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# National Household Food Acquisition and Purchase Survey (FoodAPS)

## Codebook: Access Data – Public Use File `faps_access_puf`

The OMB clearance number for FoodAPS is 0536-0068. The data were collected by the U.S. Department of Agriculture under authority of U.S.C, Title 7, Section 2026 (a)(1).

Information about the entire data collection, including instructions on how to request access to the data, may be found at <http://www.ers.usda.gov/foodaps>.

For further information contact: [FoodAPS@ers.usda.gov](mailto:FoodAPS@ers.usda.gov)

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## 1. Introduction

This codebook provides details on the Access data in the National Household Food Acquisition and Purchase Survey (FoodAPS) public use file. Users should first read the *User's Guide to Survey Design, Data Collection, and Overview of Datasets* for information about the survey design and sample, survey instruments and data collection, and analytic notes. The **faps\_access\_puf** data file provides distance and count estimates of the food retailers and restaurants in the areas surrounding each household. This codebook provides a brief overview of how access-level information for FoodAPS participants was collected.

## 2. Description of Data

### 2.1. Data Contents

The file **faps\_access\_puf** contains one record for each of the 4,826 households participating in FoodAPS. FoodAPS households are uniquely identified by the variable HHNUM.

Variables are grouped by section (see section 3 for a complete list of the variables and section 4 for detailed codebook entries for each variable):

- Identifying Variables
- Counts of FAH Retailers
- Nearest FAH Retailers
- Counts of FAFH Outlets
- Nearest FAFH Outlets

### 2.2. Summary of data processing

The **faps\_access\_puf** file provides summary measures of household access to food stores (food at home, FAH) and retail eating places (food away from home, FAFH). This file was constructed by joining the **faps\_hhgeocode** file (part of the restricted access data) with the master lists of places in the USDA Store Tracking and Redemption Subsystem (STARS) and InfoUSA files.

FAH retailer measures in **faps\_access\_puf** are constructed using the nationwide STARS file that included all retailers authorized to receive Supplemental Nutrition Assistance Program (SNAP) benefits as of June 2012. It was geocoded by USDA's Economic Research Service (ERS). The STARS file was National and contained information on stores in areas adjacent to the FoodAPS Primary Sampling Units (PSUs), so access to food stores is measured without "border constraints" for all households. Please note that the STARS system does not contain all grocery or food retailers, only those authorized to accept SNAP, so the access measures for FAH retailers are for SNAP-authorized retailers only.

The locations of FAFH outlets came from InfoUSA, which is a private company that develops databases of business addresses. Due to cost constraints, the InfoUSA file, received in January 2012, was not updated or expanded after the field period. Access to FAFH outlets is measured within PSU for households in 46 PSUs (INFOUSA\_FLAG=1), and within a 5-mile radius around the approximate center of each Secondary Sampling Unit (SSU) (identified by a ZIP Code or address for each SSU) for households in 4 PSUs (INFOUSA\_FLAG=2). Access to fast-food restaurants and non-fast-food restaurants is measured separately. Fast-food restaurants are identified according to the list published by Wikipedia (see table A1).

All distance measures are based on "straight-line" distance, which is the calculated geodetic distance between household residence and place using the SAS version 9.3 GeoDist function. Distance was calculated between household and place after joining each FoodAPS household with every place in the STARS file, and each FoodAPS household with every place, within PSU or SSU, in the InfoUSA file. After calculating distances from each FoodAPS household to all places, three types of measures were constructed:

- Counts of places within certain distances from the household (e.g., number of SNAP-authorized supermarkets within ¼ mi, ½ mi, 1, 2, 5, 10, 15, and 30 miles)
- Distance to the nearest place (e.g., distance to nearest SNAP-authorized supermarket, nearest SNAP-authorized store of any type, nearest fast food restaurant)

- Identification of the nearest place (e.g., PLACEID of the nearest SNAP-authorized supermarket).

Counts of SNAP-authorized retailers and FAFH outlets are provided for eight distances from each household: ¼ mile, ½ mile, 1 mile, 2 miles, 5 miles, 10 miles, 15 miles, and 30 miles. These measures count the number of places with the distance up to and including the boundary measure (e.g., variable SS3 is the count of super stores that have distance less than or equal to 1.0 miles from the household). Counts are cumulative so that, for instance, the number of places within 1 mile includes the number of places within ½ mile.

Distances to the nearest SNAP-authorized retailers and FAFH outlets are provided—overall and by store or outlet type. The store type in the **faps\_access\_puf** file is the store type assigned in the STARS file. Store type corresponds with PLACESNAPTYPE in the **faps\_fahevent\_puf** and **faps\_fafhevent\_puf** files (but not PLACETYPE). Please see the discussion of store type in the *FAH Event Data—Public Use File (PUF) Codebook* for more information.

In the case of FAFH outlets, the measures are geographically bounded by PSU and SSU borders. Therefore, distance to the nearest eating place is missing (.) if there is no eating place within the PSU or SSU. Counts of eating places within PSU (FLAG\_INFOUSA=1) may not be relevant beyond a certain mile measure that varies across households depending on the land area of the PSU. Counts of eating places within SSU (INFOUSA\_FLAG=2) are coded as a valid skip for measures greater than 10 miles (the diameter of the area corresponding to a 5-mile radius around the SSU centroid). Users are reminded that since the InfoUSA data was not a National list and only restaurants in the sample PSU and SSU areas were obtained, households near the borders of the PSU or SSU may have part of their radius area truncated because it falls outside of the PSU or SSU border. Thus, the most accurate measures of access to eating places are the short distance measures that provide information about the immediate vicinity around household residence.

For the nearest FAH outlets, the store's type is provided from the STARS database, and for the nearest FAFH outlets, Standard Industrial Classification (SIC)

codes are provided. The straight-line distance from the household to the nearest outlet of each type is also provided. Users may compare the nearest stores to acquisition places in **faps\_fahevent\_puf** and **faps\_fafhevent\_puf** based on store type and straight-line distance.

### 2.3. Summary of known data anomalies

All distance measures in **faps\_access\_puf** are rounded to the nearest 1/10th of 1 mile. This was done to remind users that the distance measures in the **faps\_access\_puf** file may not exactly match the straight-line distance PLACEDIST\_S in **faps\_fahevent\_puf** and **faps\_fafhevent\_puf** (to multiple decimal points) because the geocoding was done at different points in time during the post-processing work and using various geocoding tools. When geocoding is performed can affect the specific distance measures calculated (see Appendix B).

The count of SNAP-authorized stores and calculation of the nearest SNAP retailer to the household does not include military commissaries or wholesalers that supply SNAP meal providers. This is because these outlets are not accessible to all SNAP participants. Thus, for those in the military, the measure of access to SNAP-authorized retailers may be incorrect. The FoodAPs data do not identify who has access to shop at military commissaries.

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## 4. Variable by Variable Codebook

### 4.1. Identifying Variables

#### HHNUM

Variable: HHNUM	Definition: 6-digit unique identifier for each household	Type: Numeric
	Range:	100012 - 120080
	Unique values:	4,826
	Missing observations (.):	0 (out of 4,826)

#### INFOUSA\_FLAG

Variable: INFOUSA_FLAG	Definition: Indicates source for InfoUSA data			Type: Numeric
	InfoUSA data for retail eating places were obtained for entire counties where SSUs are located (46 PSUs) or for a 5-mile radius (from the approximate center) around each SSU (4 PSUs).			
	Value	Count	Percent	Value description
	1	4,308	89.27	InfoUSA data obtained for county
	2	518	10.73	InfoUSA data obtained for 5-mile radius around SSU

### 4.2. Counts of FAH Retailers

#### SNAP1 – SNAP8

Variables: SNAP1 – SNAP8	Definition: Number of SNAP-authorized retailers within... 0.25 mi (SNAP1), 0.50 mi (SNAP2), 1.0 mi (SNAP3), 2.0 mi (SNAP4), 5.0 mi (SNAP5), 10.0 mi (SNAP6), 15.0 mi (SNAP7) and 30.0 mi (SNAP8) ...of household.				Type: Numeric
Variable Name	N	Min	Max	Mean	
SNAP1	4,826	0	29	1.14	
SNAP2	4,826	0	89	4.02	
SNAP3	4,826	0	276	13.44	
SNAP4	4,826	0	841	40.81	
SNAP5	4,826	0	3,812	177.57	
SNAP6	4,826	0	10,019	568.24	
SNAP7	4,826	1	12,977	949.81	
SNAP8	4,826	5	15,133	1,889.55	



**SS1 – SS8**

<b>Variables:</b> <b>SS1 – SS8</b>	<b>Definition: Number of SNAP-authorized super stores within 0.25 mi (SS1), 0.50 mi (SS2), 1.0 mi (SS3), 2.0 mi (SS4), 5.0 mi (SS5), 10.0 mi (SS6), 15.0 mi (SS7), and 30.0 mi (SS8) ...of household.</b>				<b>Type: Numeric</b>
Variable Name	N	Min	Max	Mean	
SS1	4,826	0	3	0.05	
SS2	4,826	0	5	0.24	
SS3	4,826	0	11	0.81	
SS4	4,826	0	33	2.77	
SS5	4,826	0	164	12.36	
SS6	4,826	0	408	36.81	
SS7	4,826	0	586	63.48	
SS8	4,826	0	887	141.52	

**SM1 – SM8**

<b>Variables:</b> <b>SM1 – SM8</b>	<b>Definition: Number of SNAP-authorized supermarkets within 0.25 mi (SM1), 0.50 mi (SM2), 1.0 mi (SM3), 2.0 mi (SM4), 5.0 mi (SM5), 10.0 mi (SM6), 15.0 mi (SM7), and 30.0 mi (SM8) ...of household.</b>				<b>Type: Numeric</b>
Variable Name	N	Min	Max	Mean	
SM1	4,826	0	4	0.09	
SM2	4,826	0	5	0.26	
SM3	4,826	0	13	0.91	
SM4	4,826	0	33	2.70	
SM5	4,826	0	219	12.86	
SM6	4,826	0	511	39.24	
SM7	4,826	0	631	66.84	
SM8	4,826	0	838	143.19	

**CO1 – CO8**

<b>Variables:</b> <b>CO1 – CO8</b>		<b>Definition: Number of SNAP-authorized combination grocery/other stores within 0.25 mi (CO1), 0.50 mi (CO2), 1.0 mi (CO3), 2.0 mi (CO4), 5.0 mi (CO5), 10.0 mi (CO6), 15.0 mi (CO7), and 30.0 mi (CO8) ...of household.</b>				<b>Type: Numeric</b>
<b>Variable Name</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>		
CO1	4,826	0	4	0.19		
CO2	4,826	0	9	0.69		
CO3	4,826	0	22	2.28		
CO4	4,826	0	62	7.09		
CO5	4,826	0	495	33.01		
CO6	4,826	0	1,154	98.40		
CO7	4,826	0	1,562	170.20		
CO8	4,826	0	2,059	370.55		

**CS1 – CS8**

<b>Variables:</b> <b>CS1 – CS8</b>		<b>Definition: Number of SNAP-authorized convenience stores within 0.25 mi (CS1), 0.50 mi (CS2), 1.0 mi (CS3), 2.0 mi (CS4), 5.0 mi (CS5), 10.0 mi (CS6), 15.0 mi (CS7), and 30.0 mi (CS8) ...of household.</b>				<b>Type: Numeric</b>
<b>Variable Name</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>		
CS1	4,826	0	8	0.44		
CS2	4,826	0	20	1.48		
CS3	4,826	0	64	4.91		
CS4	4,826	0	190	14.87		
CS5	4,826	0	768	59.12		
CS6	4,826	0	1,784	173.95		
CS7	4,826	0	2,437	301.47		
CS8	4,826	2	3,294	646.68		

**MLG1 – MLG8**

<b>Variable:</b> <b>MLG1 – MLG8</b>	<b>Definition: Number of SNAP-authorized medium and large grocery stores within 0.25 mi (MLG1), 0.50 mi (MLG2), 1.0 mi (MLG3), 2.0 mi (MLG4), 5.0 mi (MLG5), 10.0 mi (MLG6), 15.0 mi (MLG7), and 30.0 mi (MLG8) ...of household.</b>				<b>Type: Numeric</b>
<b>Variable Name</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	
MLG1	4,826	0	10	0.12	
MLG2	4,826	0	17	0.41	
MLG3	4,826	0	56	1.42	
MLG4	4,826	0	128	3.95	
MLG5	4,826	0	647	18.46	
MLG6	4,826	0	1,846	69.22	
MLG7	4,826	0	2,294	111.87	
MLG8	4,826	0	2,578	195.00	

**4.3. Nearest FAH Retailers****DIST\_SS**

Variable: DIST_SS	Definition: Distance to nearest SNAP-authorized super store, miles			Type: Numeric
	4,826 responses with 951 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.05	41.27	2.63	0

**DIST\_SM**

Variable: DIST_SM	Definition: Distance to nearest SNAP-authorized supermarket, miles			Type: Numeric
	4,826 responses with 910 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.02	35.44	2.57	0

**DIST\_CO**

Variable: DIST_CO	Definition: Distance to nearest SNAP-authorized combination grocery/other store, miles			Type: Numeric
	4,824 responses with 711 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	23.20	1.50	2

**DIST\_CS**

Variable: DIST_CS	Definition: Distance to nearest SNAP-authorized convenience store, miles			Type: Numeric
	4,826 responses with 662 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	27.01	1.29	0

**DIST\_MLG**

Variable: DIST_MLG	Definition: Distance to nearest SNAP-authorized grocery store (medium or large), miles			Type: Numeric
	4,823 responses with 1,253 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.02	29.93	4.05	3

**DIST\_WALMART**

Variable: DIST_WALMART	Definition: Distance to nearest SNAP-authorized Walmart, miles			Type: Numeric
	4,826 responses with 1,249 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.05	60.52	4.59	0

**NEARSNAP\_PLACEID**

Variable: NEARSNAP_PLACEID	Definition: PLACEID of nearest SNAP-authorized retailer	Type: Numeric
	2,766 responses with 520 unique values. Individual responses not shown. Note: PLACEID is a unique ID of geocoded acquisition place.	

**NEARSNAP\_STYPE**

Variable: NEARSNAP_STYPE	Definition: STARS store type of nearest SNAP-authorized retailer			Type: Character
	4,826 responses with 15 unique values. Individual responses not shown.			
	Value	Count	Percent	Value description
	BB	104	2.15	Specialty—Bakery/Bread
	BC	1	0.02	Non-Profit Cooperative
	CO	992	20.56	Combination Grocery/Other
	CS	2,207	45.73	Convenience Store
	DF	7	0.15	Direct Marketing Farmer
	DR	35	0.73	Delivery Route
	FM	17	0.35	Farmers' Market
	FV	28	0.58	Specialty - Fruits/Vegetables
	LG	96	1.99	Large Grocery Store
	ME	35	0.73	Specialty—Meat/Poultry
	MG	221	4.58	Medium Grocery Store
	SE	26	0.54	Specialty—Seafood
	SG	280	5.80	Small Grocery Store
	SM	413	8.56	Supermarket
	SS	364	7.54	Super Store

**NEARSNAP\_DIST**

Variable: NEARSNAP_DIST	Definition: Distance to nearest SNAP-authorized retailer, miles			Type: Numeric
	4,826 responses with 519 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	12.68	0.85	0

**NEARSMSS\_PLACEID**

Variable: NEARSMSS_PLACEID	Definition: PlaceID of nearest SNAP-authorized supermarket/super store	Type: Numeric
	4,460 responses with 547 unique values. Individual responses not shown. Note: PLACEID is a unique ID of geocoded acquisition place.	

**NEARSMSS\_STYPE**

Variable: NEARSMSS_STYPE	Definition: STARS store type of nearest SNAP-authorized supermarket/super store			Type: Character
	4,826 responses with 2 unique values. Individual responses not shown.			
	Value	Count	Percent	Value description
	SM	2,591	53.7%	Supermarket
	SS	2,235	46.3%	Super store

**NEARSMSS\_DIST**

Variable: NEARSMSS_DIST	Definition: Distance to nearest SNAP-authorized supermarket/super store, miles			Type: Numeric
	4,826 responses with 769 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.02	31.52	1.77	0

**4.4. Counts of FAFH Outlets****FF1-FF8**

Variable: FF1-FF8	Definition: Number of fast-food restaurants within ...0.25 mi (FF1), 0.50 mi (FF2), 1.0 mi (FF3), 2.0 mi (FF4), 5.0 mi (FF5), 10.0 mi (FF6), 15.0 mi (FF7) and 30.0 mi (FF8) ... of household.				Type: Numeric
	N	Min	Max	Mean	
FF1	4,826	0	11	0.52	
FF2	4,826	0	18	1.84	
FF3	4,826	0	44	5.79	
FF4	4,826	0	102	17.84	
FF5	4,826	0	429	70.43	
FF6	4,826	0	790	150.84	
FF7	4,826	0	1,310	223.72	
FF8	4,826	0	1,725	353.58	

**NONFF1-NONFF8**

<b>Variable:</b> <b>NONFF1-NONFF8</b>	<b>Definition: Number of non-fast-food restaurants within ...0.25 mi (NONFF1), 0.50 mi (NONFF2), 1.0 mi (NONFF3), 2.0 mi (NONFF4), 5.0 mi (NONFF5), 10.0 mi (NONFF6), 15.0 mi (NONFF7) and 30.0 mi (NONFF8) ...of household</b>				<b>Type: Numeric</b>
<b>Variable Name</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	
NONFF1	4,826	0	84	2.37	
NONFF2	4,826	0	186	9.51	
NONFF3	4,826	0	457	28.58	
NONFF4	4,826	0	1,173	84.69	
NONFF5	4,826	0	3,639	321.05	
NONFF6	4,826	0	4,944	656.82	
NONFF7	4,826	1	6,670	977.30	
NONFF8	4,826	5	8,670	1540.71	

**4.5. Nearest FAFH Outlets****NEARFF\_SIC1**

<b>Variable:</b> <b>NEARFF_SIC1</b>	<b>Definition: SIC1 (primary SIC) of nearest fast-food restaurant</b>	<b>Type: Numeric</b>
4,826 responses with 7 unique values. Individual responses not shown. Note: Indicates the restaurant's primary industrial category according to the Standard Industrial Classification (SIC) System.		

**NEARFF\_SIC2**

<b>Variable:</b> <b>NEARFF_SIC2</b>	<b>Definition: SIC2 (secondary SIC) of nearest fast-food restaurant</b>	<b>Type: Numeric</b>
4,826 responses with 5 unique values. Individual responses not shown. Note: Indicates the restaurant's secondary industrial category according to the Standard Industrial Classification (SIC) System.		

**NEARFF\_DIST**

Variable: NEARFF_DIST	Definition: Distance to nearest fast-food restaurant, miles			Type: Numeric
	4,826 responses with 792 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	60.13	1.75	0

**NEARNONFF\_SIC1**

Variable: NEARNONFF_SIC1	Definition: SIC1 (primary SIC) of nearest non-fast-food restaurant	Type: Numeric
	4,826 responses with 58 unique values. Individual responses not shown. Note: Indicates the restaurant's primary industrial category according to the Standard Industrial Classification (SIC) System.	

**NEARNONFF\_SIC2**

Variable: NEARNONFF_SIC2	Definition: SIC2 (secondary SIC) nearest non-fast-food restaurant	Type: Numeric
	4,826 responses with 20 unique values. Individual responses not shown. Note: Indicates the restaurant's secondary industrial category according to the Standard Industrial Classification (SIC) System	

**NEARNONFF\_DIST**

Variable: NEARNONFF_DIST	Definition: Distance to nearest non-fast-food restaurant, miles			Type: Numeric
	4,826 responses with 515 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	11.08	0.82	0

**NEARMCD\_SIC1**

Variable: NEARMCD_SIC1	Definition: SIC1 (primary SIC) of nearest McDonald's restaurant	Type: Numeric
	4,826 responses with 1 unique value. Individual responses not shown. Note: Indicates the restaurant's primary industrial category according to the Standard Industrial Classification (SIC) System.	



**NEARMCD\_SIC2**

Variable: NEARMCD_SIC2	Definition: SIC2 (secondary SIC) of nearest McDonald's restaurant	Type: Numeric
	4,826 responses with 2 unique values. Individual responses not shown. Note: Indicates the restaurant's secondary industrial category according to the Standard Industrial Classification (SIC) System.	

**NEARMCD\_DIST**

Variable: NEARMCD_DIST	Definition: Distance to nearest McDonald's restaurant, miles			Type: Numeric
	4,826 responses with 4,415 unique values. Individual responses not shown.			
	Min	Max	Mean	#Missing (.)
	0.00	60.13	2.85	0

## Appendix A – Fast Food Restaurant Chain List

**Table A1. Wikipedia list of global/worldwide and U.S. fast food (FF) restaurant chains used to identify FF restaurants**

Chain	Wikipedia list	Chain	Wikipedia list
A&W Restaurants	Both	Kopp's Frozen Custard	USA
Amigos/Kings Classic	USA	Krispy Kreme	USA
Andy's Frozen Custard	USA	Krystal	Both
Arby's	Both	Kyochon	World
Arctic Circle Restaurants	USA	LaMar's Donuts	USA
Arthur Treacher's	USA	Larry's Giant Subs	USA
Baker's Drive-Thru	USA	Lenny's Sub Shop	USA
Baskin-Robbins	USA	Little Caesars Pizza	USA
Bennigan's	USA	Long John Silver's	Both
Bess Eaton	USA	Lotteria	World
Big Apple Bagels	USA	Lyon's	USA
Big Boy Restaurants	USA	Maid-Rite	USA
Biscuitville	USA	Manchu Wok	USA
Blake's Lotaburger	USA	Maoz Vegetarian	World
Blimpie	USA	Marrybrown	World
Bojangles'	Both	McDonald's	Both
Braum's	USA	Mighty Taco	USA
Brioche Dorée	World	Milio's Sandwiches	USA
Brooklyn Ice Cream Factory	USA	Milo's Hamburgers	USA
Brown's Chicken & Pasta	USA	Moe's Southwest Grill	Both
Burger King	Both	MOS Burger	World
Burger Street	USA	Mr. Hero	USA
Burgerville	USA	Mrs. Winner's Chicken & Biscuits	USA
Café de Coral	World	Nando's	World
Cafe Rio	USA	Nathan's Famous	Both
California Tortilla	USA	Nedick's	USA
Captain D's	USA	New York Fries	World
Carl's Jr. / Green Burrito	Both	Noble Roman's	World
Charley's Grilled Subs	World	Nu Way Cafe	USA
Checkers / Rally's	Both	Nu-Way Weiners	USA
Cheeburger Cheeburger	USA	Orange Julius	USA
Chester's International	World	Original Tommy's	USA
Chicken Cottage	World	Outback Steakhouse	USA
Chicken Delight	World	Pal's	USA
Chicken Express	USA	Panda Express	World
Chicken Licken	World	Papa John's Pizza	USA
Chick-fil-A	USA	Paul	World
Chico's Tacos	USA	Pioneer Chicken	USA
Chinese Gourmet Express	USA	Pizza Hut	USA

Chain	Wikipedia list	Chain	Wikipedia list
Chipotle Mexican Grill	World	Pollo Tropical	World
Chowking	World	Popeyes Chicken & Biscuits	Both
Church's Chicken / Texas Chicken	USA	Port of Subs	USA
Church's Chicken /	World	Portillo's Restaurants	USA
Cluck-U Chicken	USA	Quick	World
Cook Out	USA	Quiznos	Both
Cousins Subs	USA	Raising Cane's Chicken Fingers	Both
Crown Burgers	USA	Ranch1	USA
Dairy Queen	Both	Red Rooster	World
Del Taco	USA	Roy Rogers Restaurants	Both
Denny's	USA	Ruby Tuesday's	USA
Dickey's Barbecue Pit	USA	Runza	USA
Dick's Drive-In	USA	Saladworks	USA
Dog n Suds	USA	Schlotzsky's	USA
Domino's Pizza	USA	Sheetz	USA
Duchess	USA	Showmars	USA
		Skippers Seafood & Chowder House	USA
Dunkin' Donuts	Both	Smoothie King	Both
Einstein Bros. Bagels	USA	Sneaky Pete's	USA
El Pollo Loco	Both	Sonic Drive-In	USA
El Taco Tote	USA	Spangles	USA
Erbert & Gerbert's	USA	Steak Escape	USA
Fatburger	Both	Submarina	USA
Firehouse Subs	USA	Subway	Both
Five Guys	Both	Taco Bell	Both
Fosters Freeze	USA	Taco Bueno	Both
Freddy's Frozen Custard	USA	Taco Cabana	Both
Friendly's	USA	Taco del Mar	Both
Gold Star Chili	USA	Taco John's	Both
Golden Chick	USA	Taco Mayo	Both
Golden Corral	USA	Taco Tico	Both
Golden Spoon	USA		
Good Times Burgers & Frozen Custard	USA	Taco Time	Both
Grandy's	USA	Tastee-Freez	World
Gray's Papaya	USA	Ted's Hot Dogs	USA
Great Steak	USA	Texadelphia	USA
Griff's Hamburgers	USA	Texas Roadhouse	USA
Halo Burger	USA	TGIFridays	USA
Happi House	USA	The Hat	USA
Happy Joe's	USA	The Original Hamburger Stand	USA
Hardee's / Red Burrito	Both	The Pita Pit	USA
Harold's Chicken Shack	USA	The Varsity	USA
Harvey's	World	The Whole Donut	USA

Chain	Wikipedia list	Chain	Wikipedia list
Hesburger	World	Tim Hortons	World
Hogi Yogi	USA	Togo's	Both
Honey Dew Donuts	USA	Tudor's Biscuit World	USA
Hot Dog on a Stick	USA	Vapiano	World
Hot 'n Now	USA	Wendy's	Both
Huddle House	USA	Wendy's Supa Sundaes	World
IHOP (International House of Pancakes)	USA	Wetzel's Pretzels	USA
In-N-Out Burger	Both	Whataburger	Both
Ivar's	USA	White Castle	Both
Jack in the Box	Both	White Spot	World
Jack's	USA	Wienerschnitzel	USA
Jersey Mike's Subs	USA	Wimpy	World
Jimboy's Tacos	USA	Winchell's Donuts	USA
Jimmy John's	USA	Wing Zone	USA
Johnny Rockets	USA	Wingstop	Both
Jollibee	World	WingStreet	USA
Juan Pollo	USA	Winstead's	USA
Kenny Rogers Roasters	World	Woody's Chicago Style	USA
KFC	Both	Yum-Yum Donuts	USA
		Zaxby's	USA

Note: Lists obtained from Wikipedia, accessed February 5, 2014

([http://en.wikipedia.org/wiki/List\\_of\\_fast\\_food\\_restaurant\\_chains](http://en.wikipedia.org/wiki/List_of_fast_food_restaurant_chains)). Both global and U.S. chains were used to identify fast food restaurants for the purpose of measuring access to fast-food and non-fast-food places. Together, the lists identify 205 unique fast food chains, of which 154 were reported by FoodAPS respondents.

Both = USA and world Wikipedia lists

## Appendix B – Background on Geocoding

Geocoding is the process of assigning geographic coordinates (latitude and longitude) to address data. Geocoding allows us to display addresses as points on a map, and calculate distances between points. Geocoding is also called address-matching, because it involves matching an address to a reference database. The accuracy of the coordinates, in terms of precise placement of a point on a map, is determined by the accuracy of (1) the address information that is to be geocoded, (2) the reference data, and (3) the matching algorithm used to match addresses to reference data.<sup>1</sup>

Geocodes assigned to a particular address may change over time as improvements are made to the reference data. Since the early 1990s, the U.S. Census Bureau's TIGER/Line®<sup>2</sup> files have provided the basis of both open-source and commercial mapping and geocoding applications, since the files contained address ranges for the entire United States. The key sources for updating geographic data are local governments that maintain property parcels, as well as commercial vendors and Census operations. In addition, commercial mapping, geocoding, and navigation systems collect user feedback and conduct on-the-ground research to improve data quality. For example, commercial entities, such as NAVTEQ and Google Maps, maintain on-the-ground fleets to collect street-level information and investigate feedback from users to update geographic data.

Varying levels of accuracy can occur when geocoding addresses due to address matching algorithms. Traditionally, an address would be matched to a particular address range on a street segment in a geospatially formatted file such as the TIGER/Line files. However, many commercially available geocoding services now have a greater matching accuracy, such as an exact house location or parcel. Therefore, a matched address can now vary from a ZIP Code centroid (if an exact address or street is not found), street name, street segment (address range), and exact address point; hence, the locational accuracy of a geocoded address can vary.

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<sup>1</sup> The matching algorithm is important when address data are subject to errors of content or formatting. Examples of this include misspelling of street or place names, or incorrect ZIP Codes.

<sup>2</sup> TIGER = Topologically Integrated Geographic Encoding and Referencing.