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ENVIRONMENTAL LAW

APR 15 2011

CITY OF LOMPOC  
CITY CLERK'S OFFICE

April 14, 2011

Lompoc City Council  
100 Civic Center Plaza  
Lompoc, CA 93438

*By hand delivery*

RE: Citizens Against Wal-Mart Expansion Appeal of the Wal-Mart Expansion Development Plan;  
May 3, 2011 City Council Agenda

Dear Mayor Linn and Honorable Councilmembers,

This office represents Citizens Against Wal-Mart Expansion (CAWE) in this matter. CAWE appealed the Planning Commission's approval of the Wal-Mart Expansion Development Plan on February 22, 2011. This letter supplements that appeal. As discussed further below, if the Council agrees that this project is not in the best interest of the City and its residents, it has ample discretion and legal authority to deny the Development Plan for the Wal-Mart Expansion. In this letter we present numerous reasons why this Project is not in the best interest of the City and its residents and thus may be denied. Additionally, because of adverse effects on abutting property and other factors, the evidence in the record does not support the findings that would be required for approval of this Project. For all these reasons, we respectfully urge you to uphold the CAWE appeal and deny the Wal-Mart Expansion Development Plan.

**1. Council Has the Discretion to Deny the Wal-Mart Expansion Project**

A city's police power to protect the public health, safety, and welfare of its residents empowers it to "control and organize development within their boundaries as a means of serving the general welfare". (*Wal-Mart Stores, Inc. v. City of Turlock* (2006) 138 Cal. App. 273). Limiting big-box retail stores is well within a city's police power. (*Id.*). With respect to the Lompoc Wal-Mart, the City Council is faced with the decision of whether to approve or deny a Development Plan. The Lompoc Zoning Ordinance § 17.048.040 empowers the City Council to "approve, conditionally approve, or disapprove" a preliminary development plan. The Council's discretion to deny the Development Plan will be upheld in court so long as the decision is supported by findings, the findings are supported by substantial evidence, and Council has proceeded in the manner required by law. (*See* Cal. Code of Civil Procedure § 1094.5). Council could deny a development plan on numerous bases, including that the development plan fails to conform with the City's General Plan, that the conditions are inadequate to safeguard the public health, safety and welfare, or that any of the findings required for approval under § 17.048.040 cannot be made.

Courts give deference to a City's interpretation of its local laws including its General Plan and Zoning Ordinance, will only overturn a city's interpretation if "a reasonable person could not have

reached the same conclusion.” (*No Oil, Inc. v. City of Los Angeles* (1987) 196 Cal. App. 3d 223, 243; (*City of Walnut Creek v. County of Contra Costa* (1980) 101 Cal. App. 3d 1012, 1021 (explaining that deference is appropriate because “there is a strong policy reason for allowing the governmental body which passed legislation to be given a chance to interpret or clarify its intention concerning that legislation.”)). Accordingly, if the Council determines that the evidence supports a conclusion that Wal-Mart development plan does not comply with the General Plan, or that Zoning Ordinance findings cannot be made, courts will defer to that determination and a legal challenge by the Applicant will typically be unsuccessful.

## **2. Council Should Deny the Wal-Mart Expansion Project**

There are numerous reasons why the Wal-Mart Expansion Project is not in the best interest of the City and its residents, and additionally there is a strong legal basis on which to base a denial including a) that the Project is inconsistent with Lompoc’s General Plan, b) that substantial evidence does not support required findings of approval, and c) that the proposed Conditions of Approval are insufficient to safeguard the public health, safety, and welfare.

### **a. The Wal-Mart Expansion Is Inconsistent with the Lompoc General Plan**

The general plan is the “constitution for all future developments,” and all land use and development decisions must be consistent with the general plan. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 570). It is the local government’s responsibility to determine whether proposed land use development approvals are consistent with the general plan. (Cecily Talbert Barclay, *Curtin’s California Land Use and Planning Law* (Solano Press, 30th ed. 2010), p. 25). A project is inconsistent with the general plan if it obstructs the attainment of general plan objectives and policies, or if it conflicts with a general plan policy that is fundamental, mandatory and clear. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal. App. 4th 777, 782). As proposed, the Wal-Mart Expansion Project obstructs the attainment of general plan policies, and is plainly inconsistent with several fundamental, mandatory, and clear policies of the General Plan, including two Land Use Element policies, and one Circulation Element Policy. Accordingly there is ample evidence for the Council to deny the Project on the basis of General Plan inconsistency.

Specifically, Land Use Element Policy 4.2 provides that:

*The City shall allow development only in areas where adequate public facilities and/or services will be available at the time of development.*

There are two vital public services that are not adequate currently and will not be adequate at the time of development to serve the Project. Specifically Lompoc’s police and fire departments are understaffed, and have not been expanded to accommodate the growing population and economy. The Project will add more traffic, reduce available public parking, and most importantly will now be

open 24 hours a day, increasing demands on public safety agencies while these agencies do not have the capacity to increase levels of service.

The inadequate facilities and personnel available to the Lompoc Fire and Police Departments is common knowledge and moreover is documented in several reports. For example, the Fire Protection Services for the City of Lompoc Report (Olson Associates 1/15/07) found that that the Department needs “additional resources to address the impacts of community growth and increasing service demands.” The report found that “facilities are inadequate” and that “staffing levels should be increased as soon as possible because of the current workload and to meet the expected increases in service demands.” In August 2005 the Ad Hoc Public Safety Committee Report, repeatedly used the word “inadequate” referring to all aspects of police and fire services and staffing. This citizens group made a report to the City Council, and the 2006 Police Services Study, and the 2007 Fire Protection Services reports essentially verified its findings.

Dispite this overwhelming evidence of the inadequacy of Lompoc’s fire and police facilities and personnel, the EIR for the Project finds that impacts to public services including Lompoc’s fire and police departments is insignificant, however a review of the EIR demonstrates the scant evidence used to support this conclusion. Specifically the conclusion is based merely on a telephone communication with the Fire Chief and a statement that Wal-Mart would be required to pay applicable City development impact fees, a portion of which would be used to fund fire and police services (*see* DEIR p. 8.0-21). Neither the EIR, the Conditions of Approval, or Mitigation Measures specify the amount of the applicable City development impact fee, or contain any discussion of whether the fee would be sufficient to meaningfully increase both fire and police services such that they are sufficient to meet the demands of the Project. Moreover, **the Conditions and Mitigation Measures do not contain any requirements whatsoever to address the facilities and staffing shortfalls at the police and fire departments, through impact fees or otherwise** (*see* Exhibits A and B to Planning Commission Resolution No. 683).

For these reasons, there is abundant evidence that there are inadequate police and fire services available to serve the Project, and accordingly that the Project is inconsistent with Land Use Element Policy 4.2.

Land Use Element Policy 2.3 provides that:

*The City shall prohibit new land uses within or adjacent to residential neighborhoods when such land uses would adversely affect the character of the neighborhood.*

One way in which the Wal-Mart project would adversely affect the character of the adjacent residential neighborhood is that 24-hour operations, most notably loading dock activities associated with large truck deliveries, would increase noise levels beyond acceptable levels and result in the potential for sleep disruption and other adverse effects.



Specifically, noise generated by the proposed loading docks and parking lot (e.g., car alarms, car doors slamming, tires squealing) would exceed the threshold in the residential neighborhood along Central Avenue east of O Street during night-time hours. (DEIR p. 4.2-26). The EIR's analysis respect to night-time noise impacts on these sensitive receptors is inadequate to establish that adverse effects will not occur. First, the only way the EIR is able to reach a conclusion that noise impacts at this noise-sensitive receptor site is less than significant, is by relying on an assumption that these residences would keep their windows closed (DEIR p. 4.2-26). A variety of factors including the permanent or temporary lack of air conditioning, desire for fresh air, or desire to limit energy consumption and the cost thereof could cause residents to keep their windows open. Under these circumstances residents of this neighborhood would be exposed to unacceptable night-time noise levels associated with loading dock activities and noise from the Wal-Mart parking lot. Second, impactful noise includes "single-event noise levels generating during the nighttime at the project site to affect the nearby noise-sensitive uses during recognized sleep hours. As discussed previously, noise levels above 45 dB(A) at night can disrupt sleep." (*Id.*). The analysis of this potential impact however does not identify the loudness associated with single-event noises associated with the loading docks, rather provides all information based on Leq noise levels - that is noise levels that are averaged over time. The DEIR for example provides that loading activities involving large delivery trucks could generate noise in the range of 70 to 75 dB(A) Leq, but does not identify the maximum noise level for any single noise event. The DEIR then goes on to conclude that with the wall located along the northern boundary of the residential neighborhood, that noise levels would be reduced to 45 dB(A)Leq. Again however, this Leq figure represents *average* noise levels, not peak noise levels associated with a single noise event. The DEIR provides no information whatsoever regarding the loudness associated with a single loading-dock large truck delivery, and therefore has no basis for concluding that such single noise events would not be significant and result in sleep disruption.

The Conditions of Approval and Mitigation Measures do not contain measures to address the land use incompatibility created by locating a large 24-hour retailer adjacent to a residential neighborhood. Under these circumstances ample evidence supports a conclusion that the Wal-Mart expansion and associated noise effects will adversely affect the character of the neighborhood in direct conflict with Land Use Element Policy 2.3. Additionally, the foreseeable crime increase associated with maintaining 24-hour operations will also adversely affect the character of the adjacent residential neighborhood. Understaffing problems at the Police Department, discussed above, will only exacerbate this problem, adding to the reasons to find that the Project is inconsistent with Land Use Element Policy 2.3.

Circulation Element Policy 1.4 provides that:

*The City shall only allow development in areas where adequate circulation facilities and/or services will be available at the time of development.*

The H-Street/Central Ave. intersection used by Project traffic including traffic coming from outside Lompoc including South County (which has no Wal-Mart store), currently operates at LOS

C, below acceptable levels, and under Cumulative Plus Project conditions will operate at LOS D. (DEIR p. 4.3-20).<sup>1</sup> Thus there are not adequate circulation facilities available at the time of development to serve the Project. The EIR avoided finding a significant impact at this intersection by relying on a mitigation measure that would require Wal-Mart to make a “fair-share” contribution toward the improvement of the H-Street/Central Ave. intersection. While reliance of this “fair-share” contribution may be sufficient under CEQA to find that the Project’s impacts are adequately mitigated, the payment of the Project’s “fair-share” of the intersection improvement does not itself provide sufficient funds to ensure construction of the improvement. Specifically, the proposed project’s fair share contribution is “12.8 percent of the total cost of the intersection improvement in current dollars.” (Mitigation Measure #40). Unless and until the remaining 87.2% of funds are raised, the H-Street/Central Ave. intersection will continue to operate below acceptable levels. For this reason substantial evidence supports a conclusion that the Project is inconsistent with Circulation Element Policy 1.4.

b. The Evidence Weighs Against Making Administrative Findings of Approval

Administrative approvals such as the Development Plan for the Wal-Mart Project must be accompanied by administrative findings supporting the conclusion that all requirements for the approval have been satisfied. (*See Topanga Ass’n for a Scenic Community v. County of Los Angeles* (1974) 11 Cal. App. 3d 506, 511). These required findings must support the approval, and substantial evidence in the record must support the findings. (*Id.*, Cal. Code Civ. Pro. § 1094.5). The specific administrative findings required to support the Wal-Mart Development Plan are articulated in section 17.048.040 of the Lompoc Zoning Code. Council should not and in some instances cannot make these approval findings, for reasons stated below.

i. The Wal-Mart Expansion Will Adversely Affect Abutting Property

Lompoc Zoning Code section 17.048.040.C requires that the approving body find that “the proposed use will have no adverse effect upon abutting property from the permitted use thereof”. For at least two distinct reasons, the Wal-Mart Expansion will adversely affect abutting property, and therefore the City Council must make a determination that substantial evidence does not support the required finding.

1. Adding a Grocery Component to Wal-Mart Will Adversely Affect Foods Co.

The property that abuts the Wal-Mart property contains several businesses including a Foods Co. grocery store. The addition of the Wal-Mart grocery would have a detrimental effect on Foods

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<sup>1</sup> The traffic generated by the Project is underestimated in the EIR, particularly traffic from Buellton and south Santa Barbara County. This additional traffic would further degrade the H-Street/Central Ave. intersection.

Co., due to its proximity, Lompoc's existing surplus in supermarket space, and Wal-Mart's pricing strategy that will place Wal-Mart grocery prices below those charged by Foods Co.

The Final EIR concludes that the Project could cause one of Lompoc's existing supermarkets to close given that the trade area is already overbuilt with supermarket space. Specifically, the Final EIR states:

The development of the proposed project could potentially cause one of the existing supermarkets in Lompoc to close, given that the combined sales volumes of the four existing supermarkets would fall 23.5 percent from the existing level, and 29.4 percent from the pre-Fresh & Easy level, with the expansion of the proposed project in 2011. Based on this projected sales impact and an assumed sales-per-square-foot support requirement of \$473, based on the national median, the trade area would be overbuilt by approximately 59,000 sf of supermarket space in 2011. By 2020, the City would still be overbuilt by approximately 50,400 sf. Since the \$473 per square foot and \$418 per square foot factors reflect the median sales figures, by definition half of all supermarkets are operating below these levels.

(Final EIR Executive Summary, p. 2.0-20; see also Draft EIR pp. 4.4-10 – 11). While the EIR did not assess the affects of the Wal-Mart expansion on Foods Co. specifically, given the proximity of Foods Co., it is reasonable to predict that the Wal-Mart grocery will take more customers away from Foods Co. than from more distant supermarkets.

In addition to the fact that Wal-Mart could cause an existing Lompoc supermarket to close based on the excess supermarket space alone, the Wal-Mart grocery component of the Wal-Mart Superstore will have a more pronounced effect on other supermarkets and particularly Foods Co. due to its pricing tactics. Specifically, Wal-Mart's grocery prices are below the prices at typical supermarkets. A study of the effects of Wal-Mart supercenters on traditional supermarkets (Exhibit 1, Singh et al., *Impact of Wal-Mart Supercenter on a Traditional Supermarket: An Empirical Investigation* (February 11, 2004), pp. 1-2) describes the problem as follows:

Wal-Mart has been able to keep its cost below the industry level, which in turn translates into lower prices for the consumers. Given the razor thin margins in the grocery industry, these everyday low prices are difficult, if not impossible, to match. Indeed, as quoted in a recent Wall Street Journal (27 May, 2003), items at Wal-Mart cost 8% to 27% less than Kroger, Albertsons or Safeway, including discounts from these competitors' loyalty cards and specials. Besides costs, another factor driving the grocery prices down at the supercenter has to do with the main motivation for why Wal-Mart and other discount stores got into the grocery business in the first place: store traffic. A typical supercenter has only 30% of the area devoted to grocery. **According to industry analysts, Wal-Mart offers lower prices on food to bring traffic into the supercenters with the hope of selling higher margin general merchandise, and even has the potential of treating the entire food business as a loss leader.** Not surprisingly, Wal-Mart supercenter is seen as a serious menace to the traditional



grocery industry with 80% of supermarket managers citing competition from supercenter as their biggest concern in the coming year (National Grocers Association, 2003 Point of Impact Survey).

The study also cites the following statistics: "According to the 2002 "Channel Blurring " study by ACNielsen, since 1999, consumer visits per year to supermarkets were down 12 percent while visits to supercenters went up 40 percent." "The pressure from Wal-Mart is being felt by national chains and independents alike. In the past decade, 29 chains have sought bankruptcy- court protection, with Wal-Mart as a catalyst in 25 of those cases (The Wall Street Journal, May 27, 2003)." (*Id.*, p. 7).

Taking into consideration the above information and the evidence in the EIR, it is difficult to envision a scenario where Wal-Mart would *not* cause Foods Co. to close. In order to approve the Project, the Council must make a finding that "the proposed use will have no adverse effect upon abutting property from the permitted use thereof," a finding that is contradicted by the evidence in the record. Under these circumstances, the Council should determine that substantial evidence does not support a finding that the Project will not adversely affect abutting property.

## 2. The Approved Parking Configuration Will Adversely Affect Abutting Businesses

The Wal-Mart Expansion entails removing a large number of parking spaces from immediately in front of the store, in order to expand the store structure. (I.e. see DEIR Table 3.0-1, showing that that proposed expansion will decrease roads/parking/walkways by 50,000 sq. ft.). To meet the required number of parking spaces, the Project includes use of a 100+ space parking area located East of a 2-lane entryway, and in front of adjacent businesses. The Project also includes use of a roughly 80 space parking area at the South end of the Project site, located in between two other existing businesses. By increasing the building footprint and attracting more customers to the site, Wal-Mart will increase parking pressure on these parking areas located in front of other abutting businesses, particularly during peak-parking demand periods. Customers of those abutting businesses in turn will encounter a decrease in available and conveniently located parking. In this respect the approved parking configuration for the Wal-Mart Project will adversely affect abutting businesses. For this additional reason Council should determine that substantial evidence does not support a finding that the Project will not adversely affect abutting property.

### ii. Area Intersections Are Inadequate to Carry the Traffic Generated by the Wal-Mart Expansion

Lompoc Zoning Code section 17.048.040.B requires that the approving body find that "the site for the proposed use relates to streets and highways adequate in width and pavement type to carry the quantity and kind of traffic generated by the proposed use" before it may lawfully approve a Development Plan. Discussed above, the H-Street/Central Ave. is projected to operate below an acceptable level of service (LOS D) under cumulative conditions, and will further worsen under

cumulative + Project conditions. Accordingly, it is not adequate to carry the quantity and kind of traffic generated by the proposed use. Also discussed above, contributing its fair share (a mere 12.8%) to improving the intersection may be adequate from a CEQA perspective, but is itself patently insufficient to fund the required improvement, leaving the intersection at an unacceptable LOS. Accordingly Council should determine that substantial evidence does not support a conclusion that area intersections are adequate to carry the traffic generated by the Project.

c. The Conditions Do Not Safeguard the Public Health, Safety and General Welfare

i. Police/Fire

Discussed above, the Lompoc Police and Fire Departments are understaffed, and 24-hour Project operations, as well as adding greater traffic and shrinking the parking available, increase demands on public safety agencies while these agencies do not have the capacity to increase levels of service. Without adequate police and fire services, the Project jeopardizes public safety. The Conditions of Approval and Mitigation Measures do not include any requirements that address the inadequate public safety facilities and personnel available to serve the Project, and measures proposed by Wal-Mart are not only not required (voluntary), but are also wholly inadequate. Specifically, Wal-Mart "security personnel" are typically tasked to a number of functions and rarely dedicated to security services only. Private security forces cannot fulfill the same functions as law enforcement, thus cannot, even if not compromised by other functions, fully offset the increased law enforcement demands created by the Project. Private security forces cannot provide medical care provided by fire personnel. As such these additional measures are inadequate to compensate for the City's currently inadequate law enforcement and public safety resources, and the Project as proposed jeopardizes public safety.

ii. Parking

The expansion eliminates significant parking directly in front of the store, and one parking area proposed for Wal-Mart's use is 100 feet east of the main parking area, located across two lanes of traffic entering and exiting the center, and bordered with landscaping on both sides. Wal-Mart customers utilizing these spots creates a safety hazard as customers would need to cross two lanes of traffic, and return with carts and purchases. There are no Conditions of Approval or Mitigation Measures that would address the safety hazard created by the parking configuration, and accordingly the Project as proposed jeopardizes public health and safety.

iii. Noise

Allowing 24-hour operations will cause unacceptable noise levels in the adjacent residential neighborhood, in particular noise from the Wal-Mart loading dock would have the potential to disrupt residents' sleep. No mitigation whatsoever is required to limit loading dock noise, truck backup warning beepers, noise associated with parking lot use (doors slamming, car alarms, etc.), and other



operational noise generated from Wal-Mart's 24-hour operations. Under these circumstances the Project as proposed jeopardizes public health and general welfare.

iv. Blight

The EIR and Urban Decay Study Update ignored blight as a precursor to Urban Decay, and failed to address local community standards, focusing instead on extreme cases of urban decay in areas not remotely similar to Lompoc. The salient issue is whether the Wal-Mart expansion will cause urban blight by causing other Lompoc retail businesses to close, creating an excess of vacant and potentially unusable retail space.

The induced closure of other Lompoc grocery stores is of particular concern, given that Lompoc is already overbuilt with supermarket space. Further, as discussed above, Wal-Mart's pricing practices with respect to its grocery items make other Lompoc grocery stores particularly vulnerable to competitive pressure from Wal-Mart. Moreover, the Wal-Mart Project will directly and adversely impact the Foods Co. located in the same shopping center, making its induced closure highly foreseeable. This closure would create an open space only suited to grocery retail that would likely remain vacant given competition from the adjacent Wal-Mart grocery.

Additionally, Wal-Mart's pricing practices will also affect other Lompoc retailers, given Wal-Mart's standard practice of pricing all goods, not just grocery items, at levels aimed to drive competitors out of the market. This "predatory pricing" practice has been the subject of numerous lawsuits against the retail giant, and a driving factor behind communities seeking to exclude Wal-Mart from their boundaries.

Overall, the Wal-Mart expansion jeopardizes the viability of other Lompoc businesses, may induce business closures and associated urban blight, and accordingly jeopardizes the general welfare of Lompoc.

d. The Building Façade Is Inconsistent with the Architectural Guidelines

Architectural Review Guidelines section III.A.23 requires that "A unified theme should be incorporated into each commercial center. Additions and alterations must be consistent with and enhance the design theme." The proposed Wal-Mart façade is a significant departure from the style and color scheme of the existing relatively new shopping center. Accordingly, the additions and alterations are not consistent with the design theme, and there is no unified theme to the commercial center as required by the above Guideline.

**3. Conclusion**

For all the reasons stated herein, the Wal-Mart Expansion Project is not in the best interest of Lompoc and its citizens. There is substantial evidence to support findings of denial, on any number

of grounds, discussed above. Accordingly we urge you to uphold this appeal and deny the Wal-Mart Expansion Development Plan.

Respectfully submitted,

LAW OFFICE OF MARC CHYTILO



Ana Citrin

Marc Chytilo

For Citizens Against Wal-Mart Expansion

Exhibit 1: Singh et al., *Impact of Wal-Mart Supercenter on a Traditional Supermarket: An Empirical Investigation* (February 11, 2004)  
(Abstract and pages 1-9 attached; full study available at  
<http://www.chicagobooth.edu/research/workshops/marketing/archive/workshoppapers/hansen.pdf>)

# Impact of Wal-Mart Supercenter on a Traditional Supermarket: An Empirical Investigation

Vishal P. Singh<sup>1</sup> , Karsten T. Hansen<sup>2</sup>, Robert C. Blattberg<sup>3</sup>

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<sup>1</sup>vsingh@andrew.cmu.edu, GSIA, Carnegie Mellon University.

<sup>2</sup>karsten-hansen@northwestern.edu, Kellogg School of Management, Northwestern University.

<sup>3</sup>r-blattberg@kellogg.northwestern.edu, Kellogg School of Management, Northwestern University.



## Abstract

Supermarkets operate in an increasingly competitive environment. The rapid growth of alternative retail formats has transformed not only the competitive structure of the industry, but also the way in which consumers shop. The biggest challenge to the industry is coming from none other than the world's largest retailer: Wal-Mart. Although a relatively new player, Wal-Mart through its supercenter format has become the nation's largest grocer and is cited by supermarket managers as their biggest concern in the coming years. Despite the dramatic proliferation of supercenters, relatively little is known about the impact it has on the performance of a traditional grocery store or how it changes consumer buying behavior. This paper provides an empirical study of entry by a Wal-Mart supercenter into a local market. Using a unique frequent shopper database from a supermarket, we study the impact of Wal-Mart's entry on household purchase behavior. The database records purchases for over 10,000 households before and after Wal-Mart's entry. We develop a joint model of inter-purchase time and basket size and allow for a structural break at the time of competitive entry. The model allows us to evaluate the impact of Wal-Mart on household store visit frequency and basket size, while allowing for consumer heterogeneity. We investigate the shopping and demographic characteristics of the consumers that are most likely to shift purchases to Wal-Mart.

Our results show that the incumbent store lost 17% volume—amounting to a quarter million dollars in monthly revenue—following Wal-Mart's entry. Decomposing the lost sales into components attributed to store visits and in-store expenditures, we find that the majority of these losses were due to fewer store visits with a much smaller impact on basket sizes. This in turn suggests that strategies designed to increase store traffic could be quite effective in mitigating losses to Wal-Mart. Interestingly, we find that a small proportion of customers account for a large proportion of the losses. For example, 10% of the households account for 45% of the store's lost revenue, while 20% of the customers account for almost 70% of the lost revenue. In terms of consumer characteristics, we find that distance to store while useful, explains little of the variation in household heterogeneity. Households that respond to Wal-Mart are likely to have an infant and pet in the family, and are more likely to be weekend shoppers. Furthermore, we find that these households are large basket consumers, confirming the findings in Bell and Lattin (1998) that large basket buyers are more likely to choose an EDLP operator. On the other hand, households that spend a large proportion of their grocery expenditures on fresh produce, seafood, and home meal replacement items are less likely to defect to Wal-Mart. Implications and strategies for supermarket managers to compete with Wal-Mart are discussed.

*Keywords: Entry, Retail Competition, Wal-Mart Supercenter, Frequent Shopper Data*

*“The time has come, as everyone knew it would. Wal-Mart, which through its four formats had already been selling more groceries than anyone in America, is now the country’s biggest supermarket operator.....racking up \$4 billion more in annual sales than former top dog Kroger”* (Progressive Grocer, May 2003)

## 1 Introduction

The role of supermarkets in the grocery retailing industry has undergone dramatic changes over the last decade. Rapid growth of alternative retail formats, in the form of mass discounters, price clubs, and supercenters, has transformed not only the competitive structure of the industry, but also the way in which consumers shop. The biggest threat to the supermarket industry comes from none other than the world’s largest retailer: Wal-Mart. In spite of being a relatively new player, Wal-Mart through its supercenter format has already become the number one player in the grocery industry. Patterned after the European hypermarket, supercenter combines a full-line discount store with a full-line supermarket under one roof. These stores carry both general merchandise and food, including groceries and perishables. They also offer a variety of ancillary services such as pharmacy, dry cleaning, hair salon, photo development, and gas stations providing consumers with a true “one-stop shopping” experience. While Meijer and Fred Meyer initiated the supercenter concept as early as 1960, it was only with the arrival of Wal-Mart in the 1990’s that this format experienced a systematic growth. For example, in 1993 Wal-Mart operated only 10 supercenters, while in the current counting it has close to 1,400 supercenters. Wal-Mart has also chosen the supercenter format as the vehicle for growth with plans to add up to 200 new supercenters every year for the next five years (Company Website).

For an industry already crowded with many players, there are various reasons why Wal-Mart supercenter poses an extraordinary challenge. As discussed in Section 2 below, Wal-Mart has been able to keep its cost below the industry level, which in turn translates into lower prices for the consumers. Given the razor thin margins in the grocery industry, these everyday low prices are difficult, if not impossible, to match. Indeed, as quoted in a recent Wall Street Journal (27 May, 2003), items at Wal-Mart cost 8% to 27% less than Kroger, Albertsons or Safeway, including discounts from these competitors’ loyalty cards and specials. Besides costs, another factor driving the grocery prices down at the supercenter has to do with the main motivation for why Wal-Mart and other discount

stores got into the grocery business in the first place: store traffic. A typical supercenter has only 30% of the area devoted to grocery. According to industry analysts, Wal-Mart offers lower prices on food to bring traffic into the supercenters with the hope of selling higher margin general merchandise, and even has the potential of treating the entire food business as a loss leader. Not surprisingly, Wal-Mart supercenter is seen as a serious menace to the traditional grocery industry with 80% of supermarket managers citing competition from supercenter as their biggest concern in the coming year (National Grocers Association, 2003 Point of Impact Survey).

Despite their unprecedented growth and the threat they pose to traditional grocery industry, relatively little is known how entry of a supercenter in a market changes consumer purchase behavior or what it does to the bottom-line of an incumbent supermarket. While there have been a number business press articles covering this new retail format, they provide little information on the issue. Instead, the commentary has ranged from predictions on extinction of traditional grocery, to general guidelines on how to compete with this new format. Academic research on the other hand, has primarily focused on stores that are similar in terms of their product offerings, and cost structures (Lal and Matutes 1994, Pesendorfer 2000), or on stores that differ only in terms of their pricing formats, i.e., EDLP vs. Hi-Lo ( Bell and Lattin 1998, Lal and Rao 1997, Messinger and Narasimhan 1997). With minor exceptions (Fox et al. 2002, Singh 2003), there is limited attention given to alternate retail formats like mass merchandisers or supercenters.

This paper provides an empirical study on the impact of a Wal-Mart supercenter entry on sales of a traditional supermarket. We utilize a unique frequent shopper database that records purchases for over 10,000 households before and after Wal-Mart's entry. Our primary focus in this paper is on changes in consumer purchase behavior following the competitor entry. At the household level, entry of a discount store in the market can influence their buying behavior in several ways. At the two extremes, some consumers may not change their purchase behavior at all, while others may completely abandon the incumbent and defect to Wal-Mart. Yet another group of customers may shift part of their purchases to Wal-Mart while continuing to patronize the incumbent store. For this group, the lost volume can come from three sources: fewer store visits, smaller baskets, or a combination of the two. In this paper, we decompose the total observed losses in sales into components attributed to customer attrition, reduction in store visit frequency, and reduction in basket size. From a managerial perspective, such a decomposition can be quite useful in understanding the source of lost volume, and in developing store level marketing policies. For instance, suppose we find that the lost sales are primarily



because households do not visit the store as frequently as they did prior to Wal-Mart's entry but once in the store, their basket size remains constant. In this case, households split their shopping trips between the incumbent and Wal-Mart. This in turn suggests developing strategies primarily geared towards generating store traffic, for example via feature advertisements. On the other hand, suppose we find that the frequency of store visits remains constant but the basket size is smaller. In this case, the focus should be on in-store merchandising to increase expenditure once the customers are in the store.

A second objective of this paper to explore the heterogeneity in consumer response to Wal-Mart and determine the characteristics of the households that are most likely to respond to Wal-Mart. This heterogeneity in response could be driven by household specific unobserved factors such as a like or dislike of shopping at a discount store. At the same time, it is conceivable that household behavior is also driven by their observed characteristics. For instance, a general finding in the retail site selection literature (Huff 1964, Brown 1989, Craig et. al. 1989, etc.) as well as business press (Progressive Grocer 69th Annual Report, 2002) is that location is one of the most important factor in determining store choice. Similarly, Fox et al. (2003) find that larger households are more likely to frequent mass merchandisers. In this paper, we explore a large set of household specific variables such as distance to the store and demographics, and other variables related to their shopping behavior (for example weekend shopper) and product purchase behavior (for example, proportion of expenditures on fresh seafood, proportion of expenditures on store brands etc.). Note that from a managerial perspective, identifying households based on their observed characteristics can be quite important. For instance, it can allow the retailer to not only target customers with similar characteristics at this store, but also transfer the findings to other store locations where it comes in competition from Wal-Mart (or other stores). Since store opening information is generally available well in advance, preemptive actions can be taken for the households who are at high risk of defection.

The data for this study comes from a store located in a small town in the East Coast region of the US. The sub-urban nature of the store location provides us with an opportunity to measure the impact of Wal-Mart's entry in a relatively controlled environment<sup>1</sup>. The store in question has a well developed frequent shopper program with over 85% of the sales captured on shopper card. The database records all transactions made in the store, and captures information such as time and date of the transaction,

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<sup>1</sup>Over 70% of the households in our database own a house and on average, have lived at their current residence for 14 years.

price, promotion, and quantity for every UPC sold. This information is recorded at the individual level for all the customers in the store, provided they use their shopper card. Data are available for a period of 20 months from November 1999 to June 2001. In August of 2000, a Wal-Mart Supercenter entered 2.1 miles from the store. Thus, we observe reasonably long purchase history both before and after Wal-Mart's entry. Another useful information in the database is the mailing addresses for the card holders. These addresses were geo-coded to compute travel distance for each household to the incumbent store, and to Wal-Mart. In addition, we also created a number shopping related variables such as weekday versus weekend shopper, store-brand buyer, etc. that could potentially be useful in characterizing the households. Finally, we supplement the data with block level demographic variables.

To evaluate Wal-Mart's impact on consumer purchase behavior, we develop a joint model of inter-purchase time and basket size. While a popular approach to model inter-purchase time used in the marketing literature is the proportional hazard model in continuous time (for example, Jain and Vilcassim 1991), it has the limitation of only accounting for marketing mix and other covariates when an event occurs (for example, a purchase is made). On the other hand, a discrete-time approach (Gupta 1991, Wedel et. al. 1995) can explicitly account for the covariates in periods where households do not make a purchase. We take a discrete-time approach and model household store visit decision using a discrete choice framework with time-varying coefficients. These time-varying coefficients capture the duration dependence embodied in consumers' choice process. The model, based on an underlying utility maximizing framework, can be interpreted as a hazard model (Seetharaman et al. 2003). Besides accounting for the full time path of the covariates, this modeling approach has the advantage of allowing for non-proportional hazards – a feature which, as shown in section 5, is empirically relevant for our data.

Consumer's in-store expenditures are modeled using a semi-log specification which has been used extensively in marketing (See for example, Blattberg and Neslin 1989). Both these household decisions (store visit and in-store expenditure) are modelled jointly and Wal-Mart's impact on these decisions are captured by allowing for a structural break at the time of competitor entry. The model also allows for consumer heterogeneity, which is captured by using a hierarchical structure. In particular, the full set of model parameters are allowed to vary across consumers due to both observed (e.g. demographics) and unobserved factors.

For inference, we use a hierarchical Bayesian approach. In particular, we use a Markov Chain Monte Carlo procedure to simulate the posterior distribution of the model param-

eters and to compute household level estimates of preferences. As discussed in Allenby in Rossi (1999), Bayesian procedures are well suited when one is interested in making inference at the individual level.

Our results show that the incumbent store lost 17% volume—amounting to a quarter million dollars in monthly revenue—following Wal-Mart’s entry. The magnitude of the lost sales is quite alarming considering that supermarkets generally operate on a principle of low margins and high volume, with profit margins of only about 1%. Decomposing the lost volume into store visits and in-store expenditures, we find that the majority of the losses came due to fewer store visits with little impact on the basket size once consumers are in the store. This is an important finding as it suggests that strategies designed to drive store traffic could be an effective way for recovering some of the lost volume. Interestingly, we find that a small proportion of customers account for a large proportion of the losses. For example, 10% of the households account for 45% of the store’s lost revenue, while 20% of the customers account for almost 70% of the lost revenue. In terms of consumer characteristics, we find that distance to store while useful, explains little variation in household heterogeneity. Households that respond to Wal-Mart are likely to have an infant and pet in the family, and are more likely to be weekend shoppers. Similarly, store-brand buyers have a higher likelihood of moving purchases to Wal-Mart, while households that spend a large proportion of their grocery expenditures on fresh produce, seafood, and home meal replacement items are less likely to do so. Finally, we find that the households that respond to Wal-Mart are large basket consumers, confirming the findings in Bell and Lattin (1998) that large basket buyers are more likely to choose an EDLP operator. Using a holdout sample, we find that these shopper characteristics can be quite useful in identifying potential defectors to Wal-Mart.

This research makes several contributions to marketing theory and practice. Foremost among these is that we provide an empirical analysis of the impact of Wal-Mart supercenter entry on a traditional retailer. Given the dramatic changes taking place in the retail industry, results from the study should be of interest to both academics and practitioners. The research is also salient to the growing body of literature focusing on customer management. For instance, our findings that small proportion of customers account for a large proportion of store losses give credence to the contention in the CRM literature on the importance of customer retention. Similarly, our analysis demonstrates how a retailer can exploit the information contained in their frequent shopper database to understand and respond to their most valuable customers. This is a vital topic because although the information contained in frequent shopper databases is commonly assumed



to be valuable, many retailers are struggling to leverage this information. The potential difficulty of converting data into valuable marketing strategies is illustrated by the case of Safeway PLC (UK) which abandoned its customer card program citing a potential saving of \$80 million per year in administrative costs. Thus, a secondary objective of this study is to shed some light on the potential uses of the purchase history information, especially in the face of competition.

The rest of the paper is organized as follows. The next section provides a brief overview of the supercenter format, including suggestions made in the business press to counter Wal-Mart. The data used in the study is presented in Sections 3. Section 4 develops a joint model of interpurchase time and basket size and the empirical results from the model are presented in Section 5. In section 6 we explore various household characteristics that can be useful in identifying potential defectors to Wal-Mart. We conclude in section 7 with a discussion on limitations of the current study and directions for future research in this area.

## 2 The Supercenter Format<sup>2</sup>

In this section we provide a brief overview of the supercenter format. We discuss the motivation of discount stores to get into the grocery business, the challenges this format presents to supermarkets, and solutions suggested by some industry analysts. Since this format has received limited attention in the academic literature, our discussion is primarily drawn from the business press.

Supercenters, which average 180,000 square-feet, are retail stores that combine a discount department store with a full service supermarket. They offer a wide variety of general merchandise and food items, including meat, produce, deli and other perishables. In addition, many include ancillary services such as pharmacy, dry cleaning, vision center, Tire and Lube Express, hair salon, income tax preparation (in season) and so forth, providing consumers with a true “one-stop shopping” experience. While Meijer and Fred Meyer started this format as early as 1960’s, it is only with the arrival of Wal-Mart that this format has shown a dramatic growth. The first Wal-Mart supercenter was opened in 1988 and in 1993, the company operated only 10 such stores. With 192 supercenters added in 2002, the company has close to 1,400 supercenters in the current counting. This unprecedented march by Wal-Mart into the grocery business is taking

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<sup>2</sup>We shall limit our discussion primarily to Wal-Mart. Both Target and K-Mart have their own version of supercenter, but Wal-Mart is by far the biggest player in the industry.

its toll along the way. According to the 2002 “Channel Blurring ” study by ACNielsen, since 1999, consumer visits per year to supermarkets were down 12 percent while visits to supercenters went up 40 percent. The pressure from Wal-Mart is being felt by national chains and independents alike. In the past decade, 29 chains have sought bankruptcy-court protection, with Wal-Mart as a catalyst in 25 of those cases (The Wall Street Journal, May 27, 2003).

### **Transition to Grocery:**

What motivated Wal-Mart to enter the grocery business? There are a number of reasons cited for the move including change in the top management and arrival of David Glass as the CEO (who had a background in grocery business). Furthermore, by the late 80’s, the discount retail industry was close to saturation, and was highly concentrated with three major players: Wal-Mart, K-Mart, and Target. Supermarket industry on the other hand, was highly fragmented with small to medium sized regional chains. While this industry structure facilitated the transition to grocery, the main motivation for Wal-Mart’s venture into the industry was store traffic. Indeed, industry experts believe that Wal-Mart is using food as mainly a traffic driver, with the hope of spillover to higher margin general merchandise items (that account for 65-70% of supercenter sales). The strategy seems to be working, with some reports suggesting that the general merchandise sales are 25%-50% higher at a supercenter than that of discount stores in the same area (or after conversion of a discount store to supercenter)<sup>3</sup>. The supercenter format has been so successful that Wal-Mart has chosen this path for expansion with plans of adding 200 supercenters every year for the next five years (Company Website). According to Trade Dimensions, with the current growth rate, over three-fourth of Kroger and Albertsons stores would be within 10 miles of a Wal-Mart supercenter within this decade.

### **Pricing at Wal-Mart:**

A general consensus in industry reports is that the prices at Wal-Mart supercenter are about 15% lower<sup>4</sup>. Besides the store traffic considerations discussed above, there are several other cost related factors driving the prices down at Wal-Mart. Foremost, Wal-Mart’s size gives the company several advantages over smaller competitors, including bargaining power with the manufacturer, and economies of scale in distribution systems. Furthermore, Wal-Mart’s large size allows the company to bypass the wholesalers with majority of the merchandise at the supercenters, including perishables, supplied through

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<sup>3</sup>“The U.S. Market for Supermerchants: Warehouse Clubs and Supercenters”, 1997, report by Packaged Facts

<sup>4</sup>The WSJ article cited above quotes 8% to 27% lower prices at supercenters. A Time Magazine article “Can Wal-Mart get any bigger” (Vol. 161, issue 2, 2003) reports 15% lower prices.

its distribution centers. This coupled with an EDLP strategy (which not only helps create a low-price image in consumer's mind but also offers many operational advantages in demand forecasting) and Wal-Mart's proprietary Retail Link software, gives Wal-Mart a tremendous advantage in logistics and inventory control. According to an independent study by McKinsey & Co., Wal-Mart's efficiency gains were the source of 25% of the entire U.S. economy's productivity improvement from 1995 to 1999<sup>5</sup>. Last, but not the least, another factor keeping the costs low at Wal-Mart is its nonunionized labor. For majority of supermarkets, labor, that constitutes approximately 70% of the overhead, is unionized. On the other hand, none of the Wal-Mart's employees belong to a union and industry analysts believe that they get paid significantly lower than the industry average<sup>6</sup>.

### **How to Compete with Wal-Mart?**

“Competition from Wal-Mart supercenters may be inevitable, but it is not a death sentence ..” Thomas Zaucha, president and CEO of the National Grocers Association

Given such cost asymmetries, how can supermarkets compete with Wal-Mart? While there is no one answer, there have been a number of suggestions given by industry experts. These range from shutting down the store to improving efficiency and cutting costs. In general, the recommendations fall into two broad groups: become more like Wal-Mart or differentiate<sup>7</sup>. Indeed, there has been a move in the supermarket industry towards consolidation through mergers and acquisitions (e.g., Kroger and Fred Myers, American and Albertson stores, etc.) with the hope leveraging similar bargaining power and economies of scale as Wal-Mart. Similarly, there has been a drive in the industry towards cost cutting (WSJ, 27 May, 2003). Many stores have also expanded their general merchandise items and other services such as pharmacy and banking in order to provide their own version of one-stop shopping.

Others argue that it is not possible to beat Wal-Mart at its own game and recommend differentiation with a focus on the two main weaknesses of supercenters: perishables and convenience. These recommendations include providing a clean friendly store, improving fresh produce and custom-cut meat department, emphasis on deli, ready-to-eat foods,

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<sup>5</sup>“Can Wal-Mart get any bigger” Time Magazine (Vol. 161, issue 2, 2003)

<sup>6</sup>There are a number of lawsuits pending against Wal-Mart due to its labor practices. In one such case in Jacksonville, Texas, the meat-cutters at Wal-Mart voted to form a union in February 2000. Within months, Wal-Mart decided to close down the meat plant and replace it with case-ready meat packaged by suppliers.

<sup>7</sup>David Rogers “With Wal-Mart, Look, Don't Listen”, Supermarket Business, Jan 15, 2001

and salad bars, broader product assortment, and an increased focus on understanding customer needs. Another weakness of the supercenter is that they are generally located outside the city limits. However, Wal-Mart has recognized this limitation, and is testing with scaled-down versions of supercenters ranging in size from 40,000 to 50,000 square feet. According to Wal-Mart, its Neighborhood Market format will charge the same low price as its supercenters while providing the location convenience of supermarkets and convenience stores.

Given the discussion above, it is not surprising that supermarket managers find Wal-Mart to be one of their most formidable competitors. Many of the suggestions provided by industry experts on how to tackle Wal-Mart, go well beyond the scope of this paper. However, before developing any general principles on the issue, a necessary first step is an understanding of what a Wal-Mart does to a retailers bottom line, and how it changes consumer purchase behavior. To this extent, we present an empirical study that attempts to address some of these issues.

### 3 Frequent Shopper Database

The data used in the study comes from a single store of a large supermarket chain in the East coast. The store in question is located in small suburban town which provides us with an opportunity to analyze the impact of entry by a Wal-Mart supercenter in a relatively controlled environment. Based on our discussion with the store managers, the store can be classified as typical Hi-Lo format. Besides standard grocery products, the store offers a variety of services such as 24 hour shopping, in-store postal and banking services, video rental, photo developing, pharmacy, and speciality departments such as bakery, deli, salad bar, seafood, and custom-cut meat.

The store also has a well developed frequent shopper program. While the original purpose of such frequent shopper programs was to create store loyalty by rewarding the best customers, over time, their role has changed to being just another promotional tool. However, they do provide retailers with a wealth of information about their customers. A secondary objective of this study is to demonstrate how retailers can utilize the information contained in their database, especially when faced with competition. Indeed, the frequent shopper data that we use are quite unique in that they record all transactions made in the store and capture information such as time and date of the transaction, card holder information (if a shopper card is used), and the dollar volume, unit price, quantity, and promotion for *every* UPC sold. At the same time, these data have the drawback in