904, or 54119905.
   2. *General description:* This category was derived from whatever stores remained after removing supermarkets and convenience stores. Thus, it includes all smaller, non-supermarket, non-convenience stores.
   3. *Assumed health association:* Unknown. This is a heterogeneous category including stores that sell fresh food and stores that almost exclusively sell food with a long shelf life.
2. **Supermarket Chains**
   1. *Technical definition:* Industry defines a “chain” supermarket operators as having >=10 locations. For this study, we defined it as companies that operate 8 or more stores in the study area. This cut point is slightly lower than the industry definition reflecting that there will be fewer stores in JHS ZIP codes. We use the standardized supermarket name list from TD to determine “chain” companies (that had 8 or more locations within the 2000, 2005, or 2010 data).
   2. *General description:* For this study, the store is a chain if it has the company and/or trade name of any of the 263 stores.
   3. *Assumed health association:* Favorable. A wide variety of fruits, vegetables and low-fat foods are assumed to be available, though unhealthy food options are also available. Food sold in large markets is typically cheaper than food sold in small grocers. If healthier food is more expensive than unhealthy food, then supermarkets may encourage healthier food purchases.
3. **Supermarket Non-Chain**
   1. *Technical definition:* Any food store with 25 employees or greater or sales of $2 million or greater, and a primary SIC code of 54110000, 54110100, 54110101, 54110102, 54110103, 54110104, 54110105, 54119900, 54119901, 54119904, or 54119905 and not part of Supermarket Chains above.
   2. *General description:* The categories of grocers (described above) and supermarkets derive from the constellation of SIC Codes that generally apply to all types of grocery stores and supermarkets.
   3. *Assumed health association:* Favorable. A wide variety of fruits, vegetables and low-fat foods are assumed to be available, though unhealthy food options are also available. Food sold in large markets is typically cheaper than food sold in small grocers. If healthier food is more expensive than unhealthy food, then supermarkets may encourage healthier food purchases.
4. **Convenience**
   1. *Technical definition:* Any food store with a primary SIC code of 54110200, 54110201, or 54110202.
   2. *General description:* National Association of Convenience Stores, an international trade association and publisher of the industry trade publication Convenience Store News, defines the channel as small stores between 800 and 3,000 square feet, carrying between 500 and 1,500 SKUs, and meet the following criteria: operating at least 13 hours per day, the store must carry a limited selection of grocery items including at least two of the following: toilet paper, soap, disposable diapers, pet foods, breakfast cereal, tuna fish, toothpaste, ketchup, and canned goods. These stores may or may not sell gasoline and offer fast food services.
   3. *Assumed health association*: Unfavorable. Assumed to sell mostly highly processed snack food, fast food to go (microwave burgers, etc.) and low quantity (if any) fresh produce.
5. **Deli, meat, fish, dairy (not ice cream)**
   1. *Technical definition:* Any food store with a primary SIC code of 54119902, 54210000, 54210100, 54210101, 54210102, 54210200, 54210201, 54210202, 54999902, 54999904, 54510000, 54519900, 54519901, 54519902, or 54519904.
   2. *General description*: Stand-alone stores that sell primarily meat, fish, egg products, milk, cheese, and/or other dairy products (except ice cream) including delicatessens and gourmet shops.
   3. *Assumed health association:* Unknown. These places tend to offer foods that are high in fat and cholesterol but they also stock foods that may not be highly processed and are a part of a healthy Mediterranean diet.
6. **Fruit, vegetable**
   1. *Technical definition:* Any food store with a primary SIC code of 54319900, 54310000, 54319901, or 54319902.
   2. *General description:* Stand-alone stores that sell primarily fruits and vegetables. This category may be too small to analyze on its own and could be combined with several different categories, depending on the research question.
   3. *Assumed health association*: Favorable.
7. **Bakeries, pastry, candy, nuts, ice cream**
   1. *Technical definition:* Any food store that is NOT a fast food restaurant (see categories 11 and 12) with a primary SIC code of 54610000, 54619900, 54619901, 54619902, 54410000, 54419900, 54419901, 54419902, 54419903, 54419904, 54419905, 54519903, 54619903, 54619904, 54619905, 54619906, 54619907, 54619908, 54999901, 58120202, 58120203, 58120204, or 58120200.
   2. *General description:* Bakeries, candy and nut shops, and ice cream parlors.
   3. *Assumed health association:* Unfavorable. Though some of the bakeries may provide fresh breads and some of the nut stores may have plain/unprocessed nuts, it is impossible to differentiate these stores from providers of cupcakes, cookies, pastries, and candied nuts. It is assumed that the majority of these stores sell high calorie and high sugar foods.
8. **Health food, vitamins, and supplements**
   1. *Technical definition*: Any food store with a primary SIC code of 54990100, 54990102, 54990103, or 54990101.
   2. *General description:* Small stores that specialize in natural foods, vitamins and nutritional supplements. These SIC categories were kept together because stores listed under these codes are indistinguishable from each other (health food stores classify themselves as vitamin stores so are not able to be separated). This category may be too small to analyze on its own.
   3. *Assumed health association*: Unknown. Health food stores are generally considered to be healthy. However, stores that exclusively sell vitamins and supplements are not comparable to food stores, rarely sell fresh produce, and may sell supplements that can be harmful to health (e.g., athletic supplements).
9. **Liquor**
   1. *Technical definition:* Any food store with a primary SIC code of 59210000, 59210100, 59210101, 59210102, 59219900, or 59219901.
   2. *General description*: Stores that primarily sell alcohol for consumption elsewhere.
   3. *Assumed health association:* Unfavorable
10. **Drinking places (non-alcohol)**
    1. *Technical definition:* Any food store with a primary SIC code of 54990200, 54990201, 54990202, 54990203, 54990204, 54990205, 58120205, 58120206, or 58120304.
    2. *General description:* Food stores that sell coffee, smoothies, juices, and tea for consumption on site.
    3. *Assumed health association*: Unknown. These beverages are generally not thought to be health promoting, but 100% fresh juices and green tea can be beneficial. There may be other social benefits from having local places like these.
11. **Drinking places (alcohol)**
    1. *Technical definition:* Any food store with a primary SIC code of 58130000, 58130101, 58130202, 58130103, 58130200, 58130201, 58130100, 58130102, 58130104, 58130105, 58130106, or 58130203.
    2. *General description:* Food stores that primarily sell alcohol for consumption on site.
    3. *Assumed health association*: Unfavorable.
12. **Fast food (chains)**
    1. *Technical definition:* Any food store regardless of SIC code that appears on the list of fast food eating places.
    2. *General description:* Large chain eating places that specialize in low preparation time foods that are eaten cafeteria-style (no waiter service) or take-away. The list of the largest chains was derived from pulling the top 75 revenue-ranked fast-food restaurants for the year during 2005 (derived from Restaurant & Institutions Top 100)[[1]](#footnote-1). We excluded coffee, donut, and ice cream shops because those shops generally sell snacks and thus are not often thought of fast-food by consumers and so JHS respondents who report on fast-food eating behaviors and presence of fast food in their neighborhood are not likely to count the coffee, donut, and ice cream restaurants.
    3. *Assumed health association*: Unfavorable. Foods tend to be highly processed and therefore high in calories, saturated fat, salt, and sugar.
13. **Fast food (non-chain)**
    1. *Technical definition:* Any food store with the limited service restaurant SIC 581203 (except 58120304: Coffee shops) that are not on the fast food chain list as described in above Fast food chains.
    2. *General description:* Eating places that specialize in low preparation time foods that are eaten cafeteria-style (no waiter service) or take-away. Fast food is defined by the industry as being "designed for ready availability, use or consumption and sold at eating establishments for quick availability or take-out. Fast food restaurants are also known as quick-service restaurants. That definition has low specificity so we added cafeteria style (no waiter service).
    3. *Assumed health association*: Unfavorable. Foods tend to be highly processed and therefore high in calories, saturated fat, salt, and sugar.
14. **Other eating places**
    1. *Technical definition:* Any eating place with SIC 5812 that is not in the fast food categories above.
    2. *General description:* A wide variety of restaurants and other eating places that are not considered to be fast food.
    3. *Assumed health association:* Unknown. There is a wide variety of different types of restaurants in this category.
15. **Other**
    1. *Technical definition:* Any food establishment not already in a category including stores with "general" or "unknown" SIC codes 54119903, 54990000, 54999900, 54999903, or 54999905.
    2. *General description*: All other food stores not in another category.
    3. *Assumed health association:* Unknown.

These categories were then collapsed into broader categories for analysis purposes of:

1. Favorable food stores
   1. Consist of supermarkets (chain and non-chain) and fruit and vegetable markets.
2. Unfavorable food stores (with alcohol)
   1. Consists of convenience stores, bakeries/nuts/candy/ice cream, liquor stores, drinking places alcoholic, and fast food (chain and non-chain).
3. Unfavorable food stores (no alcohol)
   1. Consists of convenience stores, bakeries/nuts/candy/ice cream, and fast food (chain and non-chain).
4. Neutral/unknown food stores
   1. Consist of grocers, deli/meat/dairy, health/vitamin stores, drinking places non-alcoholic, and other food stores.

Other eating places (ie: restaurants that are not fast food) are left as a separate category and not included in any of the summary measures. These collapsed categories are the variables that are suggested to be used in most cases in analyses. Further documentation on coding and collection of this data is in “Documentation of NETS data.docx”.

There are two summary measures created to capture the relationship of favorable to unfavorable food stores:

1. Ratio of Unfavorable to Favorable food stores including alcohol

This is calculated as:

RATIO\_TOT = (Unfavorable including alcohol)/(Favorable) and

RATIO\_NOALC = (Unfavorable excluding alcohol)/(Favorable)

Where Unfavorable including alcohol is defined as convenience stores, bakery, candy, nuts, ice cream, liquor stores, drinking places alcoholic, and fast food (chain and non-chain), Unfavorable excluding alcohol is defined as convenience stores, bakery, candy, nuts, ice cream, and fast food (chain and non-chain), and Favorable is defined as supermarkets (chain and non-chain) and fruit and vegetable markets.

This is based on the FOODSTAT variable as defined by Stringer. Modifications were made to the definition of unfavorable to include bakery/candy/nut/ice cream shops, liquor stores, and alcoholic drinking places.

This will give a ratio where the larger the number, the worse the mix of retail options (ie: if there is a high number, there is much easier access to unhealthy food compared to healthy food). For densities where the denominator (favorable food stores) is 0 but unfavorable food stores is not 0, this is will be coded as 888888888. This indicates that there are some unfavorable food stores in the area but there is no retail mix to calculate. For those where both favorable and unfavorable food stores are 0, this will be coded as 999999999. This indicates that there are no stores in the area.

1. Modified Retail Food Environment Index including alcohol

This is calculated as:

MRFEI\_TOT = (Favorable)/(Favorable+Unfavorable including alcohol) and

MRFEI\_NOALC = (Favorable)/(Favorable+Unfavorable excluding alcohol)

Where Unfavorable including alcohol is defined as convenience stores, bakery, candy, nuts, ice cream, liquor stores, drinking places alcoholic, and fast food (chain and non-chain), Unfavorable excluding alcohol is defined as convenience stores, bakery, candy, nuts, ice cream, and fast food (chain and non-chain), and Favorable is defined as supermarkets (chain and non-chain) and fruit and vegetable markets.

This is based on the mRFEI variable as defined by the CDC. Modifications were made to the definition of unfavorable to include bakery/candy/nut/ice cream shops, liquor stores, and alcoholic drinking places.

This will give a proportion of favorable food stores compared to the total amount of favorable and unfavorable where the larger the number, better the access to favorable food (ie: if there is a high number close to 1, there is better access to favorable food). For those where both favorable and unfavorable food stores are 0, this will be coded as 999999999. This indicates that there are no stores in the area.

When using any of these indices, careful consideration needs to be taken into account as to how to use them when the denominator is 0. In general, these indices work better for the simple densities rather than the kernel densities which weight for the distance away from the address and cause these ratios to be difficult to interpret.

For the mRFEI, it is recommended by Stephen Onufrak at the CDC (through Latetia Moore) to use this variable in analysis as a categorical variable (ie: quartiles) rather than a continuous variable. Values where there are no food stores (healthy or unhealthy) should be categorized as a separate category.

See Appendix B for information on which datasets are used as the source for the food stores data for the longitudinal dataset creation. See Appendix D for a list of variables available for food stores.

### 2. Recreational Facilities

The recreational facilities data consists of places to get physical activity and other recreation activities. SIC codes selected were based on previous work[[2]](#footnote-2).

The recreational facilities are categorized into 12 categories as follows:

1. **Indoor Conditioning Activities**
   1. *Technical definition:* Any recreational facility with SIC codes 79110100, 79110101, 79110102, 79910000, 79910100, 79910101, 79910102, 79910300, 79910301, 79910302, 79970000.
   2. *General description*: Physical fitness facilities, dancing–aerobics/ballet, athletic club exercise.
2. **Recreational**
   1. *Technical definition:* Any recreational facility with SIC codes 79330000, 79339901, 79339902, 79339903, 79920000, 79970100, 79970400, 79979906, 79979907, 79979908, 79990202, 79990204, 79990205, 79990601, 79990602, 79990603, 79990700, 79990701, 79991200, 79991202, 79991204, 79991604, 79999903, 79999907, 79999910, 79999912, 79999917, 79990501, 79991205, 79970302, 79990000, 79339900, 79990402, 79990600.
   2. *General description*: Bowling, golf, ice sports, outdoor field clubs, horse riding, lawn bowling, skating–ice or roller, shooting/hunting, archery, trail hiking, baseball batting cage, recreation centers/services, trampolines, biking, ping pong.
3. **Team Sports**
   1. *Technical definition:* Any recreational facility with SIC codes 79970101, 79970102, 79970401, 79970402, 79970404, 79979902.
   2. *General description*: Curling, hockey, baseball, football, soccer, bowling league/team.
4. **Water Activities**
   1. *Technical definition:* Any recreational facility with SIC codes 79970201, 79970202, 79991402, 79991512, 79991513, 79991409, 79991410, 79991411.
   2. *General description*: Boating, beach club/bathing beach, waterslide, wave pool, rowboat/canoe rental, sailboard/surfing rental.
5. **Water Activities that involve Conditioning**
   1. *Technical definition:* Any recreational facility with SIC codes 79970200, 79970203, 79991412.
   2. *General description*: Swimming clubs and pools.
6. **Racquet Sports**
   1. *Technical definition:* Any recreational facility with SIC codes 79970500, 79970501, 79970502, 79970503, 79970504, 79990101, 79990102, 79990300, 79990301, 79990302, 79990303.
   2. *General description*: Handball, racquetball, squash, tennis.
7. **Camps/Vacation**
   1. *Technical definition:* Any recreational facility with SIC codes 70110200, 70110201, 70110202, 70320000, 70320100, 70320101, 70320102, 70320300, 70320301, 70320302, 70330000, 70339900, 70339901, 70339902, 79991602.
   2. *General description*: Non-regular use and/or may be used by out-of-town people more than locals.
8. **Instructional in Indoor Conditioning**
   1. *Technical definition:* Any recreational facility with SIC codes 79110000, 79110200, 79110202, 79110203, 79110204, 79991111, 79991112, 79991113, 79991127, 79991123.
   2. *General description*: Instruction in indoor conditioning.
9. **Instructional in Recreational**
   1. *Technical definition:* Any recreational facility with SIC codes 79990200, 79990203, 79991104, 79991118, 79991119, 79991201.
   2. *General description*: Instruction in recreational activities.
10. **Instructional in Team Sports**
    1. *Technical definition:* Any recreational facility with SIC codes 79991102, 79991103, 79991110.
    2. *General description*: Instruction in team sports.
11. **Instructional in Water Activities**
    1. *Technical definition:* Any recreational facility with SIC codes 79991107, 79991115, 79991116, 79991121, 79991122.
    2. *General description*: Instruction in water activities.
12. **Instructional in Racquet Sports**
    1. *Technical definition:* Any recreational facility with SIC codes 79990100, 79990103.
    2. *General description*: Instruction in racquet sports.

These categories were then collapsed into broader categories for analysis purposes of:

1. Total Physical Activities including recreational
   1. Consists of Indoor Conditioning, Recreational, Team Sports, Water Activities Conditioning, Racquet Sports
2. Total Physical Activities with Instructional and Water Activities including recreational
   1. Consists of Indoor Conditioning, Recreational, Team Sports, Water Activities, Water Activities Conditioning, Racquet Sports, Instructional in Indoor Conditioning, Instructional in Recreational, Instructional in Team Sports, Instructional in Water Activities, Instructional in Racquet Sports
3. Total Physical Activities excluding recreational
   1. Consists of Indoor Conditioning, Team Sports, Water Activities Conditioning, Racquet Sports
4. Total Physical Activities with Instructional and Water Activities excluding recreational
   1. Consists of Indoor Conditioning, Team Sports, Water Activities, Water Activities Conditioning, Racquet Sports, Instructional in Indoor Conditioning, Instructional in Team Sports, Instructional in Water Activities, Instructional in Racquet Sports

All of the above categories are also available as indoor and outdoor activities. Indoor and outdoor are not mutually exclusive categories (ie: a facility could be categorized as both indoor and outdoor).

See Appendix B for information on which datasets are used as the source for the recreational facilities data for the longitudinal dataset creation. See Appendix D for a list of variables available for recreational facilities.

### 3. Social Engagement

The social engagement data consists of places which promote social engagement and social interaction. SIC codes were selected based on previous work by Christine Hoehner[[3]](#footnote-3).

The social engagement destinations are categorized into 15 categories as follows:

1. **Beauty Shops and Barbers**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7231, 7241.
   2. *General description*: Beauty shops and barbers including cosmetology and nail salons.
2. **Performance Based Entertainment**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7832, 7911 (except 79110200, 79110202, 79110203, 79110204), 7922, 7929.
   2. *General description*: Locations for watching performances. Includes movie theaters, dance studios and theaters, opera production, performing arts centers, entertainment and musical groups.
3. **Participatory Entertainment**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7933, 7992 or 6 digit SIC code in 799901 (except 79990103), 799902 (except 79990203), 799903, 799904, 799906, 799907, 799908, 799914 (except 79991409, 79991410, 79991411) or 8 digit SIC code in 79999902, 79999903, 79999905, 79999907, 79999909, 79999910, 79999912.
   2. *General description*: Clubs and sporting and game venues in which the use participates in the activities that typically do not require a membership. Includes bowling centers, golf courses, tennis clubs, indoor court sports, table tennis, billiards, skating rinks, archery and other shooting ranges, card and bingo halls, bath houses, beaches, and recreation centers.
4. **Sports and Professional Stadium Entertainment**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7941, 7948 or 8 digit SIC code in 79999913.
   2. *General description*: Sporting venues in which the user watches an event but does not participate. Includes professional sports clubs (ie: baseball, basketball, football, ect), motor vehicle racing, horse racing, and dog racing.
5. **Exercise Facilities**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7991.
   2. *General description*: Exercise facilities where the user participates in physical fitness activities in gym or class setting. Includes athletic clubs, spas, and exercise classes.
6. **Coin-Operated Amusements and Gambling**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7993 or 6 digit SIC code in 799913.
   2. *General description*: Venues for gambling or other machine-based entertainment. Includes gaming machines, arcades, gambling machines, and gambling and lottery services.
7. **Amusement Parks, Carnivals, and Rodeos**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7996 or 6 digit SIC code in 799909, 799910, 799912 (except 79991201, 79991205) or 8 digit SIC code in 79990000, 79991502, 79991503, 79991504, 79991505, 79991506, 79991508, 79991509, 79991512, 79991513, 79991514, 79991516, 79991604, 79999900, 79999904, 79999917.
   2. *General description*: Amusement parks and other recreational shows and activities typically not used frequently. Typically includes places with amusement rides or shows. Includes amusement parks, animal and circus shows, exhibitions, fairs, carnivals, rodeo and riding stables, go carts, scenic trains, waterslides, wave pools, and fireworks.
8. **Membership Sports and Recreational Clubs**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 7997 or 6 digit SIC code in 869901 or 8 digit SIC code in 86990000, 86999900, 86999906.
   2. *General description*: Sports and activities clubs that require a membership typically with monetary dues. Includes boating and beach clubs, swimming club, gun clubs, team sports clubs, ice sports clubs, racquet sports clubs, bowling club, golf club, riding club, and other athletic clubs (all require membership).
9. **Libraries**
   1. *Technical definition:* Any social engagement destination with 4 digit SIC code 8231.
   2. *General description*: Libraries and other places for book check out and reading. Includes general and specialized libraries and book rentals.
10. **Museums and Art Galleries**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 8412 or 8 digit SIC code in 79999901.
    2. *General description*: Museums and galleries to observe art, history, science, etc. Includes museums, art galleries, historical societies, science centers, and planetarium.
11. **Zoo, Aquarium, and Arboretum**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 8422 or 8 digit SIC code in 79991515.
    2. *General description*: Zoos, aquariums, etc to observe wildlife or plants. May not be used on a regular basis. Includes zoos, botanical gardens, aquarium, and arboretum.
12. **Civil, Social, and Political Clubs**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 8651 or 6 digit SIC code in 864101, 864102, 864105, 864199 or 8 digit SIC code in 86410000, 86410400, 86410402, 86410403, 86990200, 86990202, 86990203, 86999901, 86999902, 86999903, 86999904, 86999905, 86999908, 86999909, 86999910.
    2. *General description*: Political, civil, and social clubs that typically require membership. Includes political organizations, fraternal associations, alumni associations, university clubs, business person club, homeowners associations, booster club, environmental protection club, PTA, charitable organization, travel club, and historical club.
13. **Religion**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 8661 or 8 digit SIC code in 86990201, 86990204.
    2. *General description*: Religious organizations or other places of worship. Includes churches, temples, synagogue, mosque, and religious reading rooms.
14. **Eating and Dining Places**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 5812 or on fast food chain name list as described in the Food Stores section.
    2. *General description*: Food stores designed for dining out and consumption on site.
15. **Night Clubs and Bars**
    1. *Technical definition:* Any social engagement destination with 4 digit SIC code 5813 or 8 digit SIC code in 79999918, 86410401.
    2. *General description*: Night clubs, dance halls, and bars. May or may not serve alcohol.These categories were then also summed together for a total social engagement destination environment.

There is also an overall social engagement destinations variable which sums together all of the above categories.

See Appendix B for information on which datasets are used as the source for the social engagement data for the longitudinal dataset creation. See Appendix D for a list of variables available for social engagement.

### 4. Popular Walking Destinations

The popular walking data consists of places which promote walking. SIC codes were selected based on previous work by Christine Hoehner[[4]](#footnote-4).

The popular walking destinations are categorized into 6 categories as follows:

1. **Postal Service**
   1. *Technical definition:* Any walking destination with 4 digit SIC code 4311.
   2. *General description*: Post offices and other postal services.
2. **Drug Stores and Pharmacy**
   1. *Technical definition:* Any walking destination with 4 digit SIC code 5912.
   2. *General description*: Drug stores and pharmacies. Does not include those that are also supermarkets.
3. **Banks and Credit Unions**
   1. *Technical definition:* Any walking destination with 4 digit SIC code 6021, 6022, 6029, 6035, 6036, 6061, 6062.
   2. *General description*: Banks and credit unions including private banks and federal and state credit unions.
4. **Food Stores Non-Beverage**
   1. *Technical definition:* Any walking destination with 4 digit SIC code 5411, 5421, 5431, 5441, 5451, 5461, 5499 (except 549902) or 8 digit SIC code 86999907 or on supermarket chain name list as described in the Food Stores section.
   2. *General description*: Food stores designed for grocery shopping including supermarkets, grocers, convenience stores, delis, food co-ops, ect. Excludes any stores used only for purchases of beverages.
5. **Eating and Dining Places Non-Beverage**
   1. *Technical definition:* Any walking destination with 4 digit SIC code 5812 (except 58120205, 58120206, 58120304) or on fast food chain name list as described in the Food Stores section.
   2. *General description*: Food stores designed for dining out and consumption on site. Excludes any stores used only for purchases of beverages including coffee.
6. **Drinking Places Non-Alcoholic**
   1. *Technical definition:* Any walking destination with SIC code 54990200, 54990201, 54990202, 54990203, 54990204, 54990205, 58120205, 58120206, 58120304. Note that this is the same definition as the drinking places non-alcoholic in food stores coding.
   2. *General description*: Food stores that sell coffee, smoothies, juices, and tea for consumption on site.

There is also an overall popular walking destinations variable which sums together all of the above categories.

See Appendix B for information on which datasets are used as the source for the popular walking destinations data for the longitudinal dataset creation. See Appendix D for a list of variables available for popular walking destinations.

### 5. Total Stores

A variable is also created combining all of the coding above into a total stores measure. Since it was determined that this was needed after the densities were created, it was created by adding together the already calculated densities. Due to the overlap in SIC codes being in both social engagement and walking destinations with food stores and recreational coding, the densities selected to be added together captured the most stores possible. This mainly leads to including the social engagement and walking destinations densities. This covers all of the food stores coding but for recreational coding, there are some SIC codes that were left out due to the inconsistencies in how these were coded. An additional density with these SIC code was created and was added with the other densities for the total stores density.

For the census tract data, the total stores is calculated as the total number of stores by using PROC FREQ by census tract ID of all the possible stores so this will include all of the SIC codes.

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3. Hoehner CM, Schootman M. Concordance of Commercial Data Sources for Neighborhood-Effects Studies. Journal of Urban Health, Volume 87, Issue 4, Pages 713-25 [↑](#footnote-ref-3)
4. Hoehner CM, Schootman M. Concordance of Commercial Data Sources for Neighborhood-Effects Studies. Journal of Urban Health, Volume 87, Issue 4, Pages 713-25 [↑](#footnote-ref-4)