SM&DS

Strategic Mapping & Data Services

Demographic Terminology
&
Definitions

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As with each scientific discipline, a vocabulary of terminology is used to precisely describe the data, measurements of the data, and ultimately, conversion of the data into knowledge. The study of demographics is rich with a specialized vocabulary, which is all too often complicated, when the use of ordinary words takes on a different meaning. This guide has been prepared by Strategic Mapping and Data Services (SM&DS) to provide the user with an understanding of the data as well as the understanding of methodologies used in the preparation of the provided reports.

The data and reports prepared by SM&DS utilize a variety of data sources in an attempt to provide a clear and concise picture of the target market, and its potential. For each of the data sources from which the reports are generated, a description of the data and the terminology used is provided.

CACI Reports:

Income

1996 Household Income	
Base	388,294
% <$15K	11.3
% $15K-25K	12.2
% $25K-50K	34.5
% $50K-100K	32.0
% $100K-150K	6.4
% >$150K	3.5

Income in 1996 and 2001 is a forecast based upon 1990 census income tabulations. Income amounts are expressed in 1995 dollars. The income is also calculated and expressed in the CACI output as "median household income" as another indicator of household income.

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Median Household Income
1996        $43,270
2001        $41,624
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Population

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Population
1980            974,180
1990            993,529
1996          1,010,396
2001          1,023,906

Population Growth Rate   0.3
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Population is the total number of residents of an area. Residence refers to the "usual place" where a person lives, which is not necessarily the legal residence. For example, college students are counted where they attend school. 1980 census (revised), 1990 census and CACI provided projections for 1996 and 2001.

Disposable Income

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1996 Average Disposable Income
Total               $41,508
Householder <35     $35,079
Householder 35-44   $46,264
Householder 45-54   $54,920
Householder 55-64   $44,157
Householder 65+     $28,137
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Disposable income represents an estimate of a household's purchasing power or, simply, after-tax income[1]. The proportion of household income left after taxes is estimated from special studies conducted by the Census Bureau to simulate household taxes. Four types of taxes are deducted: Federal individual income taxes, State individual income taxes, FICA (Social Security) and Federal retirement payroll taxes, and property taxes for owner-occupied housing.

Household

A household is an occupied housing unit. 1990 census and CACI projections for 1996 and 2001.

Average Household Size

Average size is calculated by dividing the number of persons in households by the number of households.

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[1] Disposable income is a better indicator than income for the "buying power" of a population.

Householder

One person in each household is designated as the householder. In most cases, this is the person, or one of the persons, in whose name the home is owned being bought, or rented. If no such person in the household exists, any adult household member 15 years old and over is designated as the householder.

Spending Potential

Spending Potential Index*	
Auto Loan	105
Home Loan	109
Investments	112
Retirement Plans	112
Home Repair	111
Lawn & Garden	103
Remodeling	113
Appliances	103
Electronics	105
Furniture	109
Restaurants	110
Sporting Goods	104
Theater/Concerts	108
Toys & Hobbies	106
Travel	114
Video Rental	101
Apparel	112
Auto Aftermarket	106
Health Insurance	102
Pets & Supplies	103

The Spending Potential Indexes (SPIs) measure spending per consumer household for a product or service in a county, ZIP Code, or other trade area. The SPIs compare the expenditures per consumer household for a specific product/service in the trade area with the corresponding expenditure for that product/service nationally.

The index is tabulated to represent a value of 100 as the average spending, a value of more than 100 as high spending, and a value of less than 100 as low spending, relative to the U.S. For example, an index of 120 implies that spending in the trade area is likely to be 20 percent higher than the U.S. average; an index of 85, 15 percent lower.

Methodology used to Calculate SPIs:
Data for CACI's consumer spending reports are calculated from the Bureau of Labor Statistics' Consumer Expenditure Surveys (CEX). CACI extracted demographic and economic data for households from the CEX Interview Surveys, 1993 and 1994, to construct a conditional probability model. The model links the spending of consumer units or households surveyed in the CEX to all households with similar socioeconomic characteristics. Spending patterns are further differentiated by geography--region of the U.S., urban vs. rural, and metropolitan vs. non-metropolitan--and updated to current prices using the annual Consumer Price Index. Expenditures represent annual averages or totals.

Computation of a Spending Potential Index

For any trade area, the expenditure per consumer household for a particular product or service can be computed by linking the expenditure data to the demographic characteristics of the population. The SPI is defined as the ratio of the local average to the U.S. average expenditure. The following equation shows how the index is derived:

For trade area "t",

SPI = (Local Average Expenditure/U.S. Average Expenditure) x   100

How High is High?

The SPI exhibits different ranges of values for different products/services. In general, products pertaining to specific lifestyles or income levels will show a wider range of SPI values than products, which are consumed by everybody.

When tabulated to the U.S. with the appropriate weights, the SPI has an average value of 100, but the distribution of SPI's among ZIP Codes show how different products can lead to different levels in the index. Below is a table showing the various values of the SPI's for all ZIP Codes in the country.
This is a rough guide for determining "how high is high":

**Medians and Percentiles of Spending Potential
Indexes: All ZIP Codes in U.S.**

		Somewhat High	Very High	Extremely High
			Percentiles	
	Median	75th	90th	95th
Financial Services:				
Auto Loan	97	99	104	108
Home Loan	81	94	110	121
Investments	84	96	111	120
Retirement Plans	79	91	109	123
The Home:				
Home Improvements				
Home Repair	94	99	105	110

Lawn & Garden	101	105	108	112
Remodeling	91	97	107	115
Furnishings:				
Appliances	97	99	103	106
Electronics	93	97	105	111
Furniture	88	97	109	115
Entertainment:				
Restaurants	89	98	111	120
Sporting Goods	96	99	105	110
Theater & Concerts	88	97	107	114
Toys & Hobbies	95	100	105	109
Travel	85	96	108	117
Video Rental	96	100	103	105
Personal:				
Apparel	86	97	112	122
Auto Aftermarket	90	98	107	113
Health Insurance	102	105	108	109
Pets & Supplies	100	103	106	108

Variable Definitions

Following are the definitions of the various Spending Potential Indices (SPI) reported in the CACI report:

<u>Financial Services</u>

Auto Loan - Lease payments, finance charges, and principal paid for cars, trucks and vans (new and used).

Home Loan - Interest on mortgage and home equity loans, principal reduction of mortgage and home equity loans, and special or lump-sum mortgage and home equity payments.

Investment - Purchase price of stocks, bonds, or mutual funds (including broker fees).

Retirement Plans - Deductions for government retirement, railroad retirement, private pensions, and self-employment retirement plan.

The Home

Home Improvements Home Repair - Contractor labor and material costs associated with painting or papering, plumbing or water heater installation or repair, heating, air conditioning or electrical work, roofing and gutters, and other repair and maintenance work, replacement or repair of appliances, repair or replacement of hard-surfaced flooring, replacement of installed wall-to-wall carpeting, materials and equipment for painting and wallpapering, materials and supplies for plumbing, water heating installation and repairs, electrical work, heating and air conditioning jobs, hard-surfaced flooring, and masonry and brick work.

Lawn & Garden - Gardening and lawn care services, lawn mowing equipment and other yard machinery, power and non-power tools, rental and repair of lawn equipment and tools, fresh flowers, potted plants, and other landscaping supplies.

Remodeling - Improvement-type upkeep and other managerial services, contractors, labor and material costs, cost of supplies rented for additions, maintenance and repairs, new construction, appliances provided by contractor for additions, alterations and new constructions, materials and supplies purchased for insulation, dwellings under construction, additions, finishing, remodeling, landscaping, building outdoor patios, walks, fences or other enclosures, driveways, or permanent swimming pools, capital improvements, and installed wall-to-wall carpeting.

Furnishings - Appliances - Purchase and installation of refrigerators, home freezers, clothes washers and dryers, stoves and ovens, microwave ovens, portable dishwashers, and other small electrical kitchen appliances.

Electronics - Radios, phonographs, tape recorders and players, sound components and component systems, accessories and other sound equipment. Records, tapes, CDs (including those purchased from club), and needles. Televisions (including black and white, color, and large screen color TV projection equipment), VCRs, videodisk players and video cameras, videocassettes, tapes, discs, and video game hardware and software. Computers, computer hardware, software and accessories for non-business use.

Furniture - Mattresses and springs, other bedroom furniture, sofas, living room chairs and tables, kitchen and dining room furniture, modular wall units, shelves, cabinets, other living/family room furniture, and office furniture for home use.

Entertainment

Restaurants - Dining out at restaurants (including alcoholic beverages).

Sporting Goods - Ping-Pong, pool tables, other similar items, general sports equipment, health and exercise equipment, bicycles, camping equipment, hunting and fishing equipment, winter sports equipment, and water sports equipment.

Theater/Concerts - Entertainment admission fees including movies, theater, concert, opera, other musical series, and season tickets.

Toys & Hobbies - Toys, games, hobbies, tricycles, and battery-powered riders.

Travel - Airline fares, lodging away from home, and auto rental (out-of-town trips).

Video Rental - Rental of videocassettes, tapes, discs, and film.

Other:

Personal Apparel - Men's suits, sport coats, coats and jackets, underwear, socks, nightwear, sweaters and vests, activewear, shirts, pants, shorts, and accessories. Women's coats and jackets, dresses, sport coats and tailored jackets, sweaters and vests, shirts and blouses, skirts and culottes, pants, shorts, activewear, nightwear, undergarments, hosiery, suits, and accessories. Boys' and girls' coats and jackets, sweaters, shirts, underwear, nightwear, socks and hosiery, suits, dresses and skirts, shirts and blouses, sport coats, vests, pants, shorts and short sets, activewear, uniforms, and accessories. Infants' coats, jackets, snowsuits, underwear (including diapers), sleepwear, and accessories. Footwear for men, women, boys and girls. Watches and jewelry.

Auto Aftermarket - Motor oil, motor tune-up, lubrication and oil changes, tires (new, used, or recapped), shock absorber replacement, clutch and

transmission repair, motor repair and replacement, and brake work (including brake adjustment).

Health Insurance - Commercial health insurance, Blue Cross or Blue Shield, health maintenance plans, Medicare payments, commercial Medicare supplements, dental insurance, and other health insurance.

Pets & Supplies - Pets, pet supplies, and medicine for pets.

Purchase Potential

Purchase Potential data measure the likely demand for a product or service in a county, Zip Code, or other trade area. The report indicates (usually used in conjunction with an ACORN[2] segmentation) the percent of households and the Purchase Potential Index (PPI). PPIs compare the demand for a specific product or service in the trade area with the demand for that product or service nationally. The index is tabulated to represent a value of 100 as the average demand (nationally the demand is set to 100). A value of more than 100 represents a high demand and a value of less than 100 represents a low demand. An index of 120 implies that demand in the trade area is likely to be 20 percent higher than in the U.S.; an index of 85, 15 percent lower.

Computation of a Purchase Potential Index (PPI)
CACI calculates the PPIs by combining two sources of data: CACI's ACORN Consumer Classification System and the Simmons Survey of the American Household conducted by Simmons Market Research Bureau, Inc.. Since Simmons and CACI can identify each survey respondent by ACORN segment, a consumption rate can be calculated for every ACORN market:

Expected Number of Consumers$_t$ = $\sum^{40}$(Adult Population$_{t,a}$ X Consumption Rate)

Adult Population$_{t,a}$ refers to the number of adults belonging to an ACORN market segment in the trade area, t; and *Consumption Rate$_a$* is the consumption rate for the ACORN market segment, a.

A local consumption rate can be computed as the ratio of expected consumers for a product/service to total households or adults in the area. The choice of adult population or households as the base is consistent with the survey question.

Local Consumption Rate (%)$_t$ = (Expected Number of Consumers$_t$)/Adult Population$_t$

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[2] **A C**lassification **O**f **R**esidential **N**eighborhoods

The Purchase Potential Index is the ratio of the local consumption rate to the U.S. consumption rate. The calculation of the U.S. Consumption Rate is similar to the Local Consumption Rate, with the substitution of U.S. counts for local trade area counts.

For trade area "t" and ACORN segment "A":

Purchase Potential Index$_t$ = (Local Consumption Rate$_t$)/(U.S. Consumption Rate) X 100

CACI ACORN Reports

ACORN is **A C**lassification **O**f **R**esidential **N**eighborhoods, a market segmentation system that classifies neighborhoods in the United States into distinctive consumer groups, or market segments. The classification is done by the statistical technique of cluster analysis. Neighborhoods with the most similar characteristics are grouped together, while neighborhoods showing divergent characteristics are separated. It is often easier to work with segmented data, than with the full spectrum of differences found in demographics data. It is also much simpler to work with the dominant segment, rather than all of the segments at once.

The ACORN system is built at the block group level of geography. Census block groups are designed to represent neighborhoods, each with an average of about 400 households. ACORN assigns over 220,000 neighborhoods into one of forty-three segments. Each block group is analyzed and sorted by over sixty characteristics, including income, home value, occupation, education, household type, age and other key determinants of consumer behavior. The initial assignment was based upon 1990 census data. CACI updates the assignment based on the current-year CACI Demographic update, and other demographic and economic data.

A range of multivariate statistical methods was applied to create the ACORN system. First, the most pertinent consumer characteristics are identified from a wealth of data, using principal component analysis, correlation matrices, and graphical methods. Next, using a combination of cluster analytical techniques creates the market segments. These techniques are selected to produce statistically reliable solutions and their ability to handle an immense amount of information. An iterative partition K-means algorithm is used to create the initial clusters (or market segments), followed by the application of Ward's hierarchical minimum-variance method to group the clusters. This combination provides a complementary match of the strengths of each technique.

ACORN Graphs & Reports
A wide variety of demographic variables are produced on ACORN reports. An explanation of the major descriptors is provided:

Purchase potential indexes rank:
For the major PPIs, a ranking of their standing across all ACORN segments is provided. For example

Vitamin/Mineral	28/40
Own a PC	25/40
Pet Owner	14/40
Takeout Food	27/40
Full Size Pickup	11/40
Video Rental	26/40

For each of these PPIs, the standing is presented as a ratio. A value of 1 would indicate the highest potential across all ACORN segments, while 40 would indicate the lowest.

ACORN Averages:
The average value for that ACORN segment. These values or descriptions may be thought of as the center points in defining that segment. For example:

Socio-Economic Rank:	19
Median HH Income:	34,400
Share of Disposable Income:	4.3
Area:	Urbanized Area
Housing Type:	Single Family
House Hold Type:	Family Households
Dependency Ratio Index:	108
Ethnicity:	Dominant
HH Growth 90-98	0.98

Socioeconomic rank is based upon a variety of indexes, including income, education, employment, and housing value. 1 is the highest rank, with 40 being the lowest.

Area, is a generalized description of the location of the neighborhood. Possible values are:
> Central City
> Rural
> Suburban
> Town
> Urbanized Area

Housing Type is a descriptor of the housing. Possible values are:
> Duplex & Quads
> Garden Apt
> High-Rise Units
> Mobile Homes

Multi-Units
Seasonal Units
Single Family
Single/Multi-Unit
Single Attached

The dependency ratio index is the number of dependents aged <15 or 65+ years, per 100 of the working age population, 15-64 years. The value is reported as an index of the dependency ration for the ACORN segment to the U.S..

The Ethnicity descriptor is used to describe how homogeneous the ethnicity of the population for that ACORN segment is. The two possible values are Dominant and Mixed.

When ACORN histogram style graphs are presented, the yellow bar represents the value for that ACORN segment, and the blue bar represents the national average for the demographic descriptor.
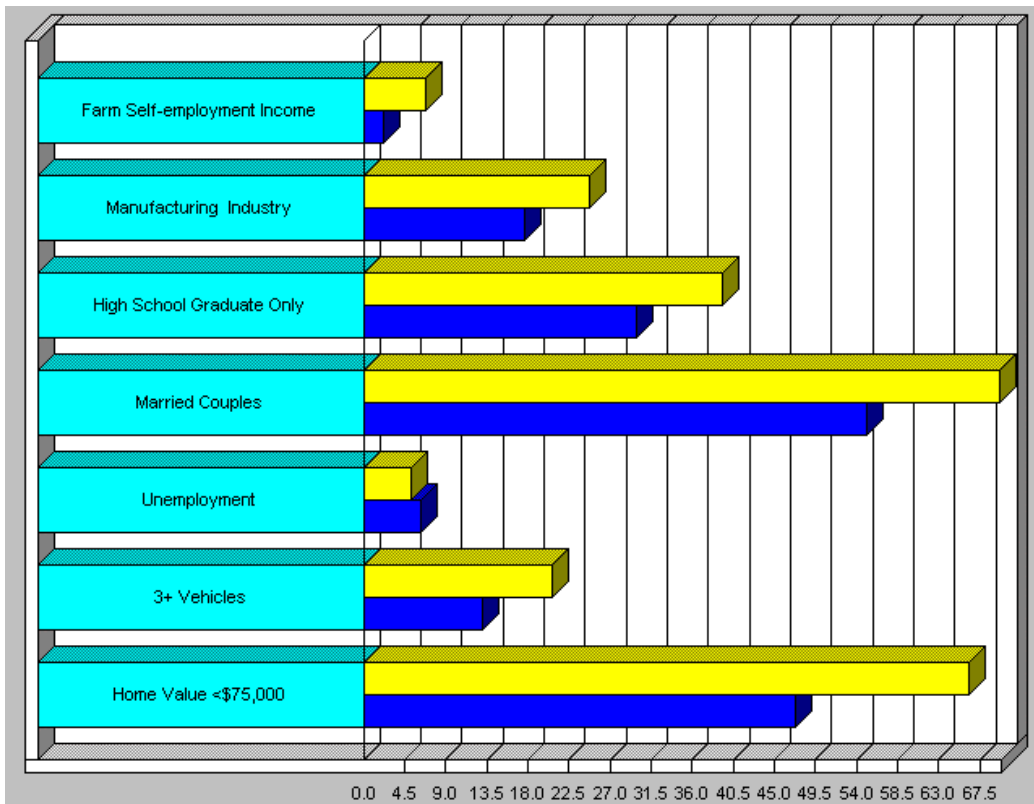
Pie charts are used to describe the percentage of that population with that ACORN that fall within certain measurements. For example in educational attainment, the years of education and the population that achieved it are presented in pie chart form.
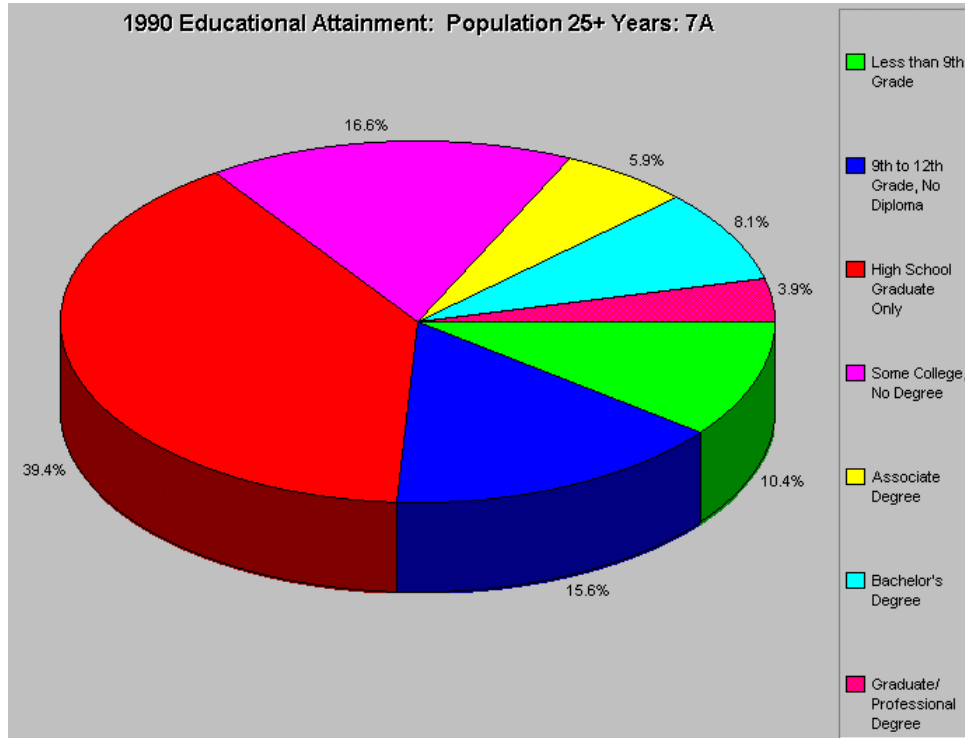
ZIP Codes

Data for residential ZIP Codes are estimated by CACI. The building blocks of CACI's ZIP Codes are census geographic areas. Because ZIP Code boundaries change frequently, census geography provides a comparatively stable base for the development of ZIP Code data. ZIP Code data have been estimated from tracts and, in non-tracted counties, block numbering areas (BNAs).

Tracts/BNAs are assigned to residential ZIP Codes by overlaying the centroids of component blocks on ZIP boundaries. Expressed as latitude/longitude coordinates, centroids approximate the geographic centers of blocks. If the centroid of a block falls within the ZIP Code, it is included. Blocks are then aggregated, and the ratio of block totals to tracts/BNAs is used to apportion demographic characteristics to a ZIP Code.

This geodemographic method does not provide data for ZIP Codes that are assigned to a single address or business or post office box only ZIPs. If a polygon is not defined for a ZIP Code, data cannot be retrieved. Information about post office box

ZIP Codes or single-address ZIPs is incorporated with the data for the enclosing, residential ZIP Code.

It should be noted that non-residential zipcodes would not report Census/CACI data!

With this all in mind, it is also important to review how zipcodes are selected for these demographic reports. If for example Zipcode 63088 was requested along with a 5-mile radius, the potential zipcodes could be mapped as shown below.
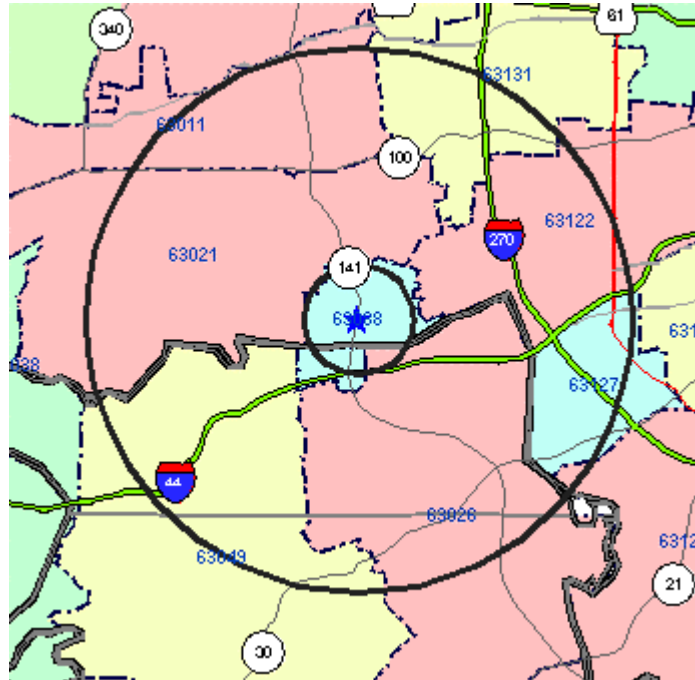
Only those zipcodes whose geometric midpoint was within the radius of the circle would be included in the report. In this example zipcodes 63021, 63122, 63088, 63127 and 63026 would be included. It should be noted that the smaller the radius the more likely zipcodes of interest will be excluded, while the larger the radius the less likely a Zipcode will be excluded.

When the selection of counties is based upon a Zipcode radius search, similar inclusion and exclusion rules apply. For example, when 63366 was used as the center point of a search, only St. Charles County would be included in the selection of reports.
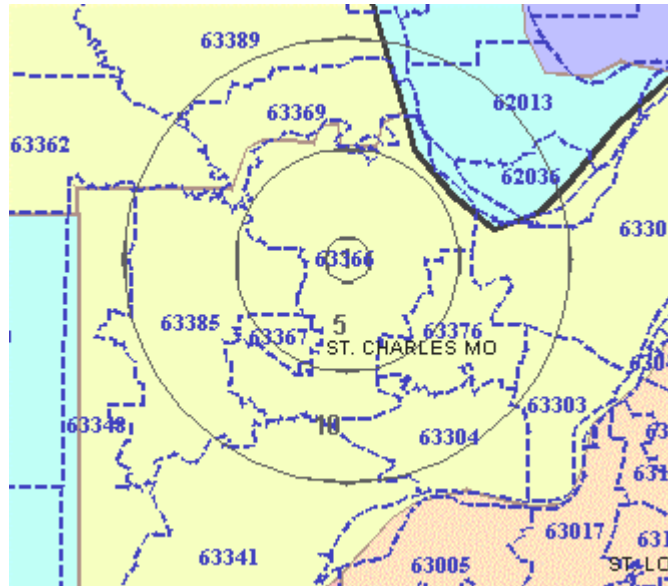
The Right Site™ Reports:

Another demographic tool provided by SM&DS are Right Site™ reports. These detailed reports provide a variety of demographic and site specific data useful to assist in the feasibility study of a location. Unlike the CACI reports, Right Site™ reports breaks most of the demographic data out by age, sex, and education instead of just presenting the aggregate data. Right Site™ reports also provide two key index's for evaluation of the data, an EASI™ Rank and an EASI™ Score.

EASI Rank and EASI Score are both reflections of the concentrations of a particular variable compared to average. The EASI Rank gives the actual rank in concentration terms. For example, a rank of "1" for counties is the highest rank in the list of 3,141 (out of 3,141 counties in the United States). The EASI Score takes the results of the EASI Rank and puts them into a frequency distribution of five equal groups (quintiles or 20% groups). An "A" represents the highest concentrations (highest 20%) while an "E" represents the lowest 20%. (Note: Cloudy, crime, rain are all variables where a high score might not be considered good but if there is a high concentration of the variable they would get an "A".) Variables are usually scored from the highest concentration to the lowest concentration, the exceptions (Cooling and Heating Degree-Days) are noted later with the words "Inverse Rank."

EASI Rank:
EASI Rank is a ratio type rank, for a particular geography. It represents the concentration of the variable compared to the average concentration. For example, if a county had the concentration or ratio of "males over 75 years old" (highest of the 3141 counties) it would get a "1" if it had the lowest ratio value it would get a "3141."   The number of records for that type of geography determines the highest

rank value. Ties are reported as the average of all tied numbers in sequence (if 511, 512 and 513 were tied; they would all be reported as 512).

EASI Score:
Takes the results of the EASI Rank and arranges them into a quintile (20% per group) frequency distribution. Note: (A = top 20%=> highest; B = next 20%=> second highest; C = next 20%=> average; D = next 20%=> second lowest; E = bottom 20%= >lowest).

(Note: The ranking counts are: ZIP Codes=29,467; Cities=3,733; Counties=3,141; Sectional Centers=881; Metropolitan Areas=318; TV Markets (DMA's)=211; Bureau of Economic Areas=174; Area Codes=122; States=51; Divisions=9; Regions=4; US=1. These counts appear under the title EASI Rank in all reports.)

EASI Quality of LIFE:
A measure to represent an overall "quality of life" (EASI Quality of Life). Some variables are considered, by EASI's research, as a positive influence and have been scored with a positive weight while those that are considered by EASI to be a negative are given a negative weight. We have included the following factors: EASI Weather Index (20 weight), EASI Total Crime Index (-2 weight), Earthquake Index (-1 weight), Culture Index (3 weight), Amusement Index (3 weight), Restaurant Index (5 weight), Medical Index (3 weight), Religion Index (1 weight), and Education Index (2 weight).

EASI Weather Index:
A weighted average of the factors listed below. Some variables are considered, by EASI's research, as a positive influence and have been scored with a positive weight while those that are considered to be a negative are given a negative weight. The determination of the key variables and their type of weights have been made by EASI. The variables and the weights are: Average Temperature (1 weight); Average Annual Heating (-9 weight); Average Annual Cooling (-6 weight); Percent of Possible Sunshine (2 weight); Mean Sky Cover (Sunrise to Sunset) (-1 weight); Mean Number of Days Clear (1 weight); Mean Range of Temperature (high minus low daily average) (-1 weight); Mean Number of Days Snow (-1 weight); Average Annual Precipitation (-1 weight); Average Annual Snowfall (-1 weight).

EASI Crime Index:
The weights developed by EASI for the Crime Index are: Murder (20 weight); Forcible Rape (10 weight); Robbery (6 weight); Aggravated Assault (6 weight); Burglary (3 weight); Larceny (1 weight); Motor Vehicle Theft (1 weight); Arson (1 weight). Note: A score of "A" indicates a high concentration of crime rather than a low crime area.

Saturn System Reports:

The most detailed demographic tool provided by SM&DS are Saturn System reports. The Saturn System reports are based upon a center point (ZipCode or Latitude/Longitude) and report on the human and agricultural demographic features within a series of circles. Unlike the most of the other reporting tools available, the Saturn System calculates the information as thought each of the three circles (based upon three radii) were unique geographical locations. For example, if the report is prepared around zipcode 63088 and the three radii are 3, 5, 15 miles, then the Saturn System reports would produce a demographic report showing the human population within the 3 mile radius, another report showing the human population within the 5 mile radius, and a similar report for the 15 mile radius.

It should be noted, that the demographic data presented in the Saturn System reports is based upon ZipCode level data. With this all in mind, it is also important to review how zipcodes are selected for these reports. In our example ZipCode 63088 was requested along with a 5-mile radius, the zipcodes included in the 5-mile radius and the resultant demographic calculations would be seen by the software as follows.
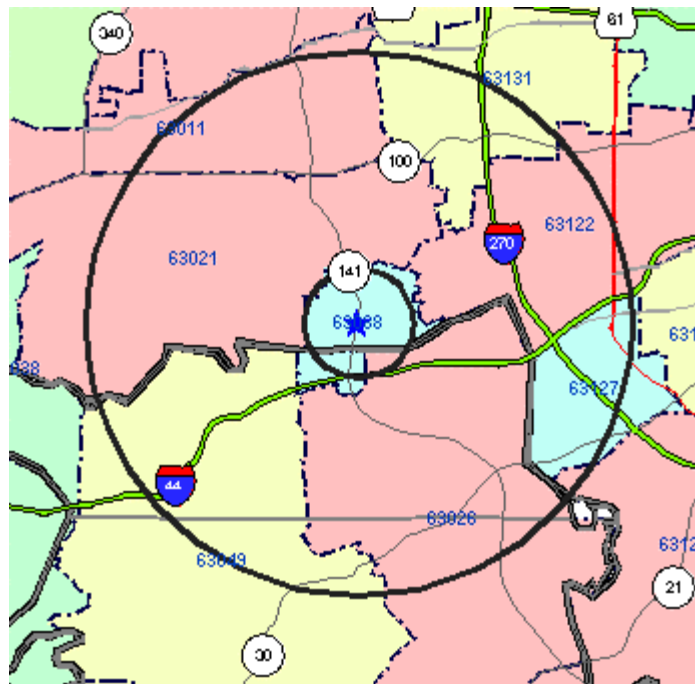
Only those ZipCodes whose geometric midpoint was within the radius of the circle would be included in the report. In this example ZipCodes 63021, 63122, 63088, 63127 and 63026 would be included.

The selection of counties in the Saturn System reports is based upon a ZipCode radius search, similar inclusion and exclusion rules apply. For example, when 63366 was used as the center point of a search, only St. Charles County would be included in the

selection of reports. It should be noted, that unlike the ZipCode level reports, the county level reports are simple reports and not radius totaling reports.
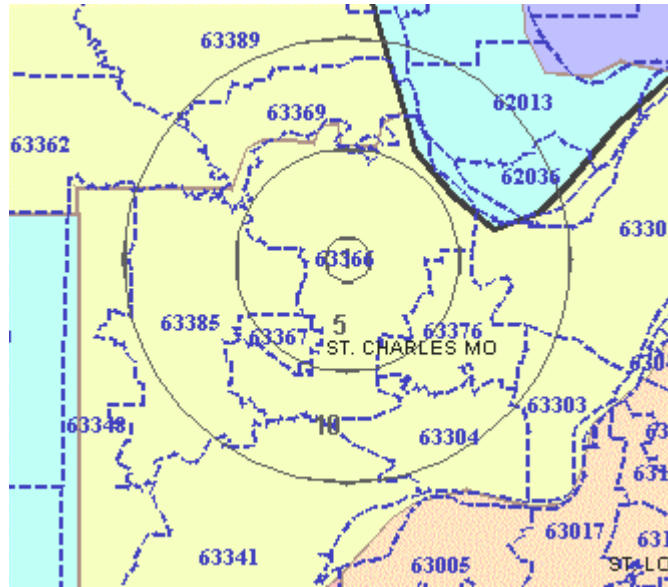
The first report produced by the Saturn System is the ZipCode listing, which lists the ZipCodes that fall within the largest radius in distance order. The ZipCode along with its distance from the center point and the county and state is also shown. A sample output is shown below.

ZipCode Listing

Center ZipCode: 63088

ZipCode	Distance	City	County FIPs	State
63088		VALLEY PARK	29189	MO
63021	2.32	BALLWIN	29189	MO
63022	3.87	BALLWIN	29189	MO
63099	4.04	FENTON	29189	MO
63024	4.28	BALLWIN	29189	MO
63011	4.54	BALLWIN	29189	MO
63127	4.61	SAINT LOUIS	29189	MO
63122	4.7	SAINT LOUIS	29189	MO
63026	4.95	FENTON	29189	MO
63131	5.18	SAINT LOUIS	29189	MO

On each page of radii based Saturn System report, the miles for each radii are listed, as shown below.

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Saturn System - 1.3

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2/11/01 12:54:39 PM

Market Information

Center ZipCode: 63088

Radius 1: 3 Miles
Radius 2: 5 Miles
Radius 3: 15 Miles

Saturn System - Market Information:

The Market Information section of the Saturn System provides demographic information about the age, race profile, income (both disposable as well as total income), male/female ratio, and population. Usually population information is reported for 1990, 1997 and 2000 with estimates for 2002 and 2005. In some cases 1980 population data is also reported.

Population information can assist in quantifying the overall market size and the growth potential for the specified geography. The report is provided in radius form as shown immediately below, and in county format shown further below.

Radii format Saturn System - Market Information

	Radius 1	Radius 2	Radius 3
Population information which assists in qualifying the market size and possible future growth potential.			
1980 Population	51602	167381	1177099
1990 Population	51602	168516	1178662
1997 Population	60197	182572	1198133
2000 Population	56771	179196	1177484
2002 Population Projection	63619	189114	1222282
2005 Population Projection	57497	181346	1174243
Population Growth	1	.7	.1

Saturn System - Spending Potential Index Report

The Saturn System provides a series of reports on the Spending Potential Indices (SPI) for twenty different variables. The indexes are based upon the average for the entire United States being 100, and for each geographical region (ZipCode) the reported index value. For most of the indices, values ranging from 95 to 105 should be viewed as average.. However values below 90 are a likely indicator that this geographical region exhibits below average spending potential index. The same reasoning should be applied if the index value is greater than 110, then this geographical region exhibits above average potential for that spending potential index.

Another issue to keep in mind, is that indices when used in radius style reports are not summed. A weighted average for that index is calculated with the 2000 population being used as the weighting factor.

Saturn System - PPI Reports

The Saturn System provides a series of reports on the purchase potential index's (PPI) for pets, garden and lawn, home improvement, and tools. The indexes are based upon the average for the entire United States being 100, and for each geographical region (ZipCode) the reported index value. For most of the indices, values ranging from 95 to 105 should be viewed as average.. However values below 90 are a likely indicator that this geographical region exhibits below average potential for that purchasing index. The same reasoning should be applied if the index value is greater than 110, then this geographical region exhibits above average potential for that purchasing index.

Another issue to keep in mind, is that indices when used in radius style reports are not summed, but instead a weighted average for that index is calculated with the 2000 population being used as the weighting factor. Shown below is a same from the Pets PPI report where, in radius 1 the reported index value for "owning any dog or cat" is 120.4 which is definitely above the national average. However in the same report, radius 3 reports an index value of 97.9 which is below the average, but basically is average when all things are considered.

Saturn System - PPI Pets report

	Radius 1	Radius 2	Radius 3
Own any Dog or Cat	120.4	113.8	97.9
Own any Dog	121.9	112.6	101
Own Toy or Small Dog	124.6	112.8	99.9
Own Medium Sized Dog	110.3	108.1	96.5

Saturn System - Census of Agriculture

The Saturn System is the only system to provide a comprehensive set of radii reports for agriculture. Using agriculture census data the Saturn System calculates for each of the specified radii the total agricultural situation within that radius. For example, shown below within radii 1, there are 10 farms (regardless of size), while radius 2 reports 140 farms and radius 3 reports 909 farms. The census of agriculture reports generated by the Saturn System contains over 180 demographic variables collected at the ZipCode level.

Saturn System - Census of Agriculture

	Radius 1	Radius 2	Radius 3
Farms by size all farms	18	143	969
Farms by size 1 to 49 acres	5	26	243
Farms by size 50 to 999 acres	13	114	704
Farms by size 1000 acres or more		3	22
Market value of agricultural products sold total farms	18	143	969
Market value of agricultural products sold less than $10000	15	108	658
Market value of agricultural products sold $10000 or more	3	35	311

The Saturn System also reports agriculture census data at the county level. However for the sake of brevity, only select animal production demographic variables are reported. A sample portion of a county level report is shown below.

Saturn System - Census of Agriculture report

SM&DS
Strategic Mapping & Data Services

Saturn System - 1.3

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Census of Agriculture

Center ZipCode: 63088

Fips Code: 29189 ST. LOUIS

	County Level Data
Number of Farms	295
Cattle Inventory (farms)	67
Cattle Inventory (number)	2112
Beef Cows Inventory (farms)	54
Beef Cows Inventory (number)	
Milk Cows Inventory (farms)	1

Saturn System - Pet Population Estimates

Large portions of those engaged in agricultural retail style sales, often inquire as to the population of pets within a specified geographic region. However to date no complete source of actual pet population counts have been conducted. In light of this an estimate of the pet population is provided by the Saturn System using a series of formulas derived in the 1997 "U.S. Pet Ownership & Demographic Source Book" published by the American Veterinary medical Association.

Using the published formulas an estimate of both households owning pets, as well as the pet population itself are provided.   It should be remembered in reviewing the estimated population, that the national averages for pets is as follows:

	Dogs	**Cats**	**Birds**	**Horses**
% of households owning	31.6%	27.3%	4.6%	1.5%
Average number per household	1.7	2.2	2.7	2.7

A sample portion of the pet population estimate report is shown below.

Saturn System - Pet Population Estimate report

Saturn System - 1.3

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Pet Population Estimates

Center ZipCode: 63088

Radius 1: 3 Miles
Radius 2: 5 Miles
Radius 3: 15 Miles

	Radius 1	Radius 2	Radius 3
Pet Household Estimates			
All Pet Households	12193	38788	273264
Dog Households	6542	20809	146606