PERPETUATING SPRAWL

Understanding Wal-Mart's Development in
Pennsylvania, New York, California, and Ohio

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Introduction

"...early discounters limited their attention to city and suburban markets, a strategy that reflected their concern with generating a high sales volume and rapid turnover of stock. According to the Census figures of 1960, however, nearly 40 percent of America's population still lived on farms and in small towns and cities fewer than 25,000 people. As a consequence, some retailers began to view rural America as a promising market for discount merchandising."[1]

Sam Walton had a dream that he could change the lives for rural dwellers by offering a one-stop-shopping location, with low prices and a friendly staff. Most people thought he was crazy. Walton proved them wrong. Walton and his business model provided the blueprint for a retail empire. But, Wal-Mart's growth, while fascinating for business school students, is the bane of many local communities. These large stores often drive out locally owned businesses, move jobs overseas, and pollute the environment. Despite ever-increasing opposition to its expansion, Wal-Mart continues to seek an aggressive supercenter plan.

From its humble beginnings in Northwest Arkansas, Wal-Mart built its stores using the diffusion path.[2] This model involves building stores from a central location, in this case Rogers, Arkansas, and gradually expanding its radius over time.[3] At least in its early development, Wal-Mart sought to avoid large urban centers. Author Thomas J. Holmes, professor of economics at the University of Minnesota, commented about the strategy:

"...Wal-Mart started with its first store near Bentonville, Ark., in 1962. The diffusion of store openings radiating out from this point was very gradual. And this diffusion didn't just occur in one direction, but spread out in all directions, with the same measured deliberation. Imagine a slowly blooming flower, or a pebble dropped in a pond, with the waves moving across the water in slow motion."[4]

By utilizing the "hub and spoke" distribution strategy[5] to maximize effectiveness, Wal-Mart was and still is able to outpace its competitors and build more stores. With a network of distribution centers around the country, Wal-Mart supplies its stores with ease. In fact, "while Wal-Mart needs only 10% of its stores' square footage for inventory, competitors need 25%. That's because each store is within a day's drive of a distribution center."[6]

Now, after conquering most of the United States, Wal-Mart is at a crossroads. Currently, Wal-Mart is trying to adapt to local and regional preferences while scaling back overall domestic development. It is within this context that we examine Wal-Mart strategies in California, Ohio, Pennsylvania, and New York as a microcosm of America.

The goal of this paper is to provide insights into Wal-Mart's growth patterns in four states outside of its original sphere of influence, and to help local and regional planners understand where Wal-Mart might build its next facility.

With a distribution network already in place, Wal-Mart selects from four different property types to build its new stores or convert older discount stores: (1) greenfields, which are unprotected natural areas or agricultural land, (2) brownfields, which are contaminated sites, (3) existing commercial sites, and (4) previous industrial sites.[7] Wal-Mart selects a particular site based upon its relative proximity to other stores and distribution centers, the saturation point of an area, public opposition, and ease of zoning and local regulation.

The following are our key findings:

- **Saturation Rate:** As of December 2007, Wal-Mart averaged one supercenter for every 994 square miles in counties where supercenters existed or one supercenter for approximately every 206,402 people. Discrepancies in placement of new stores and the significant differences in average state ratios of Wal-Mart supercenters to county size and population suggest that Wal-Mart's market saturation is not exclusively based on county size and population.

- **Conversion Time:** In New York, California, Pennsylvania, and Ohio, the average time to supercenter conversion, during the selected years, is approximately 14 years. The longest time for the transition between a regular store and a supercenter was 17 years in Lancaster, California. The shortest period for a conversion was around nine years in Syracuse, New York.

- **Opposition:** In the four states studied, the highest incidence of opposition occurred in California followed by New York and then Pennsylvania, with the least opposition in Ohio. To address opposition to its stores, Wal-Mart frequently sets up referendums and front groups to quell potential opposition before building a supercenter.

- **Land Use:** From 2005 to 2007, Wal-Mart built an alarmingly high number of supercenters on greenfields in California, New York, Pennsylvania, and Ohio. Of the 99 supercenters constructed, over 74% were built on greenfields. In contrast, Wal-Mart's current strategy appears to be less focused on greenfields. Of the 53 currently proposed supercenters, approximately 38% of them are scheduled to be built on greenfield sites. We attribute this to many factors including market saturation, local opposition to Wal-Mart's environmental impact, and the company's green strategy.

- **Land Size:** In the Northeast, Wal-Mart has significantly increased the acreage for its proposed developments in comparison to the acreage used to build existing supercenters from 2005-2007. The acreage for existing supercenters in New York and Pennsylvania was 266 and 174 acres, respectively. In contrast, the acreage for proposed developments is 415 and 235 acres, respectively. Of the existing stores, the supercenters in Cicero, NY and Lewisburg, PA occupy the largest amount of land, consuming 53 and 32 acres, respectively.

- **Distribution Centers:** 88.9% of supercenters in New York, Ohio, and Pennsylvania are no more than a four hour drive from the distribution centers servicing them, allowing stock to be replenished quickly and inferring that distance to distribution center plays at least some role in the decision of where to site a store.

- **Growth Comparison:** When looking at two similar states in terms of size, population and saturation (Ohio and Pennsylvania), we see growth in Ohio to be significantly more rapid. This could be due to a variety of factors including: availability of land or vacant commercial space; variability in zoning laws/regulations from town to town; level of organized store opposition; proximity to distribution center; and trends in population growth.

Methodology

At Wal-Mart Watch, our mission is to understand all facets of Wal-Mart's business model. While Wal-Mart continues to focus on international growth, domestic growth is still an utmost concern. Development in the United States is not as easy as it used to be. As one of the largest real estate developers in the country, Wal-Mart's total retail space covers an area larger than the island of Manhattan or 15,000 acres.[8] Therefore, the task of fully understanding Wal-Mart's store construction is a difficult one. To focus our efforts and maximize the usefulness of our results, we selected four states for observation - California, New York, Ohio, and Pennsylvania. In addition, since Wal-Mart has been growing for almost 40 years, we selected the two-year period from 2005-2007, which represents a time of enormous transition for Wal-Mart.

These states were selected for the following reasons: Wal-Mart would like to expand in these areas; the company often faces unique opposition from site fight groups; and these states have key urban centers that are ripe for big-box development. In addition, since Wal-Mart focuses primarily on supercenter development, our analysis examines both proposed and current stores in this format. When looking at these particular supercenters, it was necessary to find out particulars such as how much land the average store occupies; the identity of the development companies who help build Wal-Mart's empire; and how Wal-Mart achieves such logistical efficiency. In general, we want to know why Wal-Mart is able to build so many stores and how they target an area for development. Many people around the country believe that Wal-Mart has simply built too many stores, and with over 4,000 stores in the United States alone, they might be right.[9]

The majority of the data for this report was obtained using Census data, Wal-Mart websites, public land records, press releases, and various sources provided by local site fight groups. To determine Wal-Mart's regional saturation, a comparison was done between county-level store data for stores in California, New York, Ohio, and Pennsylvania to 2000 Census land area figures and 2007 Census population estimates. Each county's total square miles and total population were divided by the total number of Wal-Mart supercenters. The resulting figures reveal the number of square miles and the number of people per one Wal-Mart supercenter.

Questions

Does Wal-Mart always attempt to achieve the same level of market saturation in every regional market?

According to the June 26, 2005 issue of *DSN Retailing Today*, "Wal-Mart ended [2004] with approximately 1,700 supercenters, will open another 250 units this year and alluded to the possibility that expansion of the format could accelerate in the coming years. [Tom] Schoewe [Wal-Mart's EVP and CFO] said the company has the opportunity to add nearly 4,000 more units, but did not specify a time frame."

Based on Schoewe's prediction that the company has the potential to add 4,000 additional stores, and given the Census population estimate of 296,507,061 for July 2005, it appears that Wal-Mart attempts to achieve a market saturation of about one supercenter for every 50,000 people.

In this section, we sought to determine how many stores Wal-Mart needed to build in order to reach its saturation goals. We first examined Wal-Mart's saturation in individual counties where supercenters are located, before looking at Wal-Mart's saturation on a statewide scale. At the county level, Wal-Mart's saturation ranges from one supercenter for every 19,027 residents in Schuyler County, New York to one supercenter for every 1,748,976 residents in Santa Clara County, California. The following table notes the ranges and means of Wal-Mart supercenters per residents by state.

Number of Residents per One Wal-Mart Supercenter in Individual Counties with Wal-Marts (As of December 2007)

State	Highest # of residents per supercenter	Lowest # of residents per supercenter	Mean # of residents per supercenter
California	1,748,976	36,049	504,998
New York	456,669	19,027	112,098
Ohio	1,295,958	22,471	86,768
Pennsylvania	776,172	32,610	121,742
		All State Average:	206,402

All figures have been rounded to the nearest whole number.

Wal-Mart only achieved a saturation of one supercenter for every 50,000 or fewer people when saturation was broken down to the county level. On an individual county basis, Wal-Mart achieved its saturation goals in one California county (5% of all California counties with supercenters), six New York counties (18% of all New York counties with supercenters), 32 Ohio counties (45% of all Ohio counties with supercenters), and twelve Pennsylvania counties (26% of all Pennsylvania counties with supercenters). On the statewide level, Wal-Mart has not achieved saturation in any of the states studied.

Number of Residents per One Wal-Mart Supercenter (as of December 2007)

State	(Using Total County Populations of Counties where Wal-Mart is located)	(Using Total State Population)
California	504,998	1,104,774
New York	112,098	410,770
Ohio	86,768	107,271
Pennsylvania	121,742	159,495
Average	206,402	445,578

All figures have been rounded to the nearest whole number.

This information seems to suggest that Wal-Mart concentrates on saturation at the county or regional level rather than a blanket approach to an entire state, possibly to eliminate competition across the state piece by piece. For a clearer picture, it is necessary to look at its growth over time.

Analysis over Time

As of January 2005, Wal-Mart succeeded in opening only eight supercenters in California, a relatively small number compared to the 35 in New York, 59 in Ohio, and 64 in Pennsylvania. Wal-Mart averaged about one supercenter for every 1,652 square miles in counties where supercenters were located or about one supercenter for every 406,000 people. These ratios are inflated by California's comparatively high averages due to Wal-Mart's late entrance into the California market. When the California data was excluded, Wal-Mart averaged one supercenter for about every 584 square miles in counties where supercenters were located or one supercenter for about every 111,342 people.

Pre-2005 One Wal-Mart per # of Residents Ratio

State	Highest Ratio	Lowest Ratio	Mean State Ratio
California	4,939,277	72,098	1,509,978
New York	456,669	19,027	125,715
Ohio	357,888	27,918	83,141
Pennsylvania	486,345	32,610	125,170
		All State Average:	406,001

All figures have been rounded to the nearest whole number.

Between 2005 and 2007, Wal-Mart increased its total number of stores in 24 of the original 120 counties in all four states, which had Wal-Mart supercenters before 2005. For example, prior to 2005 in Los Angeles County, there was one Wal-Mart supercenter for about every five million people. Between 2005 and 2007, seven supercenters were built in Los Angeles County thus reducing the population ratio to about one supercenter for every one million people.

The Number of Counties with Lower Than Average Population/Land Numbers per One Wal-Mart Where Stores were Built or are Planned

	California	New York	Ohio	Pennsylvania
2005-2007	2	1	1	4
After 2007	4	1	0	2

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Supercenters that were planned after December 2007 are largely for counties with fewer than average Wal-Marts per capita. In total, out of 48 planned supercenters in the four states studied, only eight supercenters (approximately 16%), are planned in counties with more Wal-Marts per capita than the average. These exceptions are relatively large in California, which is the only state where the number of exceptions increased (see table above). The increase in California's exceptions suggests that California's average saturation (one supercenter to about every 500,000 people in counties where supercenters exist) is still higher than Wal-Mart's desired or planned saturation for the state.

As of December 2007, Wal-Mart averaged one supercenter for about every 994 square miles in counties where supercenters existed or one supercenter for approximately every 206,402 people. If we exclude the California data again, Wal-Mart averaged one supercenter for about every 555 square miles in counties where supercenters existed in the states studied or one supercenter for about every 106,896 people. Nonetheless, Wal-Mart achieved slightly greater supercenter to county size and supercenter to population ratios, regardless of California being included.

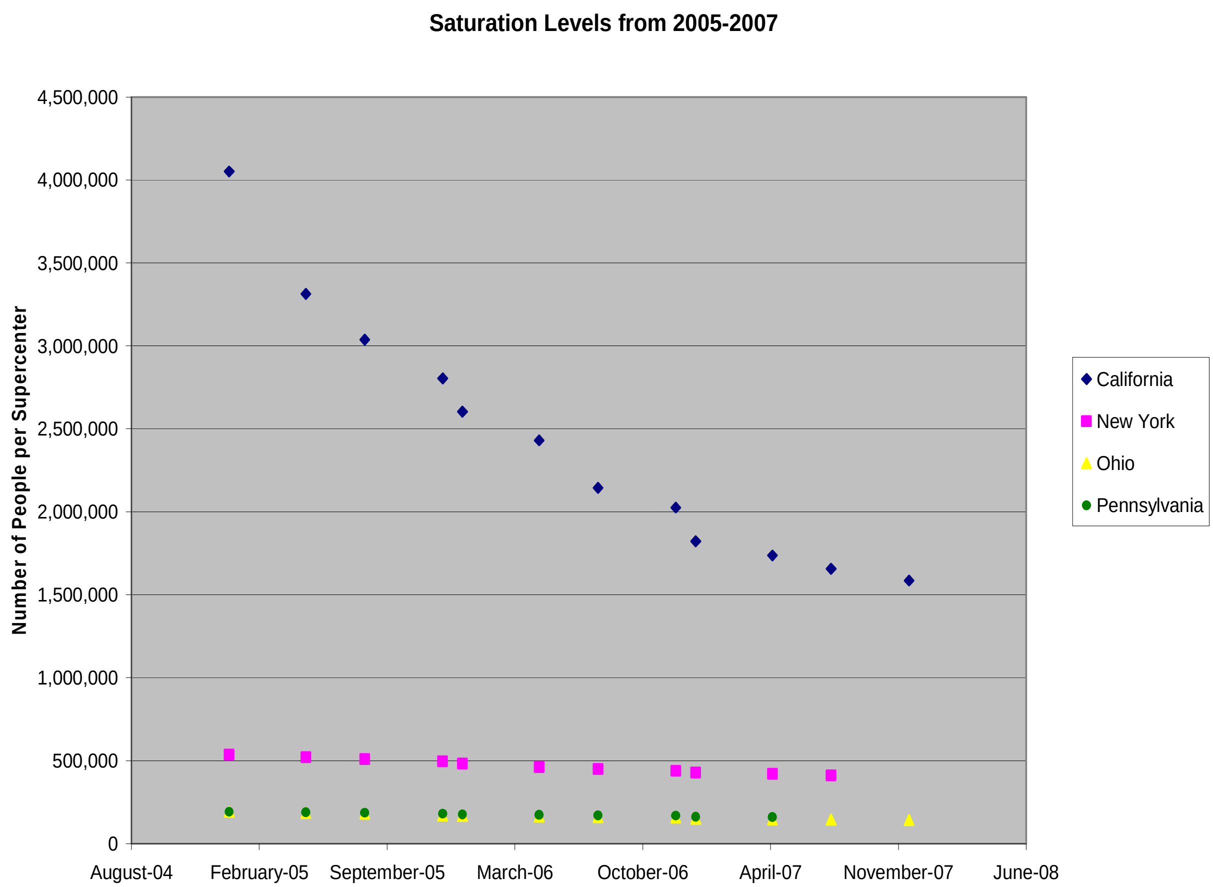
Discrepancies in placement of new stores and the significant differences in average state ratios of Wal-Mart supercenters to county size and population suggest that Wal-Mart's market saturation is not exclusively based on county size and population.

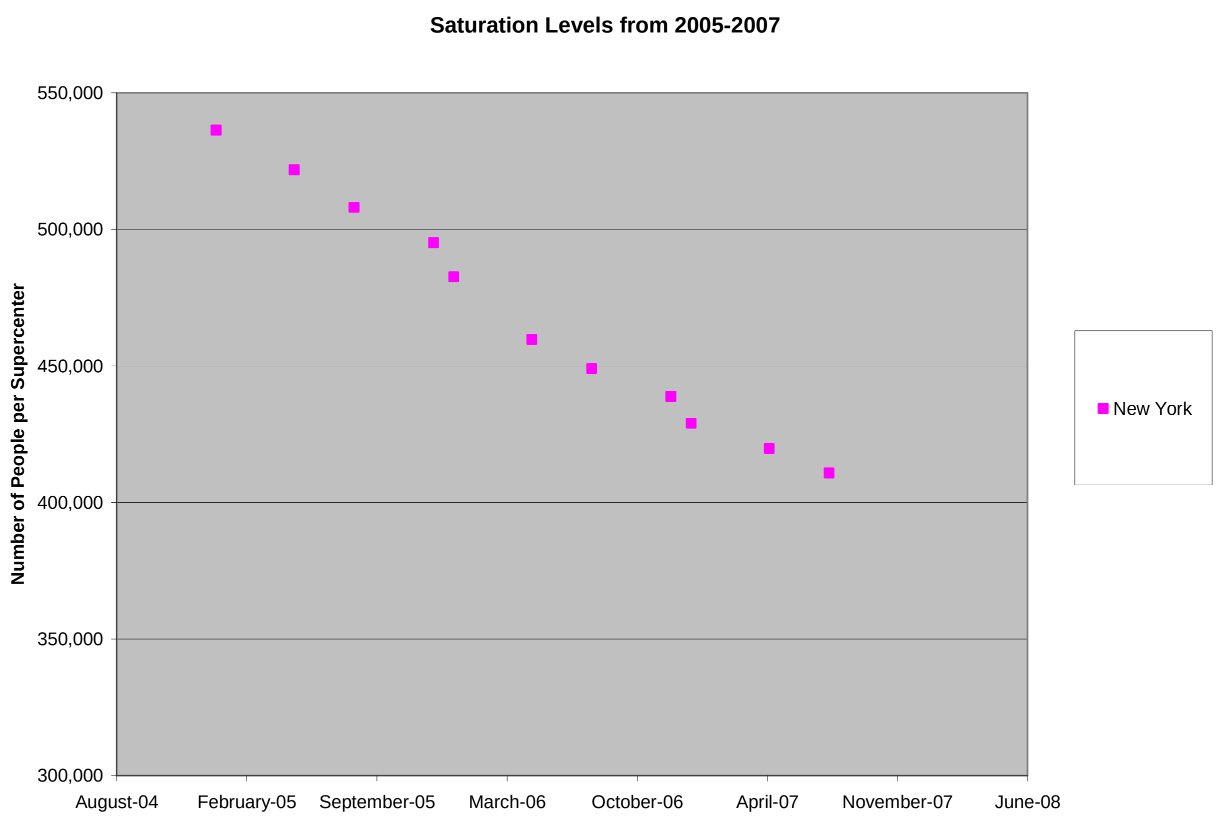
The number of residents per one supercenter steadily declined in New York, Ohio, and Pennsylvania from 2005 to 2007. The following chart illustrates Wal-Mart's increased supercenter saturation (by total population) over time in counties where Wal-Mart exists.

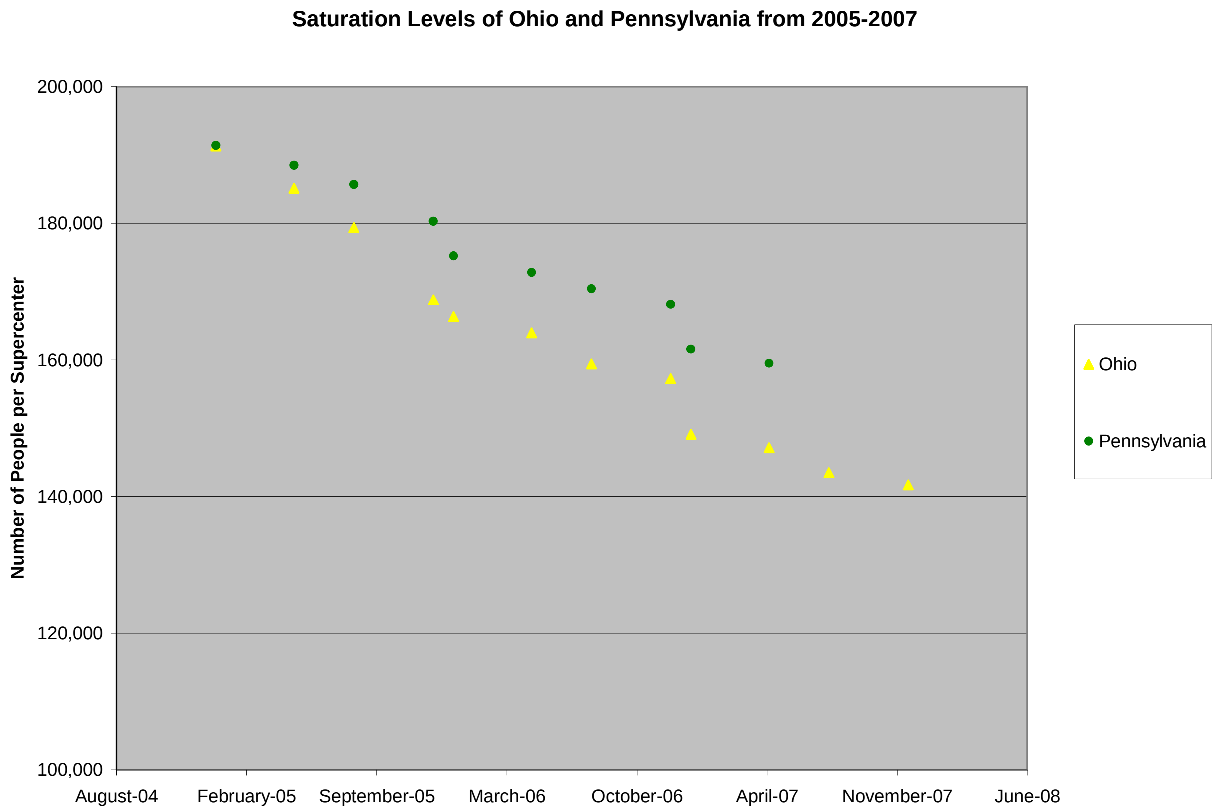
Market saturation almost certainly plays a role in store siting, since Wal-Mart must take into account whether a given market can support continued growth. There is reason to believe, however, that market saturation does not have as much effect on how quickly Wal-Mart moves to saturate an area. Wal-Mart tripled the number of stores in California, yet that is predominantly because Wal-Mart had a very low number of stores within the state from the beginning. When looking at Ohio and Pennsylvania (two similar states in terms of size, population and saturation), growth in Ohio is significantly more rapid, which provides further evidence that reasons beyond simple market saturation objectives are considered.

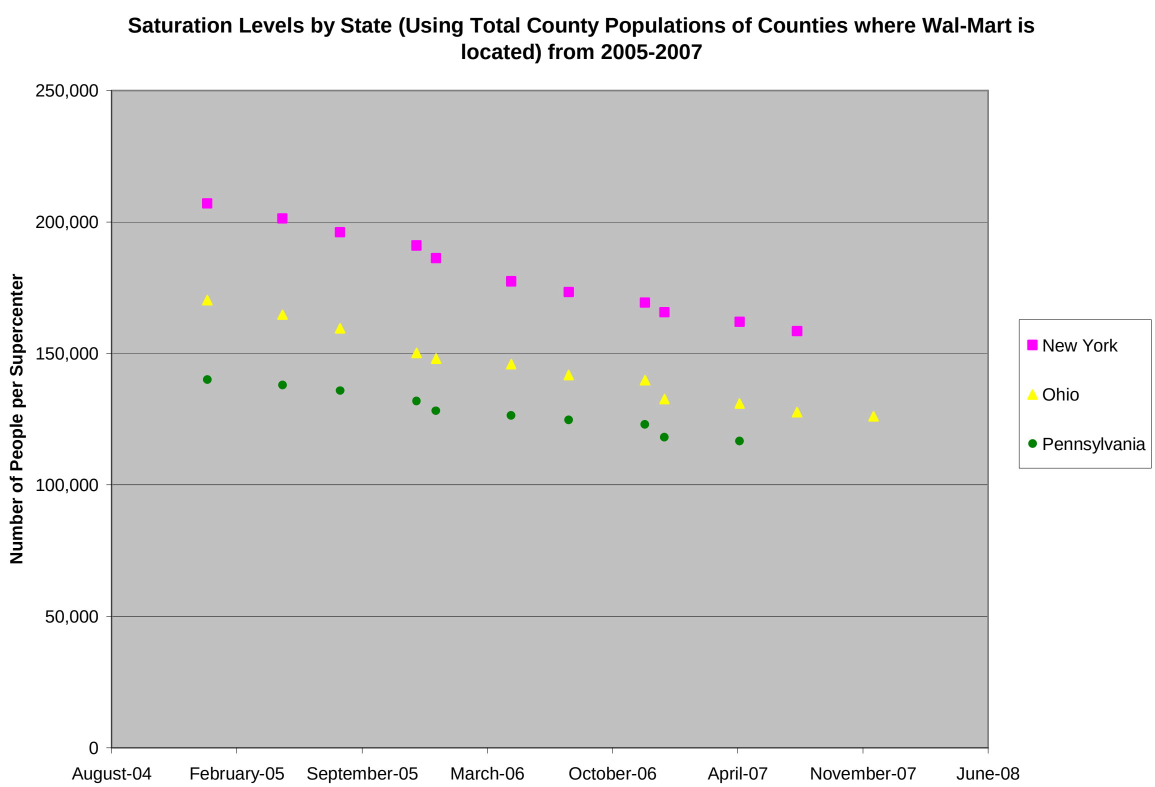
Improving the retailer's presence within a given market is one possibility. Placing new stores within 200 miles of a distribution center appears to be another factor involved in store growth, as shown below. Other outside variables, such as level of opposition to the store, availability of land, local land use regulations, etc., might also be at work in each case.

With 2,523 supercenters nationwide at the end of the 2007, Wal-Mart's national saturation was one supercenter for every 119,549 people.


Saturation Levels from 2005-2007
Number of People per Supercenter
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
August-04
February-05
September-05
March-06
October-06
April-07
November-07
June-08
California
New York
Ohio
Pennsylvania


Saturation Levels from 2005-2007
Number of People per Supercenter
550,000
500,000
450,000
400,000
350,000
300,000
August-04
February-05
September-05
March-06
October-06
April-07
November-07
June-08
New York

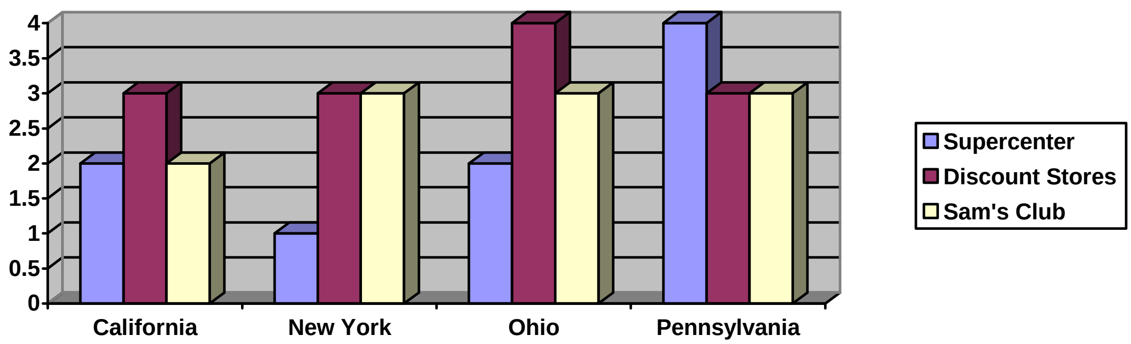

Saturation Levels of Ohio and Pennsylvania from 2005-2007
200,000
180,000
160,000
140,000
120,000
100,000
Number of People per Supercenter
August-04
February-05
September-05
March-06
October-06
April-07
November-07
June-08
Ohio
Pennsylvania


Saturation Levels by State (Using Total County Populations of Counties where Wal-Mart is located) from 2005-2007
250,000
200,000
150,000
100,000
50,000
0
Number of People per Supercenter
August-04
February-05
September-05
March-06
October-06
April-07
November-07
June-08
New York
Ohio
Pennsylvania

What is the relationship between distribution center location and store siting?

To better understand distribution center location, we examined the number of distribution centers per state: California has six, Ohio and Pennsylvania each have four, and New York has three.[10] The chart below shows the number of Wal-Mart distribution centers servicing each type of Wal-Mart store format per state. It should be noted that not all retail store formats are serviced by distribution centers within the same state.

Number of Distribution Centers Servicing Each Type of Wal-Mart Store Format



The data suggests that distribution networks are not based within each state, but rather are regional in nature, based on store type. For example, a distribution center in Steubenville, Ohio services supercenters in Ohio and Pennsylvania, while a distribution center in Woodland, Pennsylvania services discount stores in Pennsylvania, Ohio and New York. Several examples below demonstrate this phenomenon:

In Hamilton County, Ohio, for example, discount stores are serviced by the distribution center located in Seymour, Indiana, while Sam's Club stores are serviced by the distribution center located in Greenfield, Indiana. Supercenters, on the other hand, are serviced by the distribution center located in Washington Court House, Ohio. In Erie County, New York, discount stores are serviced by the distribution center in Marcy, New York while supercenters are serviced by the distribution center in Johnstown, New York and the Sam's Club is serviced by the distribution center in North Canton, Ohio.

In Warren County, Ohio, three supercenters opened within the past three years. All three stores are within 20 miles of each other, and the Mason (opened 2006) and Lebanon (opened 2005) supercenters are located 42 miles and 49 miles respectively from the servicing distribution center located in Washington Court House, Ohio. The Franklin store (opened April 2007) utilizes a distribution center 201 miles away in Steubenville, Ohio. Incidentally, Wal-Mart trucks heading west on Interstate 71 from Steubenville to Franklin would travel past the Washington Court House distribution center, showing that there are factors beyond geography that determine distribution center usage.

One explanation for these distribution center variances is that when one distribution center reaches capacity, a newly built supercenter may have to be serviced by a distribution center located a greater distance away from that store. Additionally, the state-by-state data below shows the average distance between supercenters and distribution centers to be much higher in California when compared to the other three states, which could be a product of California's relatively low number of distribution centers.

Census data shows that California is more than three times the land area of each of the other three states. California is larger than New York, Pennsylvania and Ohio, yet has approximately half the number of distribution centers within its state boundaries.[11] As a result, one may expect Wal-Mart to increase distribution center construction in California and/or surrounding states in the near future. As will be explained in greater detail later in this paper, however, California has seen the highest percentage of formal opposition to Wal-Mart supercenter construction, which could carry over to distribution center construction as has previously been the casein Merced, California.

New York

Over the time period in question, Wal-Mart has opened or proposed 27 supercenters (12 opened, 15 proposed) in the state of New York. The proposed Potsdam supercenter site, located in St. Lawrence County would be [when opened] the closest in proximity to a distribution center at 4.5 miles. At 265 miles, the Niagara Falls proposed development, located in Niagara County, is the farthest from a distribution center. Twenty-one of the 27 supercenters were located more than 100 miles from a distribution center, with nine of those located more than 200 miles from one. This leaves six supercenters, or 22.2%, of newly opened New York supercenters located within 100 miles of a distribution center. The average distance for all New York supercenters opened during the time period is 161.97 miles. The average distance for all New York supercenters opened prior to the 2005-2007 time period is 112.43 miles. The median distance is 162 miles.

Ohio

Wal-Mart opened or proposed 56 supercenters (48 opened, 8 proposed) in the state of Ohio. The Circleville supercenter, located in Pickaway County, opened in May of 2005, is the closest in proximity to a distribution center at 27 miles. At 201 miles, the Franklin supercenter, located in Warren County, opened in April of 2007, is the farthest from a distribution center. Eighteen of the 56 supercenters were located more than 100 miles from a distribution center, with only one of those, the Franklin site, located more than 200 miles from one. This leaves 38 supercenters, or 67.9%, of newly opened Ohio supercenters located within 100 miles of a distribution center. The average distance for all Ohio supercenters opened during the 2005-2007 time period is 84.91 miles. The average distance for all Ohio supercenters opened prior to the time period is 73.03 miles. The median distance is 71 miles.

Pennsylvania

Wal-Mart opened or proposed 25 supercenters (14 opened, 11 proposed) in the state of Pennsylvania. The proposed Duncansville supercenter (which opened in March of 2008) located in Blair County is the closest in proximity to a distribution center at 30 miles. At 209 miles, the proposed Pittston supercenter, located in Luzerne County, is the farthest from a distribution center. Fifteen of the 25 supercenters were located more than 100 miles from a distribution center, with two of those located more than 200 miles from a distribution center. This leaves 10 supercenters, or 40%, of newly opened Pennsylvania supercenters located within 100 miles of a distribution center. The average distance for the 25 known Pennsylvania supercenters opened during the time period is 111.12 miles. The average distance for all Pennsylvania supercenters opened prior to the time period is 90.42 miles. The median distance is 105 miles.

California

Wal-Mart opened or proposed 44 supercenters (25 opened, 19 proposed) in the state of California. The Auburn supercenter, located in Placer County and opened in May of 2005, is the closest in proximity to a distribution center at 106 miles. At 574 miles, a new supercenter proposal in Stockton, located in San

Joaquin County, is the farthest from a distribution center. Each of the 44 supercenters are located more than 100 miles from a distribution center, with 31 of those located more than 200 miles from one. The result of this is that 70.5% of newly opened or proposed supercenters are sited over 200 miles from corresponding distribution centers. The average distance for all California supercenters opened during the time period is 274.14 miles. The average distance for all California supercenters opened prior to the time period is 240 miles. The median distance is 246 miles.

Distance from Distribution Center to Store in Miles by State

	New York	Ohio	Pennsylvania	California
Greatest Distance	265	201	209	574
Least Distance	4.5	27	30	106
Average distance	162	85	111	274
Median distance	162	71	105	246

Excluding California, 108 supercenters were opened or proposed between the beginning of 2005 and the end of 2007. Of those, 54 are located within 100 miles of a distribution center, and 54 are located more than 100 miles from a distribution center. However, only 12 out of those 54, or 11.1% of stores more than 100 miles from a distribution center, are actually located more than 200 miles from a distribution center.

Though nearly 89% of newly built supercenters have been built less than 200 miles from a distribution center, the average distance of these stores is slightly above the average distance to distribution center of supercenters built prior to 2005. New York (162 miles – up from 112), Ohio (85 miles – up from 73), and Pennsylvania (111 miles – up from 90) all saw increases in the average distance, which supports the theory that Wal-Mart places a distribution center, and builds outward from it.

In addition, state speed limits can provide insight into the distribution center network. Ohio is the only of these states that has set lower speed limits applicable to large commercial vehicles like heavy trucks and buses.[12] In Ohio, the statutory truck speed limit is 55 miles per hour (mph), except on the Ohio Turnpike, where it is 65 mph. In both Pennsylvania and New York, the speed limits for large commercial vehicles and regular passenger vehicles are the same, ranging from 50-55 mph in urban areas to 65 mph on the interstate in rural areas. Using the lowest limit of 50 mph, 88.9% of supercenters in the three states are no more than a four-hour drive from the distribution centers servicing them, allowing stock to be replenished quickly. As a result, by building supercenters less than 200 miles – or less than four hours away – from a distribution center, Wal-Mart can replenish out-of-stock inventory in less than one day.

What are the acreage of the development proposals in the Northeast, as well as the acreage of existing stores?

Wal-Mart supercenters notoriously consume large areas of land for the building and related accommodations such as parking lots or runoff areas. Wal-Mart supercenters average 187,000 square feet, which is more than three football fields combined.[13] To determine the acreage of existing and proposed Wal-Mart supercenters in New York and Pennsylvania, we collected information from public records and local Planning Commissions in the different counties.

While we were able to obtain a great deal of information, a significant amount of data is unavailable. From the available data, we determined that as of December 2007, the total acreage of existing supercenters in New York and Pennsylvania was 266 and 174 acres, respectively. The company has significantly increased the amount of acreage it will consume for proposed stores to 415 acres in New

York and 235 acres in Pennsylvania. No positive correlations exist between the size of the store and the acreage of the land. However, as Wal-Mart continues to build supercenters, it will consume more land, especially as the company incorporates more by-roads and runoff spaces into its sites.

State	Total Acreage of Existing Stores (as of Dec. 07)	Total Acreage of Proposed Stores	Average Acreage of existing sites	Average Acreage of proposed stores
New York	266	415	27	38
Pennsylvania	174	235	25	34

Does Wal-Mart base its supercenter development strategy on the age of existing stores?

For the first 24 years of its existence, Wal-Mart continued its strategy of building numerous discount stores and Sam's Clubs around the country. In 1988, however, the company changed course when it unveiled the "supercenter" - a "one-stop-shop" behemoth that would change Wal-Mart forever.[14] Washington, Missouri, a small town 50 miles west of St. Louis, hosted the first supercenter.[15] Commenting on how important this new format was going to be to the retailer's future, Don Shinkle, a former Wal-Mart spokesman said, "…what you are seeing in the supercenter concept is believed by many people as being the Wal-Mart of the future."[16] Currently, Wal-Mart has over 2,500 supercenters in the United States and plans to build 170 stores this year.[17] This means Wal-Mart has built supercenters at the average rate of 125 stores per year - over the past 20 years.

It is interesting to note that while the number of supercenters increases, the number of regular stores declines. "In the past five years...Wal-Mart has increased the number of supercenters by nearly 1,000; the number of traditional discount stores has dropped by nearly 500 in that time span."[18] Instead of opening new discount stores or outright closing them, Wal-Mart is converting them to supercenters. In fact, over the three year time period shown in the chart below, store conversions represent 85% of adjustments by the Wal-Mart stores segment.[19] [20] During the supercenter boom of the past 15 years, Wal-Mart built new stores on vacant lots, in addition to converting older sites.

Wal-Mart Discount Stores*

Fiscal Year	Opened	Closed	Conversions (2)	Total	Sq. footage (1)
2005	36	2	159	1,353	135,481
2006	24	2	166	1,209	123,607
2007	15	2	147	1,075	114,507

(1) reported in thousands
(2) includes expansions, relocations, and conversions to supercenters
*information obtained from Wal-Mart's 2008 form 10-K

While regular stores already provide a wide array of goods for the Wal-Mart shopper, these stores lack the massive size to accommodate a full-scale grocery operation. The transition from regular store to supercenter, however, is not as difficult as it may seem. As it turns out, regular stores are able to "stock about 10,000 SKUs of typical supermarket goods, including paper products, health and beauty aids, candy, snacks and dry groceries. Conversion to a supercenter requires the addition of only 10,000 to 13,000 products."[21]

To assess how long a regular store must be open before it is targeted for supercenter conversion, we used available data from July 2005 to January 2008. Despite the limited range, it is clear that Wal-Mart follows a pattern when converting a regular store to a supercenter

Our data shows that in New York, California, Pennsylvania, and Ohio, the average time from store to supercenter conversion during the selected years is approximately 14 years. The longest time for the transition between a regular store and a supercenter was in Lancaster, California. Built around 1990, the original store was located on Valley Central Way. Seventeen years later, the old store closed in order to make way for the new supercenter just down the road. The shortest period for a conversion was around nine years in Syracuse, New York.

While it is clear that Wal-Mart's strategy prefers the supercenter format and prioritizes store conversion, it does not appear that Wal-Mart's development strategy is based upon the age of existing stores alone. Other factors include saturation levels and logistics as discussed in the previous sections of this paper.

Fueled by the addition of numerous supercenters, Wal-Mart eventually surpassed Kroger as the largest seller of groceries in the United States.[22] Even though the supercenter format led to unprecedented growth for Wal-Mart, its rapid expansion caused problems with community activists who saw the huge parking lots, traffic jams, and crime problems associated with these new stores, as a burden on the local community. By 2007, Wal-Mart decided to scale back its domestic growth while ramping up international growth.

According to an article in the February 11, 2008 issue of *Retailing Today*, "the reduced pace of supercenter expansion that emerged last year extends into this year, and next year, with significant implications for suppliers. Currently, 170 supercenters are planned for 2008 and 140 for 2009, but those figures could go lower as evidenced by last year's uncharacteristic decision to modify store expansion plans mid-stream. Plans disclosed in late 2006 called for 265 to 270 supercenters in 2007, but by June, that figure was scaled back to 190 to 200 units and the cash was redirected to repurchase shares."[23]

The chart below shows converted stores in the selected states.

Opening Date*	Original store location	Opening date for converted store**	Yrs to con***
1990	Lancaster, CA 93536	2007	~17 years
1991	El Centro, CA 92243	2006	~15 years
1991	Hanford, CA 93230	2006	~15 years
1991	Palmdale, CA 93551	2005	~14 years
1991	Vallejo, CA 94589	2007	~16 years
1993	Cathedral City, CA 92234	2005	~12 years
1993	Yuba City, CA 95993	2006	~13 years
1993	Gilroy, CA 95020	2005	~12 years
1993	Geneseo, NY 14454	2005	~12 years
1993	Brockport, NY 14420	2007	~14 years
1993	Canandaigua, NY 14424	2006	~13 years
1997	Syracuse, NY 13219	2006	~9 years

1991	Cincinnati, OH 45251	2006	~15 years
1991	Marysville, OH 43040	2006	~15 years
1991	Portsmouth, OH 45662	2006	~15 years
1991	Mansfield, OH 44906	2005	~14 years
1991	Cincinnati, OH 45245	2006	~15 years
1991	Van Wert, OH 45891	2005	~14 years
1991	Lebanon, OH 45036	2005	~14 years
1990	Cincinnati, OH 45249	2006	~16 years
1991	Ashland, OH 44805	2006	~15 years
1991	Xenia, OH 45385	2006	~15 years
1991	Tiffin, OH 44883	2006	~15 years
1992	Urbana, OH 43078	2006	~14 years
1990	Port Clinton, OH 43452	2006	~16 years
1993	Bryan, OH 43506	2006	~13 years
1993	Bowling Green, OH 43402	2006	~13 years
1995	Streetsboro, OH 44241	2007	~12 years
1995	Springfield, OH 45504	2006	~11 years
1991	Hermitage, PA 16148	2005	~14 years
1992	Lewisburg, PA 17837	2007	~15 years

How many Wal-Mart stores are proposed on greenfields versus existing commercial space?

Over the past three years, Wal-Mart proposed fifty-three new supercenter developments in California, New York, Pennsylvania, and Ohio. Twenty stores, or 38% of these proposed developments, are to be built on greenfields. In comparison, only 23% of the developments are planned to be built on commercial sites.

In these four states, Wal-Mart has already built ninety-nine stores from 2005-2007. A majority of the stores, over 74%, were built on greenfields. Over the same three-year period, over 17% were built on commercial sites.

The following is a breakdown by state of proposed/existing stores and their sites:

State	Number of Proposed Stores	Number of Greenfields	Number of Commercial Sites	Percent of Proposed Stores to be Built on Greenfields	Percent of Proposed Stores to be Built on Commercial Sites
California	19	4	0	21.05%	0.00%
New York	15	8	5	53.33%	33.33%
Ohio	8	5	2	62.50%	25.00%
Pennsylvania	11	3	5	27.27%	45.45%
Total	53	20	12		

State	Number of Existing Stores	Number of Greenfields	Number of Commercial Sites	Percent of Existing Stores Built on Greenfields	Percent of Existing Stores Built on Commercial Sites
California	25	14	8	56.00%	32.00%
New York	12	10	1	83.33%	8.33%
Ohio	48	37	7	77.08%	14.58%
Pennsylvania	14	13	1	92.86%	7.14%
Total	99	74	17		

From the above table, it is evident that Wal-Mart has built new stores on greenfields at a greater rate than existing commercial sites. Of the four states, Pennsylvania has the fastest rate of greenfield construction, with nearly 93% of existing stores built on this type of land. In contrast, only 27% of proposed developments in the state will use greenfields.

In New York, over 83% of existing stores were built on greenfields and 53% of proposed developments are to be built on greenfields. Similarly, in Ohio, over 62% of proposed developments are targeted for greenfields. Seventy-seven percent (77%) of existing stores have already been built on greenfields.

The majority of Wal-Mart store openings in Ohio between 2005 and 2007 were developed on greenfield sites, either on prime agricultural land or unprotected natural areas on the edge of municipal borders.

In contrast, Wal-Mart developed far fewer greenfields in California. Slightly more than 21% of proposed stores are to be built on identified greenfields. Fifty-six percent (56%) of existing stores in the state were originally built on greenfield sites. Most of these greenfield sites were previously agricultural land. Although Wal-Mart uses the same tactics regarding supercenter proposals in California as in any other state, the key difference is the degree and tenacity of organized opposition, legal limitations on land use, and the local politics within the state.[24] As a result, California is a statistical outlier for greenfield development.

As previously stated, many California municipalities have zoning laws in place to prevent big box retailers from developing. Despite the availability of land outside of the cities, these suburban locations often enact pre-emptive zoning laws that explicitly preclude the development of large supercenters.[25] Currently, eight cities throughout California have passed legislation to limit the size of big-box stores, nine cities have formula business restrictions, and four cities require an economic impact review as part of the zoning and permitting process. [26] In addition to the big-box ordinances in California, many areas have various anti-sprawl ordinances in place to prevent the overdevelopment and rural encroachment within the state.[27]

To develop a supercenter in California, a full environmental review is required as part of the zoning and permitting process under the California Environmental Quality Act.[28] Everything from water usage to the effects of air pollution on the community is examined under the environmental review as required by the act.[29]

Lastly, local opposition has served as a barrier to development in California, where sites often see lawsuits either striking down or delaying the development of a supercenter based on California's strict environmental and land use laws.[30]
These factors in California contribute to a different pattern of greenfield development, which often means that Wal-Mart must take a different approach to supercenter expansion.

Does Wal-Mart consider a community's needs only when it faces community opposition?

When planning a supercenter, Wal-Mart will often prevent early opposition by not declaring its intent to build. In Tilden, Pennsylvania, for example, Wal-Mart spokesperson Jim Davis would "not confirm or deny" plans to build a supercenter[31]. By not disclosing its intentions, Wal-Mart keeps valuable information from the communities. In Schnecksville, PA residents had to threaten court action to force Wal-Mart to reveal its plans for a proposed supercenter.[32]

Number and Percentage of Formal Opposition Groups by State

	California	New York	Ohio	Pennsylvania
# of Formal Opposition Groups	12	7	4	5
Percentage (%) of total sites with formal opposition	27	23	7	20

***limited sample size

The numbers in the above table represent Wal-Mart opposition groups that received media coverage in the selected states. The figures are, therefore, possibly an incomplete reflection of the total number of opposition groups. Other incidences of opposition groups, including noted challenges from existing business owners were not included in the totals.

Based on the data above, between 2005 and 2007, nearly 20 percent of proposed Wal-Mart stores were met with formally organized opposition. The highest incidence of opposition occurred in California, followed by New York, Pennsylvania, and Ohio respectively.

Californian opposition, whether by community groups or government, has proven challenging for Wal-Mart. For example, nearly 20 municipalities have passed restrictions on big-box developments.[33] Wal-Mart, however, has further developed strategies to suppress its increased opposition. In 2002, Lee Scott stated that Wal-Mart intended to open 40 supercenters in California by 2008,[34] and by the end of 2007, Wal-Mart nearly met that goal with 33 supercenters in the state.

To address opposition to its stores, Wal-Mart frequently sets up referendums and astroturf (or "front") groups to quell potential opposition before building a supercenter.[35] For nearly ten percent of supercenters in California, Wal-Mart created an astroturf group to promote its store. In Long Beach, California, for example, Wal-Mart set up an astroturf group and designed a petition as well as a referendum under "Long Beach Consumers for Choice".[36] Wal-Mart formed this group in response to a big-box ordinance that was passed in the area.

Even though it is difficult to track the formation of formal opposition groups, existing anecdotal evidence is compelling in suggesting that in some cases Wal-Mart does not yield to community pressures, but rather uses techniques to divide communities or create faux front groups in support of the proposed store.

In the case of a planned store in Chico, California, Wal-Mart made adjustments to their building plan, but the adjustments were seen as unsatisfactory to county officials and residents. Ultimately, Wal-Mart made the decision to cancel the plans for the store even though Wal-Mart had determined there was community support for a store.[37]

Opposition to Wal-Mart can also lead to the courtroom. In these situations, Wal-Mart does not always yield to the concerns of its opponents, regardless of whether or not the opposition wins in court. In the New York town of Lockport, Lockport Smart Growth and five individual homeowners sued the town's zoning and planning board over their granting a series of difficulty waivers and zoning variances for the Wal-Mart project. A State Supreme Court, however, "…rejected [the] lawsuit filed by opponents of [the] planned Wal-Mart Supercenter in the town…." As a result, Wal-Mart's plans to build a supercenter in Lockport will advance unchanged. Wal-Mart plans to buy the proposed site, demolish the existing building, and begin construction.[38]

In Pennsylvania, requests for copies of Wal-Mart construction plans in North Whitehall had gone unanswered by the town. Residents had to take the township to court to see copies of the proposed Wal-Mart supercenter. Attorney David Najarian noted that without plans available, determining whether or not to approve a Wal-Mart would "not [be] a full and fair hearing."[39]

Dividing Communities

In 2004, a proposal for a 139,000 square foot Wal-Mart store fueled a passionate dispute between communities. While the store's location is within the city limits of San Marcos, CA, the residents who would be most affected by the store's physical presence live just across the city line in neighboring Carlsbad. Carlsbad residents, even though unsupportive of the proposed store, would not be able to vote on the San Marcos store proposal, thus creating a municipal battle.[40]

By selecting a store location on the edge of a city, San Marcos stands to reap the benefits of the store including access to low priced goods and possible higher sales tax revenues, while displacing the negative aspects of the store, such as increased flooding, traffic, and pollution, on the neighboring community.[41]

San Marcos and Carlsbad ultimately rejected the proposed Wal-Mart store, but in another Californian city, Tega Cay, store plans went through to build on annexed land. While the many effects of Wal-Mart's proximity are the initial reasons residents rally against Wal-Mart, the unforeseen consequences of a Wal-Mart include "fewer non-profit groups and capital-generating associations per capita" and depressed "civic participation." [42] When a Wal-Mart opens on the edge of a city and two communities are placed in opposition to each other, the losing community, with its morale at a low point, may be open to even more Wal-Mart development as its civic body has lost the drive and social capital to fight future developments.

Kilbuck, PA: Rushing Development Can Bring Consequences

In January 2002, Wal-Mart announced plans to build a supercenter off of Route 65 in Allegheny County, Pennsylvania. Kilbuck is a small community of 723 residents that depends heavily on property taxes and ticketing speeders on the 45 mph Route 65 to generate revenue.[43] Kilbuck's 723 residents are surrounded by nearly 28,000 Pennsylvanians spread among 11 municipalities, none of which were initially offered a seat at the development discussion table, even though all of their economic and environmental futures would be affected by the development.[44] Allegheny County is a county that disbanded its planning department in 1996 and had no comprehensive plan to deal with the impact of such a large development.[45]

Kilbuck approved the project in May 2002, and "Communities First!," a community organization comprised of residents from nine Pennsylvania towns along the Ohio River Corridor successfully appealed the approval in Pennsylvania Common Pleas Court, as the judge nullified the Township's first plan approval and told both the developer and the Township to start over.[46] The project had been initially approved despite 1,200 signatures on a petition opposing the Wal-Mart (again, Kilbuck itself has fewer than 750 residents), and a technical study that noted 74 code violations in the developers' proposal.[47]

A second set of site plans were submitted in May 2003 by ASC Development, but those plans were again appealed and ASC withdrew them.[48] A third set of plans were submitted in January 2004, and were approved by the Kilbuck Township Board of Supervisors in July 2004.[49] Development moved forward, and in 2006, explosives used to clear land for the Kilbuck Wal-Mart site caused an estimated 500,000 cubic yards of dirt and debris to slide down onto Route 65.[50] The slide closed all four lanes of the busy throughway, and affected three Norfolk Southern train tracks. A blasting permit had been issued for the site in October 2005, but Senex Explosives had not been required to submit blasting plans.[51] Construction was halted and permits such as those requiring control of stormwater runoff during construction were suspended.[52]

Pennsylvania State Senator Jim Ferlo called the landslide criminal negligence and called on the Pennsylvania Attorney General to investigate the developer and Kilbuck Township supervisors.[53] As for a future permit at the site, Senator Ferlo said, "…the fact that we have a township that just waives critical warrants and critical requirements, just summarily dismisses the law and the zoning code. We really think that no permit should be issued."[54] In January 2007, it was reported that remediation costs totaled $2 million and monitoring costs totaled $75,000 per month.[55]

Ultimately, Wal-Mart took sole control of the site from developers and presented its three-phase plan to stabilize the 75-acre property. Yet, Wal-Mart refused to take responsibility for the landslide.[56] In September 2007, with "Communities First!" calling on the state to order Wal-Mart to permanently stabilize the site, Wal-Mart announced it would abandon plans to commercially develop the site, choosing instead to explore growth opportunities elsewhere in the Pittsburgh area.[57]

The Impact of the Potential Distribution Center in Merced

Wal-Mart has six distribution centers in California, but in order to obtain further growth, the retailer requires another specifically devoted to the supercenter format. [58] The target is Merced, CA because of its strategic location between Los Angeles and San Francisco.

Wal-Mart's desire for a supercenter distribution center in Merced presents significant environmental justice concerns to the area surrounding the site. The new distribution center would generate 900 truck trips and 2,150 car trips daily.[59] This is a heavy traffic burden on an area that has the fifth worst ozone pollution in the country and has significant problems with particulate matter pollution.[60] San Joaquin County, where Merced is located, already has major health issues because of air pollution. There are on average 188,000 missed school days and 3,000 missed workdays because of existing high levels of ambient air pollution.[61]

Conclusion

Based on our analysis, it is clear that Wal-Mart, as part of its overall retail strategy, places a high value on supercenter growth – either from new store construction or the conversion of aging discount stores. This is not a new concept and has been a Wal-Mart goal for many years. Yet, building supercenters has never been this difficult for Wal-Mart. The company's previous strategy of building in areas with low levels of citizen resistance and ensuring an adequate logistical support through distribution center proximity worked for a long time, but when Wal-Mart finally needed to gain access to urban centers like Los Angeles, Chicago, and New York, the company began to encounter significant resistance.

Wal-Mart CEO Lee Scott expressed his company's irritation over its failed urban strategy on March 28, 2007. The *New York Times* reported on the subject as follows: "Frustrated by a bruising, and so far unsuccessful battle to open its first discount store in the nation's largest city, Wal-Mart's chief executive said yesterday, 'I don't care if we are ever here.' H. Lee Scott Jr., the chief executive of the nation's largest retailer, said that trying to conduct business in New York was so expensive -- and exasperating -- that 'I don't think it's worth the effort.'"[62]

Despite the challenges of moving into new markets, Wal-Mart's development strategy in these states shows some interesting patterns. First, the research reveals that Wal-Mart concentrates on dominating a market at the county or regional level first (rather than a statewide approach), which could possibly be to eliminate the competition in small fragments and establish a consumer reliance on Wal-Mart in a given area over time.

Next, when determining the location of new stores, the proximity to a distribution center is a major factor. Nearly 89% of supercenters built over the period in question were built within a 200 mile radius of a distribution center (although the average distance to a distribution center has been steadily increasing since 2005). This suggests that if a Wal-Mart is not within a 200 mile radius of a distribution center in a particular cardinal direction, one can almost certainly expect a development proposal in the works.

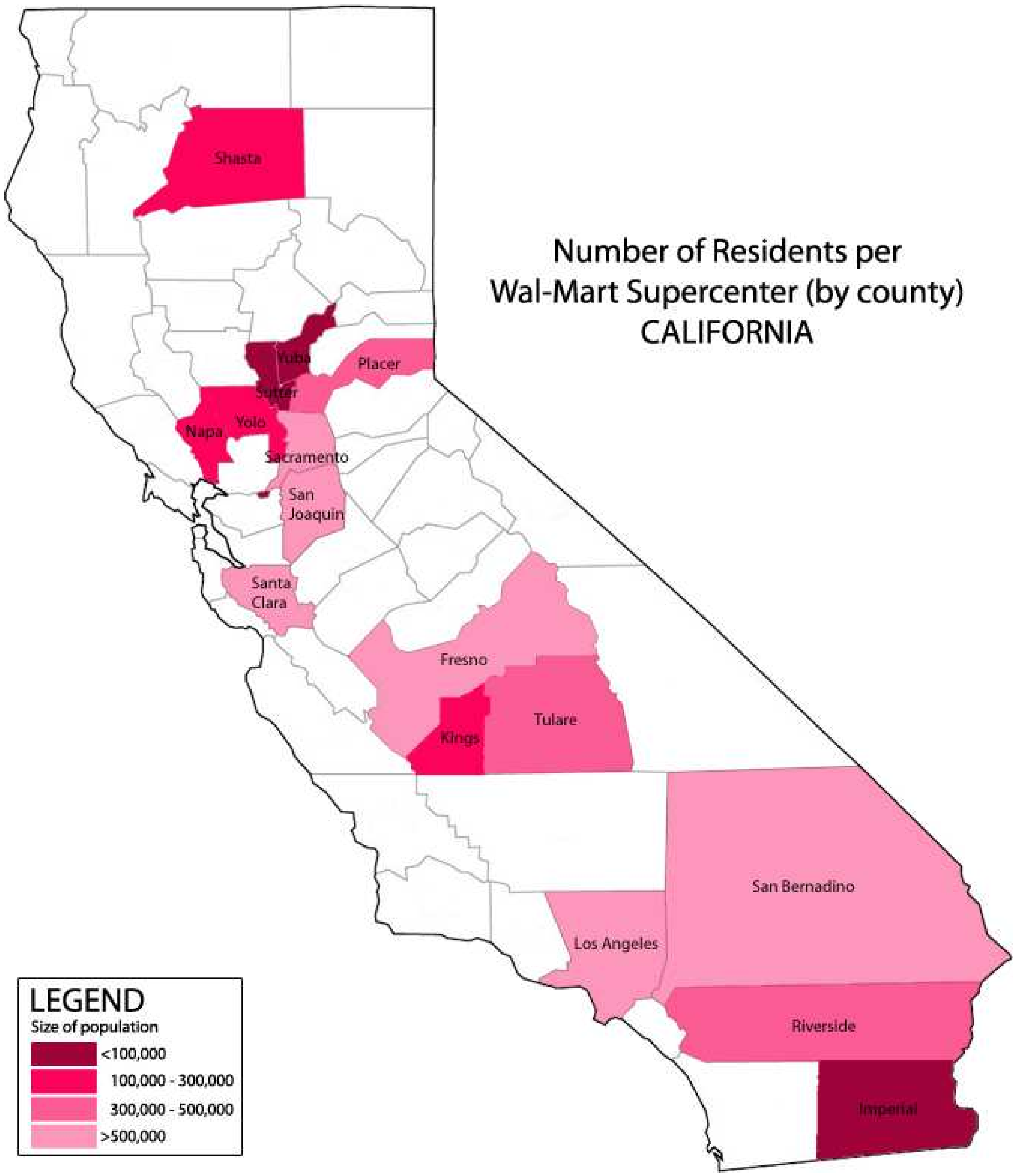
On a similar note, the data suggests that that distribution networks are not based within each state, but rather are regional in nature, based on store type, indicating that attention must be paid to the location of distribution centers even across state lines when assessing whether or not a location is considered ripe for Wal-Mart development.

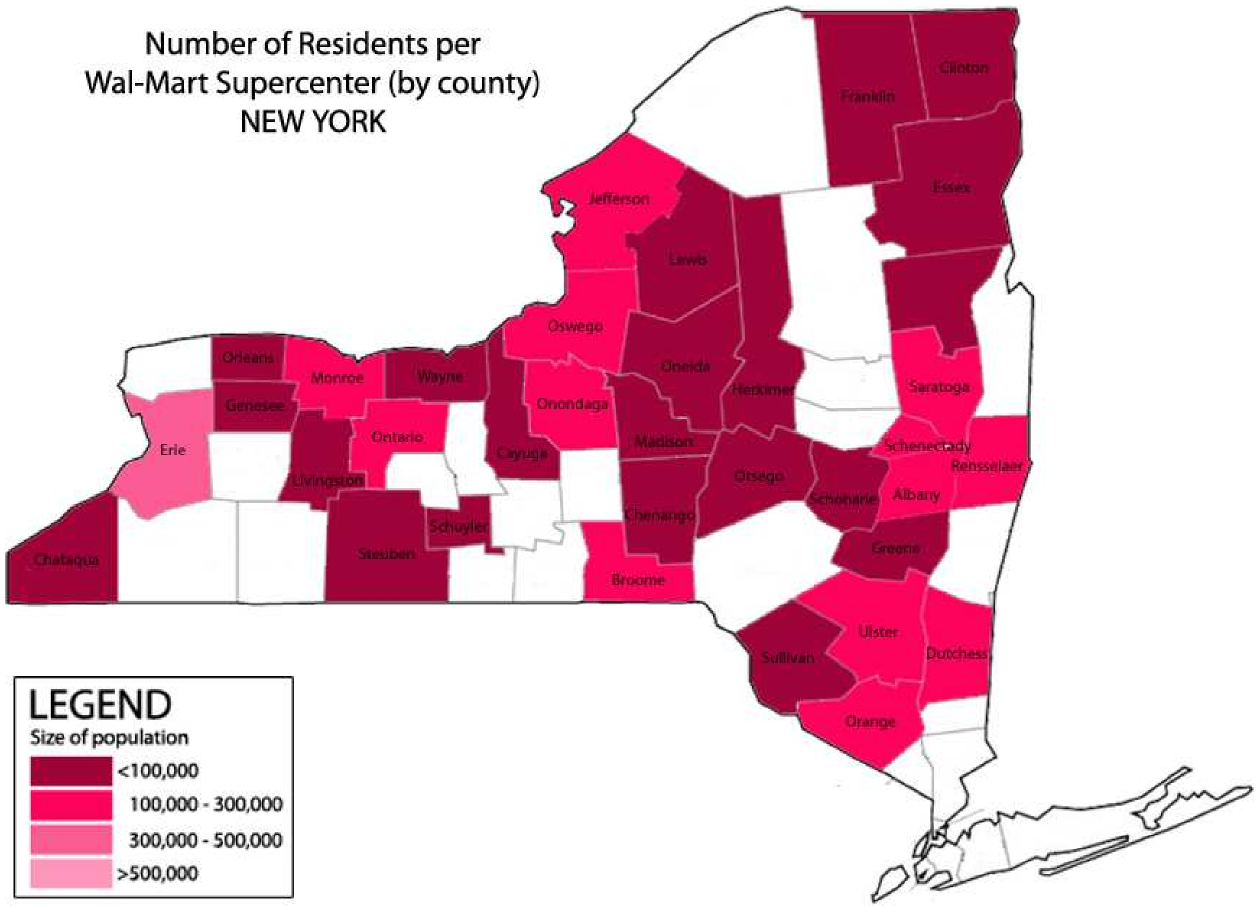
The research also indicates that areas, which already have Wal-Mart discount stores can expect plans for a supercenter conversion within nine to seventeen years after the opening of the original discount store. The average conversion time within the four states, however, was fourteen years.

With respect to the type of land used in the construction of new stores, Wal-Mart has been holistically increasing the number of stores built on greenfields, as opposed to existing commercial sites. The exception, however, is California. Although Wal-Mart's approach to growth is largely the same in each of the four states, many municipalities in California were better able to resist Wal-Mart's development efforts with persistent organized opposition, preemptive zoning ordinances severely limiting big-box retailers, legal limitations on land use, local politics, anti-sprawl ordinances, and state requirements of a full environmental review prior to the approval of large construction projects.

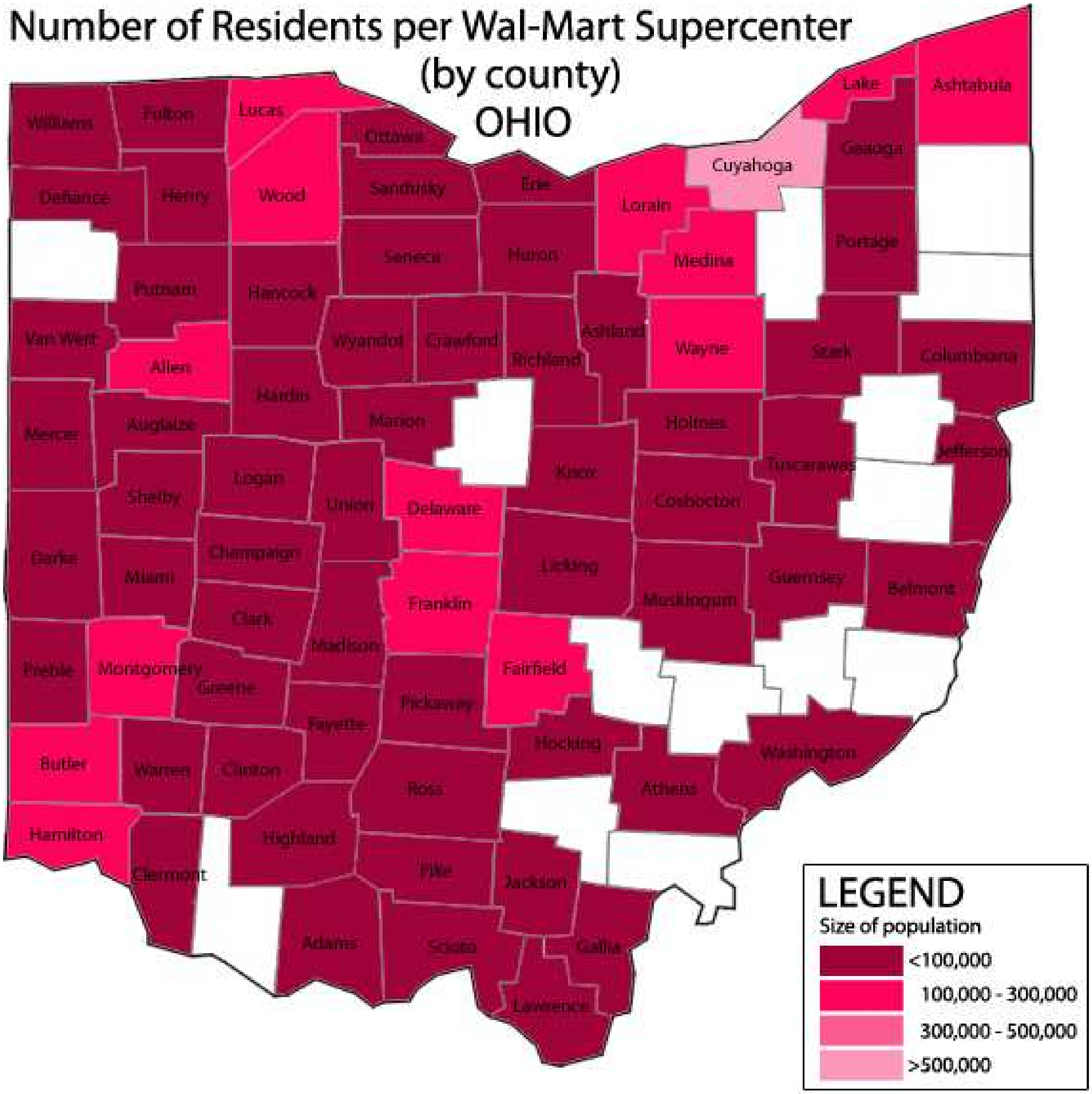
With our data limited in scope, it is impossible to predict Wal-Mart's behavior in all situations with absolute certainty. Given the key indicators and tendencies of Wal-Mart development plans as uncovered by this project, however, this information provides significant insight into Wal-Mart's expansion strategy in counties and states across the nation.

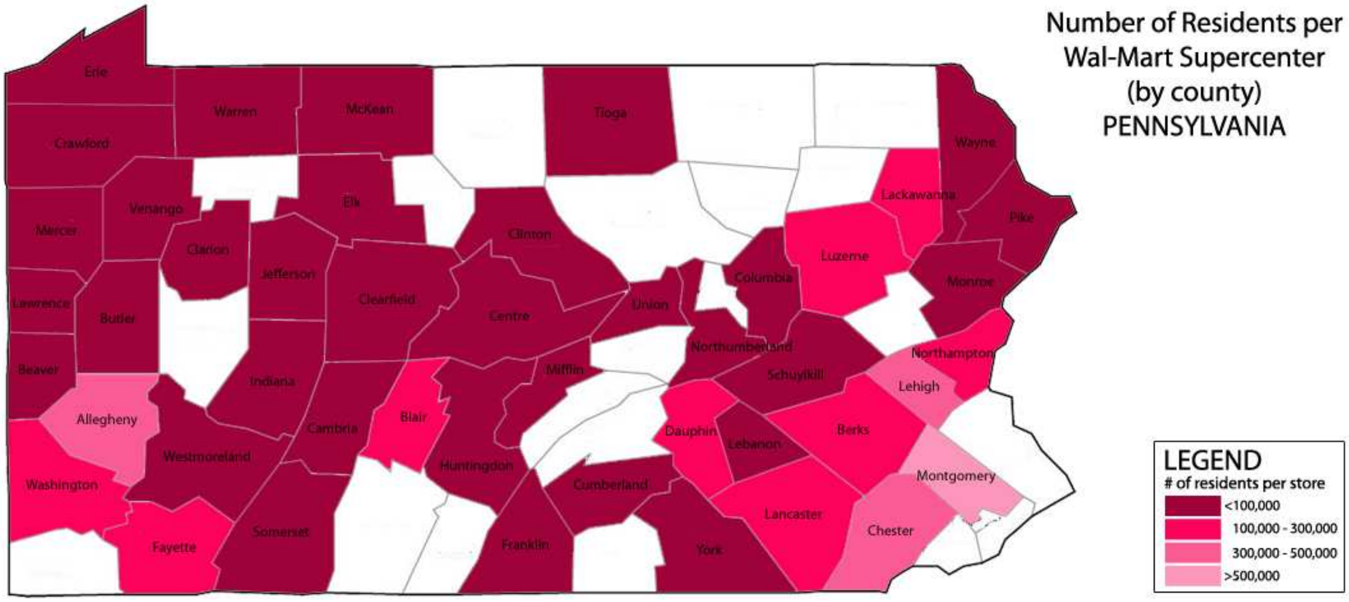
APPENDIX I


Number of Residents per
Wal-Mart Supercenter (by county)
CALIFORNIA
Shasta
Yuba
Sutter
Placer
Napa
Yolo
Sacramento
San
Joaquin
Santa
Clara
Fresno
Kings
Tulare
San Bernadino
Los Angeles
Riverside
Imperial
LEGEND
Size of population
<100,000
100,000 - 300,000
300,000 - 500,000
>500,000



Number of Residents per
Wal-Mart Supercenter (by county)
NEW YORK
Clinton
Franklin
Essex
Jefferson
Lewis
Oswego
Orleans
Monroe
Wayne
Oneida
Genesee
Onondaga
Herkimer
Saratoga
Ontario
Erie
Madison
Cayuga
Schenectady
Rensselaer
Livingston
Otsego
Schoharie
Albany
Chenango
Schuyler
Greene
Steuben
Chataqua
Broome
Ulster
Sullivan
Dutchess
Orange
LEGEND
Size of population
<100,000
100,000 - 300,000
300,000 - 500,000
>500,000


Number of Residents per Wal-Mart Supercenter
(by county)
OHIO
Williams
Fulton
Lucas
Ottawa
Lake
Ashtabula
Geauga
Cuyahoga
Defiance
Henry
Wood
Sandusky
Erie
Lorain
Portage
Medina
Seneca
Huron
Putnam
Hancock
Van Wert
Wyandot
Crawford
Richland
Ashland
Wayne
Stark
Columbiana
Allen
Hardin
Marion
Mercer
Auglaize
Holmes
Jefferson
Tuscarawas
Knox
Logan
Union
Shelby
Delaware
Coshocton
Darke
Miami
Champaign
Licking
Guernsey
Belmont
Clark
Franklin
Muskingum
Madison
Preble
Montgomery
Greene
Fairfield
Pickaway
Fayette
Hocking
Washington
Butler
Warren
Clinton
Ross
Athens
Hamilton
Highland
Clermont
Pike
Jackson
Adams
Scioto
Gallia
Lawrence
LEGEND
Size of population
<100,000
100,000 - 300,000
300,000 - 500,000
>500,000


Number of Residents per
Wal-Mart Supercenter
(by county)
PENNSYLVANIA
LEGEND
# of residents per store
<100,000
100,000 - 300,000
300,000 - 500,000
>500,000
Erie
Warren
McKean
Tioga
Crawford
Wayne
Lackawanna
Pike
Venango
Elk
Mercer
Clinton
Clarion
Luzerne
Jefferson
Columbia
Monroe
Lawrence
Clearfield
Union
Centre
Butler
Northumberland
Northampton
Beaver
Schuylkill
Mifflin
Indiana
Lehigh
Allegheny
Blair
Cambria
Dauphin
Berks
Lebanon
Westmoreland
Huntingdon
Montgomery
Washington
Cumberland
Lancaster
Somerset
Chester
Fayette
Franklin
York

End Notes

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