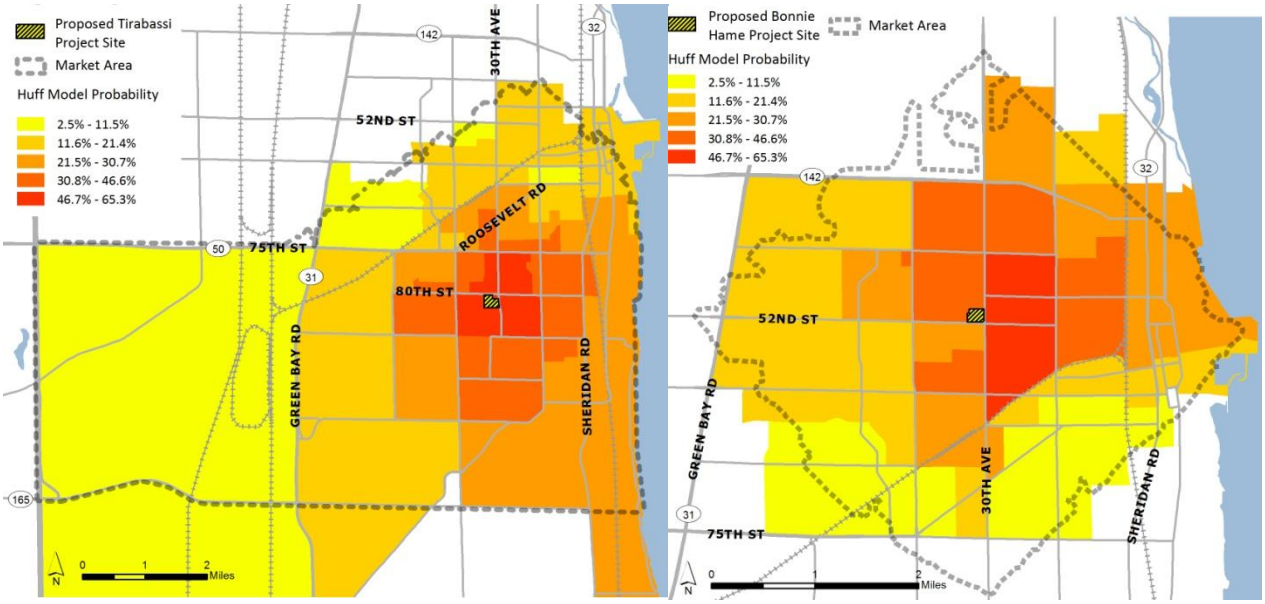
CITY OF KENOSHA

Economic Impact Assessment of Two Proposed Walmart Stores

FINAL REPORT: May 4, 2012



SB Friedman
Development Advisors

VISION | ECONOMICS | STRATEGY | FINANCE | IMPLEMENTATION

SB Friedman
Development Advisors

S. B. Friedman & Company | 221 North LaSalle Street, Suite 820 | Chicago, IL 60601 | T (312) 424-4250 | F (312) 424-4262

May 4, 2012

Mr. Brian Wilke
Development Coordinator
City of Kenosha
Department of City Development
625 52nd Street
Kenosha, WI 53140

Dear Mr. Wilke:

Pursuant to our agreement, *S. B. Friedman & Company* is pleased to present this Economic Impact Assessment evaluating the impacts of two proposed Walmart developments in the City of Kenosha.

The scope of our engagement included an evaluation of the positive and negative impacts of the proposed developments on job creation, property values and the property tax base, and indirect impacts on existing businesses in the City. Our execution of this engagement included assessing employment and wage effects, projecting future property values and property taxes, and undertaking quantitative modeling to assess the impacts of the proposed stores on sales of existing competitive businesses.

Our report is intended for use in the City's consideration of whether to approve Walmart's request for Conditional Use Permits to develop the proposed stores.

We appreciate the opportunity to have been of service to the City of Kenosha, and look forward to continuing to work with you. Please do not hesitate to contact us with any questions.

Sincerely,

SB Friedman & Company

Stephen B. Friedman, AICP, CRE
President
(312) 424-4260
sbf@sbfriedman.com

Ranadip Bose, AICP
Senior Project Manager
(312) 384-2407
rbose@sbfriedman.com

CITY OF KENOSHA
ECONOMIC IMPACT ASSESSMENT OF TWO PROPOSED WALMART STORES

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S. B. FRIEDMAN & COMPANY
221 N. LaSalle St. Suite 820 Chicago IL 60601
T: 312.424.4250 F: 312.424.4262 E: sbf@friedmanco.com
www.friedmanco.com

Executive Summary

S. B. Friedman & Company (*"SB Friedman"*) was engaged by the City of Kenosha ("City") to conduct an Economic Impact Assessment for two proposed Walmart developments in the City. The proposed developments require Conditional Use Permits, and the City's Zoning Ordinance requires an Economic Impact Assessment (EIA) that weighs the positive and negative impacts of a proposed development as one of the conditions for approval of such a permit.

Proposed Developments

It is our understanding that Walmart is proposing to open two stores within the City: a Supercenter and a Neighborhood Market. Summaries of the proposed stores and development sites follow.

- **The "Tirabassi" Supercenter.** The Supercenter proposed on the south side of the City is approximately 97,000 square feet and will include general merchandise, grocery and pharmacy components. The approximately 20-acre site is located at the southwest corner of the intersection of 30th Avenue and 80th Street.

- **The "Bonnie Hame" Neighborhood Market.** The store proposed in central Kenosha will be an approximately 43,000 square foot Neighborhood Market with grocery and pharmacy components. The approximately 10-acre site of the proposed Bonnie Hame store is located on the north side of 52nd Street between 30th Avenue and 32nd Avenue.

Scope of Economic Impact Assessment

The City's Zoning Ordinance requires that EIAs weigh the positive and negative impacts of proposed developments, considering a number of specific factors, including job retention and creation, tax base, property values, and public costs and improvements. This EIA addresses the proposed Walmart stores' expected impacts on:

- Job creation, including quantity and quality of jobs created
- Tax base
- Property values
- Indirect impacts on existing businesses in the City

Other required elements of the EIA are not covered in this study, per mutual agreement with the City, but will be addressed separately in the Conditional Use Permit review process. These include:

- Public costs and improvements
- Environmental impacts
- Utilities
- Traffic and public safety

This Economic Impact Assessment considers the direct and indirect impacts of the two proposed Walmart stores in Kenosha. The projected impacts of the two stores are summarized on the following pages, and described in detail in the full text of the report.

Direct Impacts

Direct impacts are impacts that occur on the development site as a direct result of the development, and include property value and tax impacts, and job creation. The expected property value and property tax revenue impacts, and the number and quality of jobs expected to result from each of the proposed stores are summarized as follows.

PROPERTY VALUE AND PROPERTY TAXES

- The Tirabassi Supercenter is projected to have a stabilized assessed value of $8.524 million, a net increase of $8.518 million from its current value. At the current tax rate, approximately $220,000 in annual property taxes would be produced at stabilization, an increase of $218,000 from the current use. Approximately 39 percent of total property taxes collected go to the City, so the City of Kenosha would see an increase of $85,000 in revenue with the current tax rate.

- The Bonnie Hame Neighborhood Market is expected to have an assessed value of approximately $5.257 million at stabilization, an increase of $4.257 million from the current value. Annual property tax revenue from the Bonnie Hame site is expected to increase by $109,000 at stabilization, growing to $135,000. This would increase City of Kenosha property tax collections for the site by approximately $43,000 annually.

- Together, the two proposed Walmart stores are projected to increase the property tax base by $12.776 million in assessed value. At the current tax rate, this value would produce a total net increase in property taxes of $328,000 annually, $128,000 of which would go to the City.

JOB CREATION AND WAGES

- The Tirabassi store is expected to produce 220 new jobs, 38 of which (17 percent) will be supervisory roles. The Bonnie Hame store is projected to create 85 jobs, 10 of which (12 percent) will be supervisory.

- An estimated 60 percent of positions at the proposed stores will be full-time and 40 percent part-time. This proportion of full-time to part-time employees fits within the range for existing local retailers. For the retailers interviewed, between 22 and 70 percent of employees are full-time.

- Depending on the types of positions offered, it appears that Walmart's average full-time wage of $12.14 per hour is in the range of typical wages for supermarkets in Kenosha County, but significantly lower than wages for supercenters:

  - According to Bureau of Labor Statistics (BLS) data, Walmart's average wage is approximately 4 percent higher than the average Kenosha County wage ($11.70) for supermarket and other grocery employees. However, at least two local supermarkets appear to offer higher hourly wages for full-time employees, so full-time grocery employees in the City may receive higher than average wages.

- Walmart's average hourly wage is approximately 19 percent lower than the estimated average wage ($14.50) for full-time supercenter or warehouse club employees, per recent BLS data.

Indirect Impacts

In addition to direct impacts occurring at the site, the development of the two new Walmart stores in Kenosha may have indirect spillover impacts on the sales and viability of existing retailers, local retail wages and employment, consumer prices and property values. These impacts are summarized below.

IMPACT ON SALES OF LOCAL STORES

In order to assess the effects of the proposed Walmart stores on existing local retailers that sell similar goods as Walmart, a quantitative gravity modeling analysis was conducted. Gravity modeling analysis synthesizes the competitive supply of retail in a market area with consumer demographics and retail spending potential to determine the estimated sales of new stores. The projected sales potential of the new stores can then be used to determine changes in market share and estimate the sales impacts on existing stores. The results of the impact analysis on the annual sales of a sample of local stores (selected based on discussions with City staff) are shown and discussed below.

Projected Sales Impacts on Selected Existing Stores [1]

	Estimated Sales Reductions Due to Opening of:			Percent Sales Reductions Due to Opening of:		
Existing Local Store	**Tirabassi Only**	**Bonnie Hame Only**	**Both Walmarts**	**Tirabassi Only**	**Bonnie Hame Only**	**Both Walmarts**
Kenosha Fresh Market	$400,000	$1,500,000	$1,700,000	5%	20%	23%
Pick n Save 63rd	$2,700,000	$3,000,000	$5,000,000	12%	14%	23%
SuperValu	$4,700,000	$1,000,000	$5,600,000	18%	4%	22%
Piggly Wiggly 80th	$1,400,000	$200,000	$1,700,000	18%	3%	21%
Piggly Wiggly Pershing/76th	$1,900,000	$1,000,000	$2,700,000	12%	6%	17%
Save A Lot	$100,000	$400,000	$500,000	3%	11%	14%
Pick n Save 75th	$3,100,000	$1,500,000	$4,500,000	8%	4%	12%
Sears	$1,200,000	NC	$1,200,000	9%	NC	9%
Pick n Save 18th	NC [2]	$900,000	$900,000	NC	4%	4%
Total/ Weighted Average	**$15,500,000**	**$9,500,000**	**$23,800,000**	**11%**	**6%**	**15%**

[1] Impacts of both stores within combined Tirabassi and Bonnie Hame market areas.

[2] NC = Not Competitive, and therefore unlikely to experience significant sales impacts.

- The gravity modeling analysis shows that the introduction of the proposed Walmart stores will have substantial impacts on sales of existing stores. Impacts were projected for eight local grocery stores and one general merchandise retailer. The impacts vary based on distance from the proposed store(s) and current sales performance, and are summarized as follows.

  - The Tirabassi store alone is projected to reduce annual sales of the selected existing retailers by $15.5 million, or 11 percent. Individual store impacts resulting from the Tirabassi Supercenter range from 3 percent to 18 percent of sales.
  - The Bonnie Hame store is projected to reduce annual sales of eight local grocery stores by $9.5 million, or 6 percent of current estimated sales volume. Individual sales impacts on stores range from 3 percent to 20 percent of sales.
  - Together, the two proposed Walmart stores are expected to reduce the sales of local grocery stores by $23.8 million, or 15 percent of the current estimated sales volume. Impacts range from 4 percent to 23 percent, with five stores expected to lose more than 15 percent of sales.

- Interviews with local retailers suggest that the majority of stores that are likely to compete with Walmart believe they will be negatively impacted by the proposed stores (88 percent of store owners or managers interviewed believe impacts will be negative). The majority of interviewees indicated expected sales reductions ranging from 10 percent to 30 percent and only one interviewee indicated that they expected no impact from the proposed Walmart stores. Overall, the interview responses were generally consistent with the gravity modeling analysis.

IMPACT ON LOCAL EMPLOYMENT AND WAGES

- Existing literature on the impacts of Walmart stores on area employment and wages are mixed, with some studies finding that retail wages decline by up to 2.2 percent, while others finding wage increases of up to 3.5 percent. Studies also find disparate impacts on overall retail employment, ranging from an average loss of 150 jobs to a net gain of 50 jobs.

- Local retailers interviewed believed that the introduction of the Walmart store(s) would likely have no net effect on area employment. Local retailers reported that employees at their stores would likely have hours cut, be moved from full-time to part-time status, and/or face layoffs, depending on the reduction in sales the store faced due to the new Walmart store(s), so new positions created would be partially offset by declining jobs at other stores.

IMPACT ON CONSUMER RETAIL PRICES

- Literature on the impacts of Walmart on local retail prices generally finds that Walmart's entry into a market does reduce overall consumer retail prices. These impacts range from 1.5 percent to 13 percent for general merchandise, and from 3 to 9 percent for grocery items.

- A reduction in consumer retail prices would benefit local consumers initially, but existing stores could be forced to close due to declines in revenue, leaving consumers with fewer retail options.

Introduction and Purpose

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Methodology and EIA Report Structure

This EIA is divided into two major sections: Direct Impacts and Indirect Impacts. The direct impacts are considered to occur on the development site as a direct result of the development, and include property value and tax impacts, and job creation. Property value and property tax impacts were projected using data on comparable properties from the Kenosha Assessor's Office. Using data from Walmart, local retailers and the State of Wisconsin, the quantity and quality of jobs to be created in the proposed stores were analyzed and compared to similar existing local and statewide retail positions.

Indirect impacts are impacts on other businesses, properties and individuals that are not directly related to the development, but are nonetheless affected by market factors associated with the new development. The projected impacts of the proposed Walmart stores on local businesses, retail jobs and wages, and consumer prices are described in the Indirect Impacts section. In order to determine the impact the new Walmart stores would have on the sales of existing retailers, we conducted a quantitative gravity modeling analysis. This analysis was based on the consumer retail spending potential of the defined market areas served by the proposed stores and existing retail competition within those markets. Existing store managers in the vicinity of the proposed stores were also interviewed to gauge retailers' perceptions of the effects of the new stores on their operations, and to collect job counts and wages of employees.

Potential indirect impacts on jobs and wages in the area, as well as consumer prices, are discussed in light of a literature review on the indirect impacts of Walmart stores. The literature review also provides a baseline against which to compare the projected impacts of the proposed Walmart stores on existing retailers in Kenosha.

Limitations

A range of data regarding the estimated sales for the proposed Tirabassi and Bonnie Hame stores, the market area for each store, and a breakdown of average wages and benefits by type of position (e.g., clerk versus management, full-time versus part-time) was requested from Walmart, but only limited data was supplied. We have instead compiled data from Walmart's annual reports, their most recent Security and Exchange Commission 10-K Filing, and InfoUSA data on estimated sales volume at existing Walmart stores.[1] Our projections of the impacts of the proposed stores are therefore based on the average performance data of existing Walmart stores and our analysis of the company's location patterns, and thus may not fully reflect Walmart's actual future performance at the Tirabassi and Bonnie Hame stores.

In addition, we have constructed market areas for the two proposed stores, based upon assumed market areas of existing Walmart stores. While we believe our market areas are reasonable and supportable based on the past performance and observed pattern of spatial distribution of Walmart stores, our results do not account for any divergence in the actual market areas from the expected market areas we constructed.

[1] InfoUSA is a provider of proprietary business data, including estimated sales volumes and employment numbers for millions of businesses in the U.S.

The scope of the analysis did not include conducting consumer surveys to obtain local market data regarding actual store patronage, spending and perception of existing and proposed Walmart stores. Therefore, our analysis assumes that consumer behavior in the Kenosha market will reflect the typical consumer behavior in other similar urban markets. In the absence of actual sales performance data of the existing stores in the Kenosha market, we also assume that the current performance (prior to the introduction of the proposed Walmarts) of the existing national/regional chain stores in the market will be reflective of their average performance nationally/regionally. In the case of local independent stores, we assume that their sales performance is reflective of similar store categories.

Finally, our analysis of sales impacts does not account for potential strategies that could be used by existing retailers to effectively compete with Walmart such as changing their product offerings or their product pricing structure. It also does not account for changes in the competitive supply of stores and consumer demand in the market area, other than the addition of the two Walmarts.

Additional limitations of *S. B. Friedman & Company*'s engagement are included in the Appendix.

Direct Impacts

The proposed Walmart stores are expected to have discrete and quantifiable direct impacts in at least two areas: property taxes and employment. The expected property value and property tax revenue impacts and the number and quality of jobs expected to result from each of the proposed stores are discussed in this chapter.

Property Tax Impacts

Both the Tirabassi and Bonnie Hame sites are currently vacant or underutilized in an otherwise dense urban area, and are therefore producing less in annual property tax revenue than they would as developed parcels. Using a property tax comparables approach, we projected the assessed value of the two proposed stores at stabilization, as well as the property tax revenue that will result from increased valuation.

Our property tax projections were developed by estimating the assessed value (AV) per square foot of similar properties in the area. Our sample of comparable properties consists predominantly of stores, supermarkets and general merchandise stores in the City and nearby supercenters. After compiling a set of comparable properties, we interviewed the City Assessor to review and confirm the comparables, and obtain insight on the potential future assessment of the two proposed Walmart stores. We also received information from the Assessor on expected property tax rates in the near future. We then projected the AV and subsequent property tax revenue from each of the stores at stabilization.

The Tirabassi site is one of seemingly few large sites in the City currently being used for agriculture. The approximately 20-acre site to be developed as a Walmart comprises three parcels with a total 2011 AV of $5,400 and corresponding property taxes of $1,724. The Bonnie Hame site held public housing until the 1960s, but has been vacant for decades, though it was used for vehicle staging by the nearby Chrysler plant through the mid-1990s. The current AV of the approximately 10-acre Bonnie Hame portion of the parcel expected to be developed is $1,000,000, which produced $25,764 in property taxes in 2011.

The current and projected AV and most recent property taxes of the proposed development sites are presented in **Table 1** on the following page.

As shown in **Table 1**, the Tirabassi Supercenter is expected to have a stabilized AV of $8.524 million, a net increase of $8.518 million from its current value. At the current tax rate of 2.576% (or $25.76 per $1,000 of AV), approximately $220,000 in annual property taxes would be produced at stabilization, an increase of $218,000 from the current use. According to the City Clerk, the City of Kenosha receives approximately 39 percent of total property tax revenue collected.[2] The projected net property tax increase to the City is approximately $85,000 annually. The Bonnie Hame Neighborhood Market is expected to have an AV of approximately $5.257 million at stabilization, an increase of $4.257 million from the current AV. Annual property tax revenue from the Bonnie Hame site is expected to increase by $109,000 at stabilization, growing to $135,000. The City would receive increased property taxes of approximately $43,000 annually from the Bonnie Hame development.

[2] Per conversation with City staff on April 25, 2012.

Table 1. Assessed Value and Property Tax Projections [1]

	Tirabassi Supercenter	Bonnie Hame Neighborhood Market	Both Proposed Walmart Stores
Current Assessed Value (2011)	$5,400	$1,000,000	$1,005,400
Projected Assessed Value (Stabilization)	$8,524,000	$5,257,000	$13,781,000
Projected Increase In AV	**$8,518,600**	**$4,257,000**	**$12,776,000**
Current Property Taxes (2011)	$1,724	$25,764	$27,487
Projected Property Taxes (2011 tax rate)	$220,000	$135,000	$355,000
Total Projected Net Increase in Taxes [1]	**$218,000**	**$109,000**	**$328,000**
Projected Net Increase in Taxes to City of Kenosha [1, 2]	**$85,000**	**$43,000**	**$128,000**

Source: City of Kenosha Assessor, City of Kenosha Clerk/Treasurer, *SB Friedman*

[1] Sums may not equal due to rounding.

[2] Assumes 39 percent of total taxes go to City, per conversation with City staff.

Together, the two proposed Walmart stores are expected to increase the property tax base by $12.776 million in assessed value. At the current tax rate, this AV would produce a total net increase in property taxes of $328,000 annually, $128,000 of which would go directly to the City of Kenosha.

Job Creation and Wages

SB Friedman requested a detailed breakdown of the number and type of positions to be offered at each proposed Walmart, in addition to wages and benefit data for each type of position. Walmart provided only summary information on the breakdown of job types and an average wage for all full-time Walmart employees in the state of Wisconsin, as shown in **Table 2** on the next page.

The data supplied by Walmart does not provide the required amount of detail to fully compare the types and quality of jobs offered to other local retail positions. The average full-time hourly wage provided includes a variety of employee types – including store managers, assistant managers, other supervisors and retail associates – who likely earn a wide spectrum of wages, and no wage information was provided for part-time employees. It is unclear from corporate documents and the materials provided whether part-time employees are eligible for benefits.

In the course of interviews with retailers located near the two proposed stores that are expected to compete with Walmart in at least certain retail sectors, *SB Friedman* inquired about current retail employment. All eight retailers interviewed provided the current number of employees by full-time or part-time status. Most retailers also provided benefits information. Only one manager provided quantitative wage data, and two other managers gave qualitative answers when asked about employee wages. Summary data from these interviews is presented in **Table 2.**

As shown in **Table 2**, the Tirabassi store is expected to produce 220 new jobs, 38 of which (17 percent) will be supervisory roles. The Bonnie Hame store is projected to create 85 jobs, 10 of which (12 percent) will be supervisory. Retailers in close proximity to the proposed stores that were interviewed have an average of 65 employees. An estimated 60 percent of new Walmart positions will be full-time and 40

percent part-time, though this will be adjusted over time based on store performance and employee preferences. The breakdown of full-time versus part-time employees fits within the range for existing local retailers. Among the eight retailers interviewed, between 22 and 70 percent of employees are full-time.

Table 2. Retail Positions and Quality of Jobs: Walmart versus Selected Local Retailers

	Tirabassi Supercenter	Bonnie Hame Neighborhood Market	Both Walmart Stores	Average of Selected Local Retailers [1]
Managers	9	5	14	n/a
Other Supervisory Positions	29	5	34	
Non-Supervisory Positions	182	75	257	
Total Number of Jobs Expected	**220**	**85**	**305**	65
Full-Time Positions	**60%**	**60%**	**60%**	**22% - 70%**
Approx. Number of Positions	132	51	183	25
Average Hourly Wage	$12.14	$12.14	$12.14	$14-17 [2]
Benefits:	Include 401(k) with match up to 6% of salary; health, dental, disability and life insurance; paid time off; stock purchase plan with match; 10% Walmart discount			Generally offered for FT employees
Part-Time Positions	**40%**	**40%**	**40%**	**30% - 78%**
Approx. Number of Positions	88	34	122	39
Average Hourly Wage	Unknown	Unknown	Unknown	$12.50-$13 [2]
Benefits:	Unknown			Some retailers offer benefits for PT employees

Source: Walmart, Interviews with local retailers, *SB Friedman*

[1] From a small sample competitive retailers in Kenosha. May not be representative of all local retailers.

[2] Only one grocery store provided wage data; a second retailer responded that their wages are likely higher than Walmart's, and a third responded that their store was a union store.

As was mentioned earlier, Walmart provided average wages only for full-time employees, and the majority of local retailers declined to provide wage information. The average hourly full-time wage for Walmart employees in Wisconsin is $12.14. The one local retailer that provided wages offers $14 to $17 per hour for full-time employees, rates that are 15 to 40 percent higher than Walmart's average. Another retailer is a union store, so is likely to have higher than average wages. The benefits offered by Walmart appear to be comparable to those offered by local retailers, though it is unclear whether part-time employees are eligible for health coverage or other benefits. A limited number of local retailers offer benefits for part-time employees.

Because wage data from other City retailers is limited, we have compared Walmart's average full-time wages to Kenosha County retailer data compiled by the U.S. Bureau of Labor Statistics (BLS), which is available for many retail subsectors on an annual basis. Summary data for relevant retail sectors is presented in **Table 3** on the next page. BLS data is provided for full- and part-time employees together, so we have adjusted to full-time equivalent wages based on the ratio of average hours worked per week

by employees in the retail sector to a full-time 40-hour work week. Benefits were estimated using employment compensation ratios.[3] In addition, county-level data for supercenters was unavailable, so Wisconsin state data have been adjusted based on the calculated wage differentials between Kenosha County and the state for the supermarket sector.

Table 3. Average Full-Time Wisconsin Retail Wages: Walmart versus Kenosha County Retailers

	Walmart [1]		Kenosha County Retailers [2]		Walmart FT Wage Difference from Kenosha County Average
Retail Sector	**Wages**	**Compensation Equivalent of Benefits**	**Wages**	**Compensation Equivalent of Benefits**	
Supermarkets and Other Grocery	$12.14	Unknown	$11.70	$4,650	4%
Warehouse Clubs and Supercenters	$12.14	Unknown	$14.50	$5,850	-19%

Source: U.S. Bureau of Labor Statistics, 2010 Average Annual Wages; IMPLAN; *SB Friedman*

[1] As of October 2011.

[2] 2010 figures from Quarterly Census of Employment and Wages, adjusted to full-time equivalent wages. Warehouse Clubs and Supercenters wages estimated from state average, using Kenosha County differential from supermarket sector.

As shown in **Table 3**, Walmart's average hourly wage for full-time employees ($12.14) is approximately 4 percent higher than the average countywide wage ($11.70) for supermarket and other grocery employees. However, based on our interviews, at least two local supermarkets appear to offer higher hourly wages for full-time employees, so full-time grocery employees in the City may receive higher than average wages. Walmart's average hourly wage is approximately 19 percent lower than the estimated average wage ($14.50) for full-time supercenter or warehouse club employees.

Depending on the types of positions offered, it appears that Walmart's average full-time wages are in the range of typical wages for supermarkets in Kenosha County, but significantly lower than wages for supercenters.

Detailed benefits information was not provided by Walmart, so no comparison with the average compensation equivalent of benefits was possible. The compensation equivalent of benefits for Kenosha County retailers is provided in **Table 3** for reference.

[3] Employment Compensation (EC) ratios are the ratio of total compensation (wages plus benefits plus employer-paid payroll taxes) to wages.

Indirect Impacts

In addition to direct impacts on employment, property values and property tax income, the development of two new Walmart stores in Kenosha may have indirect spillover impacts on existing retailers, local wages and employment, and consumer prices. These potential indirect impacts are addressed in this chapter.

Due to local and national debates over the economic impacts of "big box" retailers such as Walmart, there is extensive literature analyzing the issue. Given the range of perspectives, focus and quality of these studies, meaningful overall conclusions cannot be drawn. For much of its history, Walmart was focused on expanding in rural and ex-urban markets, so many articles are relevant only to rural areas and not to urban areas like Kenosha, where the composition and dynamics of the retail market are significantly different from the rural retail environment. Studies that were poorly constructed (i.e., they failed to control for factors unrelated to Walmart's entry into the market that were likely to influence the outcome of the study) were also excluded. A summary of the relevant literature and references are included in the **Appendix**, and addressed when relevant below.

Impact on Sales of Local Stores

LITERATURE REVIEW

Studies on the impact of new Walmart stores on sales at existing stores have been inconclusive. No studies with appropriate controls that examine the effects on local supermarkets or larger (over 20 employees) local stores were found.

One recent study examined the effects of a new Walmart Supercenter on the west side of Chicago, and found that the likelihood of stores closing within a one-mile radius of the Walmart was 40 percent (Davis et al., 2009). However, the study was based on a single store, and the authors failed to account for new stores that opened, or stores that closed and then reopened under new ownership. A counter-study prepared on behalf of Walmart notes that there were, in fact, a significant number of store openings in the year after Walmart arrived, 58 percent of which were in sectors that directly compete with Walmart (Mari Gallagher Research and Consulting Group, 2009). The study also noted that one regression model showed that controlling for the size and age of existing stores made the Walmart effect statistically insignificant.

Another recent study examined the impact of Walmart entrance on small retail businesses with 20 or fewer employees in Iowa counties, and found no statistically meaningful impact (Hicks, 2009).

Because of limited research estimating the impact of new urban Walmarts on the sales of existing stores in the surrounding market area, we used a gravity modeling approach to project the sales impact on local stores. The analysis methodology and results are discussed in the following pages.

GRAVITY MODELING: METHODOLOGY

Gravity modeling analysis is a Geographic Information Systems (GIS)-based spatial analysis that synthesizes the competitive supply of retail in a region with consumer demographics and retail spending potential, and can be used to determine the estimated sales of new stores. (More information on gravity

modeling is included in the **Appendix.**) The sales potential of these new stores can be used to determine market share and assess the effects of the new retailers on the sales of existing stores. The intent of this analysis was to determine the impact the new Walmart stores would have on the sales of existing retailers within the proposed stores' market areas.

Two gravity models were constructed as the two proposed Walmart stores are different types of stores in different locations – the Tirabassi store is a supercenter with general merchandise, grocery and pharmacy sections, while the Bonnie Hame store is a neighborhood market comprised mostly of grocery and pharmacy. The model for each store was tailored to the type of store based on several factors, including distinct market areas, competitive retailers and consumer retail spending potential. The components and results of the models are described in the following sections.

Market Area Definitions

The effects of a new store on existing stores in the area depend to a large extent on the market area of the new store and the existing retailers found within or near that market area. The market area for a store is defined as a geographic area from which the store draws most (generally over 60 percent) of its customers. Information on the expected market area of the two proposed stores in Kenosha was requested from Walmart. Walmart did not provide market information, so market areas were developed using ESRI Business Analyst[4] and Census data[5], and by assessing the spatial location pattern of existing and planned Walmart stores in the Kenosha region and other similar regions.

Tirabassi Supercenter

Four existing Walmart Supercenters within approximately 15 miles of the Tirabassi site were mapped and analyzed to determine the estimated market areas of Walmart Supercenters in southeast Wisconsin and northeast Illinois. These stores are included in **Figure 1** and **Table 4** on the following pages.

The market area of the Tirabassi store was developed by analyzing:

- Average drive-time areas, based on proximity to nearest Walmart Supercenter;
- Thiessen polygons[6] for these four Walmart Supercenters, which are a unique set of polygons drawn around each store such that any location within a polygon is closer to its associated store than to the store of any other polygon.
- Population, density, and population per square foot of Walmart space within drive-time areas and Thiessen polygons.

[4] ESRI Business Analyst data contains Infogroup data on more than 12 million U.S. businesses—including the business name, location, franchise code, industry classification code, number of employees, and sales volume, and was last updated in January 2010.
[5] ESRI 2011 projections based on 2010 Census data.
[6] Illustration of Thiessen Polygons for a set of points:

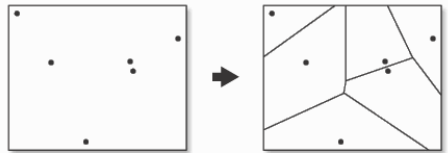


Figure 1. Tirabassi Market Area Development Map: Drive Times and Thiessen Polygons

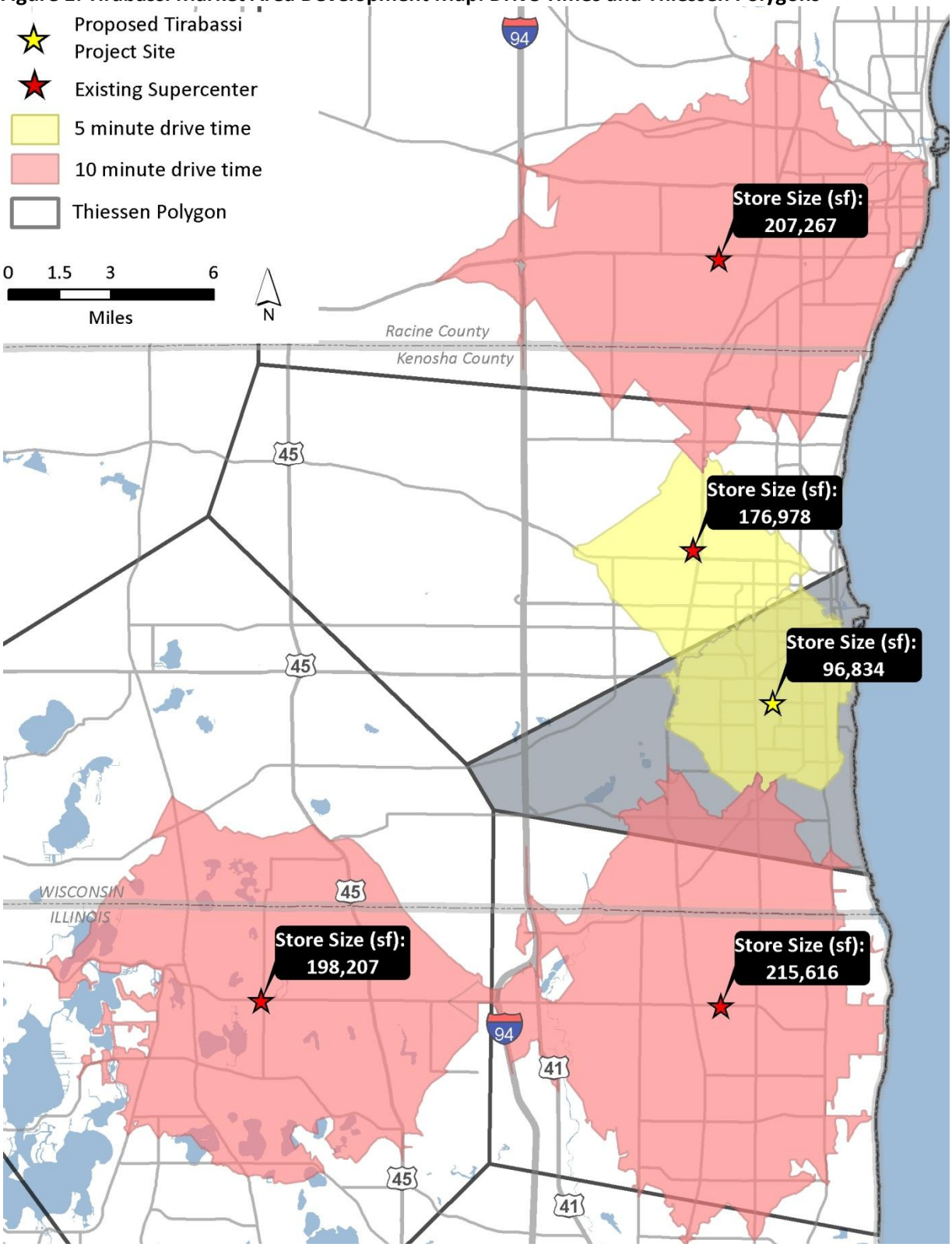


Table 4. Market Area Characteristics of Local Walmart Supercenters

	Tirabassi	Somers	Antioch	Zion	Sturtevant	Average of Existing Stores
Store Size (SF)	96,834	177,000	198,200	215,600	207,300	199,525
Drive-Time Area	5 minute	5 minute	10 minute	10 minute	10 minute	n/a
Thiessen Polygon Population	70,591	54,993	146,633	61,089	148,376	102,773
Thiessen Polygon Population Density	1,221	389	436	515	543	471
Thiessen Polygon Population per SF of Store	0.7	0.3	0.7	0.3	0.7	0.5

Source: InfoUSA, ESRI Business Analyst, *SB Friedman*

Figure 1 illustrates the drive time and Thiessen polygon market areas for the existing Supercenters and the proposed Tirabassi store. The distribution of Supercenters in **Figure 1** suggests that the core market area for a specific store generally corresponds to a 10-minute drive time from the Walmart in more rural, lower density environments, and may extend further in certain directions to include consumers that are closest to that store but are not within a 10-minute-drive time of any other Walmart store. To account for this, the Thiessen polygon-based market areas were used to adjust and refine the drive-time market areas.

Four Thiessen polygons (TPs) were created based on the Euclidean or straight-line distance between the four existing Walmart Supercenters in the Kenosha region, such that a potential customer living along the line between two polygons, is equidistant from the two associated Supercenters, while a customer living within a polygon is closest to the Supercenter within the polygon. This approach essentially carves out the territory of each Walmart Supercenter in the region in terms of distance from customers.

The TPs therefore offer additional insight regarding patronage from customers who live outside the drive-time-based market areas, and were used to refine the market area boundary between the Tirabassi site and the surrounding Walmarts. As shown in **Figure 1**, the addition of the Tirabassi store will likely reduce the market area of the Somers store to a 5-minute drive time to the southeast, because consumers in Kenosha will now be able to patronize a Walmart store that is closer and located within Kenosha. The core Tirabassi store market area is also a five-minute drive time. These smaller market areas in and near the City are consistent with the population and density analysis discussed below.

Population, population density, and population per square foot of Walmart space within the drive-time and Thiessen polygon market areas were compared to confirm the market area analysis. The population per square foot of Supercenter space is used to account for differences in sizes of Supercenters and general population density. As shown in **Table 4** above, the average TP population for existing Supercenters, which are generally double the size of the proposed Tirabassi store, ranges from approximately 55,000 to 150,000, while the population in the smaller Tirabassi TP market/trade area is 70,591. The higher density of the Tirabassi store TP market area – 1,200 people per mile versus 471, on

average, for existing stores – suggests that the smaller market area based on a 5-minute drive time is appropriate. The population per square foot of store space for the Tirabassi market area is within the range observed for existing stores, providing further confirmation of the market area.

The final Tirabassi market area was also adjusted to reflect psychological and travel barriers, including highways and major roads, and the southeast boundary of the 5-minute Somers Walmart market area. **Figure 2** shows the final market area for the proposed Tirabassi store, as well as the drive-time and Thiessen polygon boundaries that were used to construct the market area. This final market area reflects our best estimate of the core customer base for the proposed Tirabassi Supercenter. Customers outside this market area are likely to patronize other Walmart Supercenters.

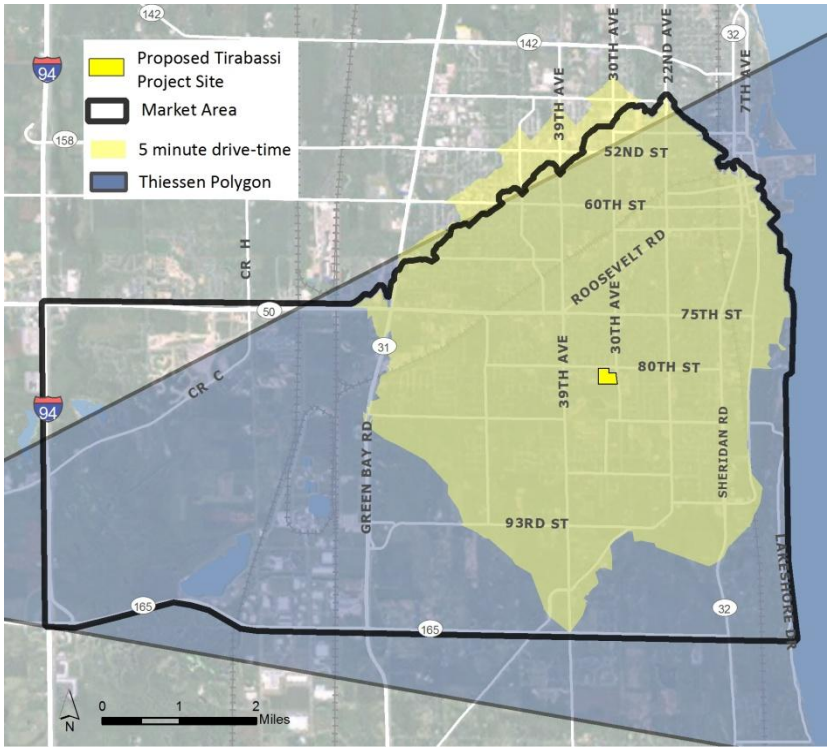


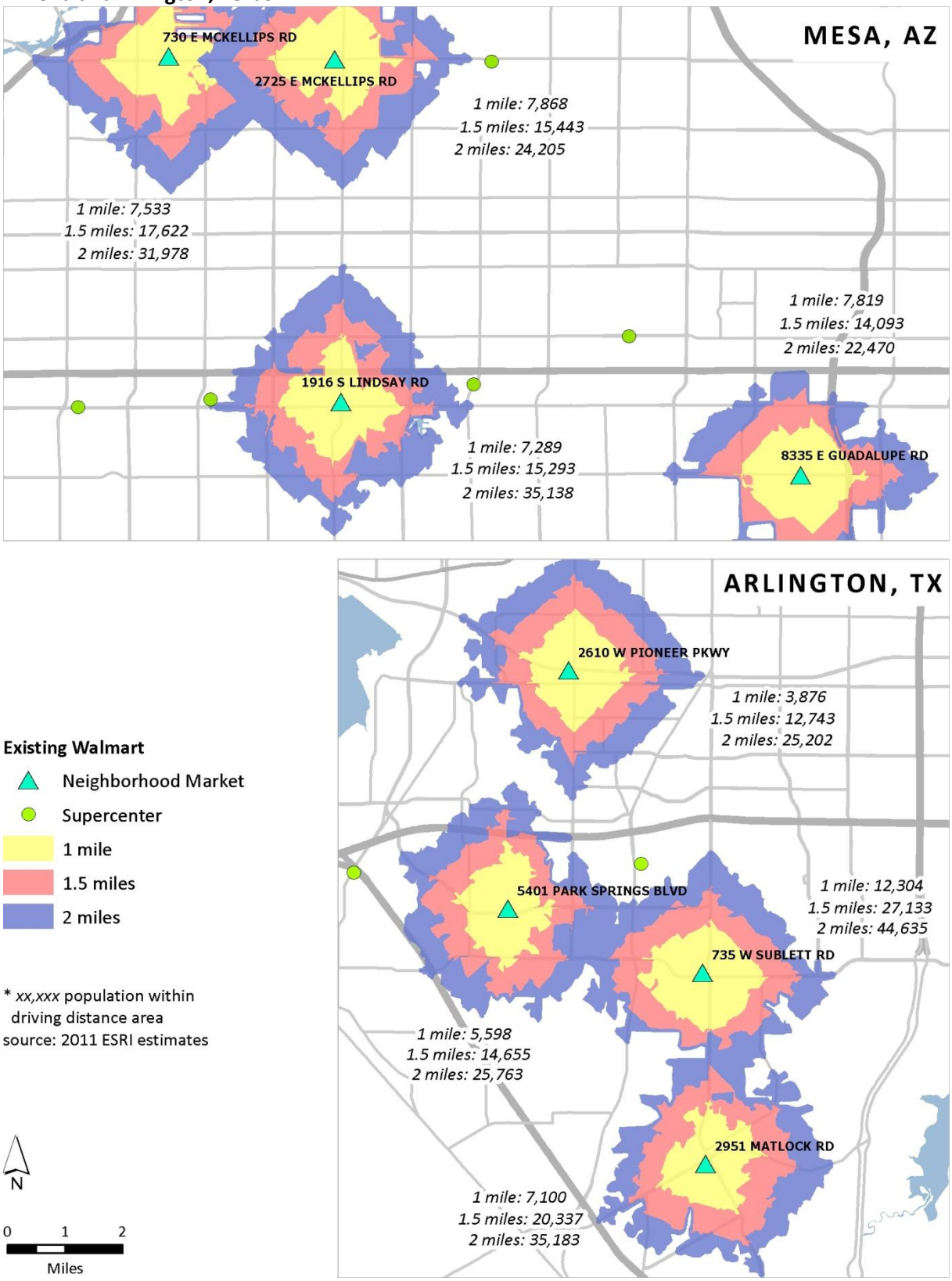
Figure 2. Tirabassi Market Area

Bonnie Hame Neighborhood Market

Neighborhood Markets are unique in that they are a relatively new type of store, are much smaller (42,000 sf, on average) than Walmart's traditional Discount Stores (108,000 sf) and Supercenters (185,000 sf), and tend to operate in the same regions as larger Walmart stores. No Walmart Neighborhood Markets currently exist in Wisconsin from which to draw market area conclusions, so Neighborhood Markets in other areas were used to determine the average market area for this relatively new size of store. Two areas with relatively high concentrations of Neighborhood Markets were analyzed: Mesa, Arizona, a suburb of Phoenix, and Arlington, Texas, a suburb of Dallas. The drive-time analysis is presented in **Figure 3** on the following page.

Based on the typical distance between Neighborhood Market stores in Mesa and Arlington, it appears that the average market area is based on a two-mile drive time. The average population within a two-mile drive time of the comparable stores is 31,000, though population counts range from 22,000 to 45,000. The population within a two-mile drive time of the Bonnie Hame site is 43,967. The Bonnie Hame area in Kenosha is denser than the market areas surrounding the majority of Neighborhood Markets in Mesa and Arlington, and there is a significant amount of grocery competition within close proximity of the Bonnie Hame site, so both a two-mile drive-time market area and a smaller one-and-a-half-mile drive-time market area were tested in the gravity model.

Figure 3. Bonnie Hame Market Area Development Map: Neighborhood Market Drive Times in Mesa, Arizona and Arlington, Texas



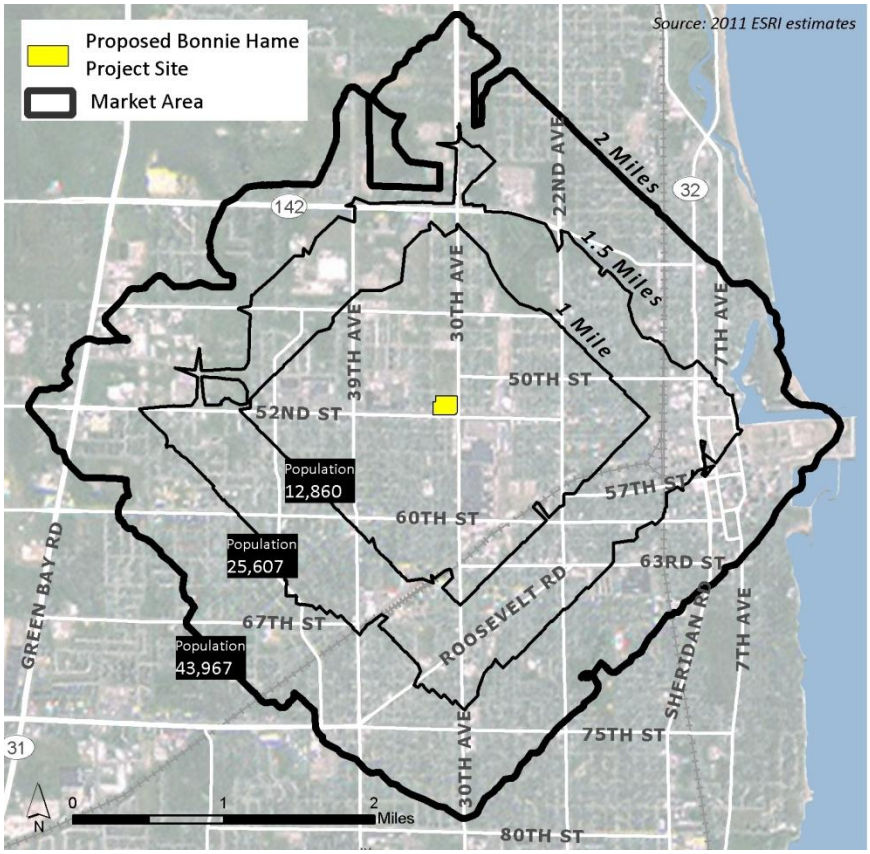


Figure 4. Bonnie Hame Market Area

The larger market area contained more competition and a larger population, while the smaller market area has more limited competition but a lower population. Expected sales and effects on competing stores were similar under both scenarios. To be more inclusive in modeling the proposed store's impacts on existing competitive stores, the more expansive two-mile drive time was selected. The final market area for the Bonnie Hame Neighborhood Market is shown in **Figure 4** to the left.

Consumer Spending Potential

A second component of the gravity model input data is consumer spending potential, which is the estimated amount of money consumers in the market area are likely to spend on types of retail goods offered at Walmart Supercenters or Neighborhood Markets. ESRI 2011 estimates for household and average household income data were collected for U.S. Census block groups that are located substantially within the market area of the two proposed stores. Consumer spending data from the 2010 U.S. Bureau of Labor Statistics (BLS) Consumer Expenditure Survey was then used to estimate the percentage of household income spent on retail sectors likely to be found in Walmart for households of varying income levels. The total consumer retail potential – the estimated expenditures for types of goods that can be found in Walmart stores or similar retail outlets – in the Tirabassi and Bonnie Hame market areas was then calculated, and is shown in **Table 5** below.

Table 5. Annual Consumer Retail Spending Potential in Proposed Walmart Market Areas

Proposed Store	Households	Relevant Retail Sectors	Consumer Retail Spending Potential
Tirabassi Supercenter	26,216	General Merchandise, Grocery, Pharmacy	$244.2 million
Bonnie Hame Neighborhood Market	17,019	Grocery, Pharmacy	$79.2 million

Source: U.S. Census, U.S. Bureau of Labor Statistics, *SB Friedman*

The Tirabassi Supercenter will feature general merchandise (including household textiles, small appliances, apparel, shoes and consumer electronics), grocery and pharmacy components, so the consumer spending for those retail sectors was estimated for the 26,216 households in the market area. The total retail potential in general merchandise, grocery and pharmacy for the Tirabassi market area is $244.2 million.

Walmart Neighborhood Markets primarily offer grocery and pharmacy products, with limited general merchandise items, so only grocery and pharmacy retail potential were considered for the Bonnie Hame site. The total retail potential for the 17,019 households in the Bonnie Hame market area is $79.2 million.

Competitive Supply

The retail market in Kenosha was analyzed to identify retailers likely to be competitive with Walmart's proposed stores. In the context of gravity modeling, competitive retailers are those which offer similar types of retail goods. For example, consumers choose from among the competitive set of grocery retailers (and other store types such as Supercenters that include groceries) when spending their grocery dollars, and choose from a competitive set of general merchandise retailers when spending their general merchandise dollars. Based on the retail sectors identified in the consumer spending potential analysis, InfoUSA data, and field reconnaissance, competitive retailers within and adjacent to the Tirabassi and Bonnie Hame market areas were compiled and mapped. Initial lists of competitive stores were shared with the City and refined based on City feedback.

Sales for existing stores were estimated using InfoUSA data to form a baseline level of sales in the gravity model. Sales were verified and adjusted by average store sales volumes reported in recent U.S. Security and Exchange Commission (SEC) filings and annual reports for publically-traded companies, and adjusted based on industry sources including the Dollars & Cents of Shopping Centers from International Council of Shopping Centers for privately-owned companies.

The competitive supply for the Tirabassi Supercenter is displayed in **Figure 5** on the following page. The total estimated 2010 sales for 74 competitive stores is $446 million, with individual stores ranging in sales from $224,000 to over $80 million. The fact that consumer spending potential of $244.2 million for general merchandise, grocery and pharmacy is less than 55% of the total estimated sales occurring within this market area in these store categories, suggests that this is a highly competitive environment that draws consumers from outside the market area. Many of the competitive stores are located just outside the Tirabassi market area along Highway 50, Green Bay Road and 52nd Street. This is because no market area is self-contained. While the majority of Tirabassi customers are likely to come from within the market area, potential customers who live in the market area, especially those who live nearer to the borders, are likely to also patronize competitive stores outside the market area, just as consumers outside the market area may patronize competitive stores within the market area. For example, a customer needing apparel may visit the K-Mart located just north of the market area, the Tirabassi Walmart, or any other stores in the area offering apparel. Therefore, all these stores are competing for the individual's spending potential.

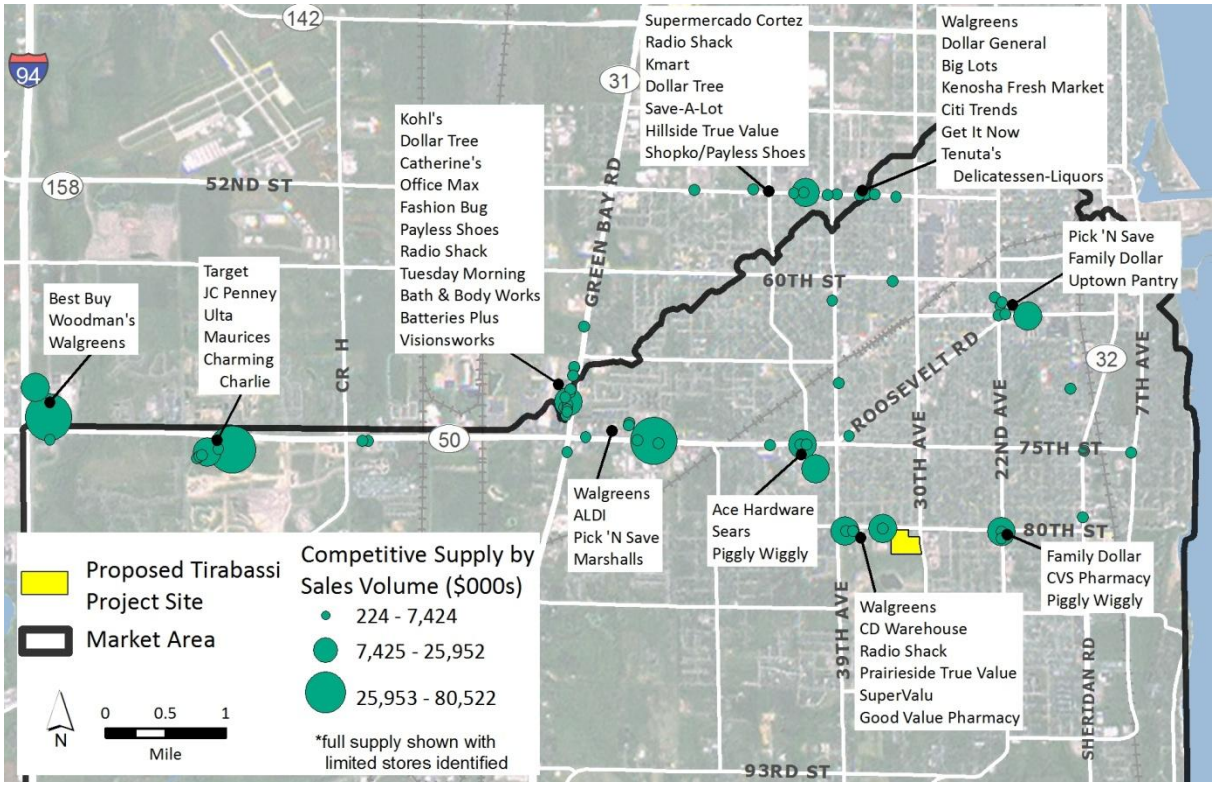


Figure 5. Tirabassi Competitive Supply

The Bonnie Hame competitive supply is shown in **Figure 6** to the right. The competitive set for this store includes 14 stores in the grocery and pharmacy sectors, with 2009 sales totaling approximately $199 million. Competitive stores have sales ranging from $224,000 to $48.5 million. Because the Bonnie Hame site competes only in the grocery and pharmacy sectors, the sales volume for the Somers Walmart Supercenter reflects only the estimated grocery and pharmacy sales of that store.

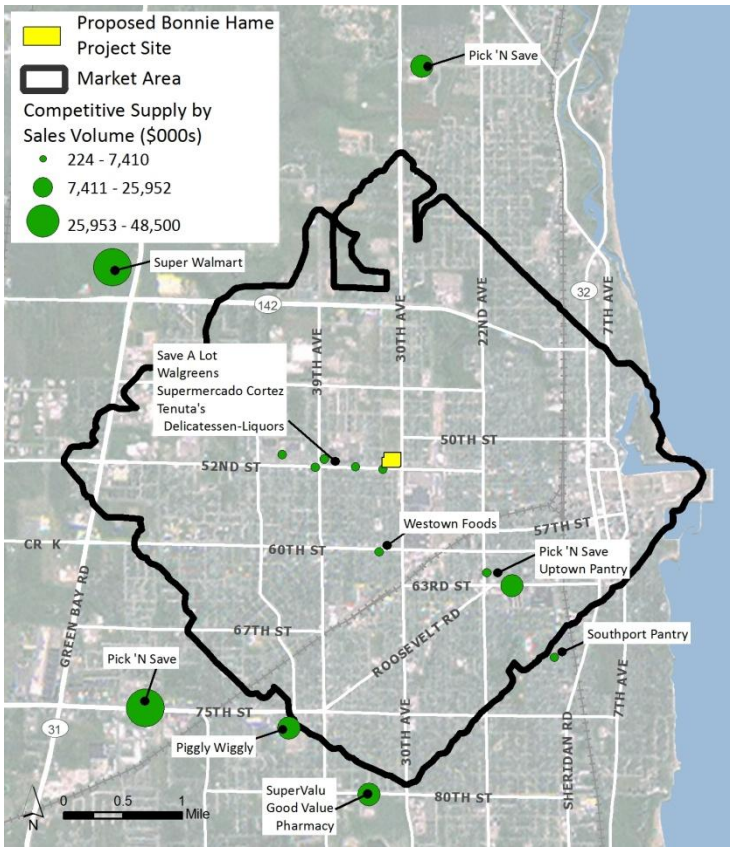


Figure 6 Bonnie Hame Competitive Supply

Estimated Sales of Proposed Walmart Stores

Gravity modeling requires a sales estimate or target for each store. Sales projections for the proposed Walmart stores were not provided by Walmart, so sales volumes were estimated using information from Walmart's corporate SEC filings and annual reports, and from InfoUSA sales data for existing Walmart stores. Average sales volumes are used because retailers are unlikely to open a new store unless at least average sales levels can be achieved.

Total sales for the Tirabassi store were estimated at $42.7 million, based on the average sales per square foot of Walmart stores nationally for fiscal year 2011, and adjusted for the amount of grocery space at the Tirabassi store. Retail space dedicated to grocery tends to produce higher sales per square foot than general merchandise space, and approximately 30 percent of the Tirabassi store will be dedicated to grocery sales. Estimated sales for the two stores based on the average performance levels of U.S. Walmart stores are shown in **Table 6** below.

Table 6. Estimated Sales Volumes of Proposed Stores, based on Average Walmart Sales

Proposed Store	Estimated Sales Volume	Estimated Sales per Square Foot
Tirabassi Supercenter	$42,723,000	$441
Bonnie Hame Neighborhood Market	$23,584,000	$547

Source: Walmart, InfoUSA, *SB Friedman*

Sales for the Bonnie Hame store were estimated using InfoUSA sales data for existing Walmart Neighborhood Markets of 40,000 square feet or larger, because Walmart's corporate sales information is not disaggregated by store type. Additionally, the reported sales figures are dominated by Supercenters and Discount Stores, which are much larger and offer significantly more general merchandise and other retail goods. Total sales for the Bonnie Hame store are estimated to be $23.6 million, or $547 per square foot. The higher sales per square foot reflect the grocery focus of the store.

Using these sales estimates, each gravity model was tested and calibrated. Sales for each proposed store were then re-projected using the relevant model, to account for local competition and consumer spending potential.

The results of the Tirabassi store gravity model (or "Huff Model") are presented in **Figure 7** on the following page. The probabilities indicate the percentage of sales in the chosen retail sectors (grocery, general merchandise and pharmacy) that are likely to be spent at the Tirabassi store for each Census block group. As would be expected, areas with higher competition that are farther from the Tirabassi site will spend relatively less at the Walmart, while consumers living closer to the store or in areas with less competition will spend relatively more. Based on the gravity model results, the Tirabassi store is projected to significantly outperform average Walmart sales, with estimated sales of $52 million, based on the gravity model. These results are presented in **Table 7** on the following page.

The results of the Bonnie Hame gravity model are presented in **Figure 8** on the following page. Here, the probability shown represents the percentage of consumer spending in the grocery and pharmacy retail sectors from each Census block group that is expected to be spent at the Bonnie Hame Neighborhood

Market after accounting for existing competition. The Bonnie Hame store is projected to underperform similarly sized Neighborhood Market stores, with projected sales of $17 million, likely due to its proximity to the Somers Walmart Supercenter and a variety of competing grocery stores. The gravity model results are presented in **Table 7** below.

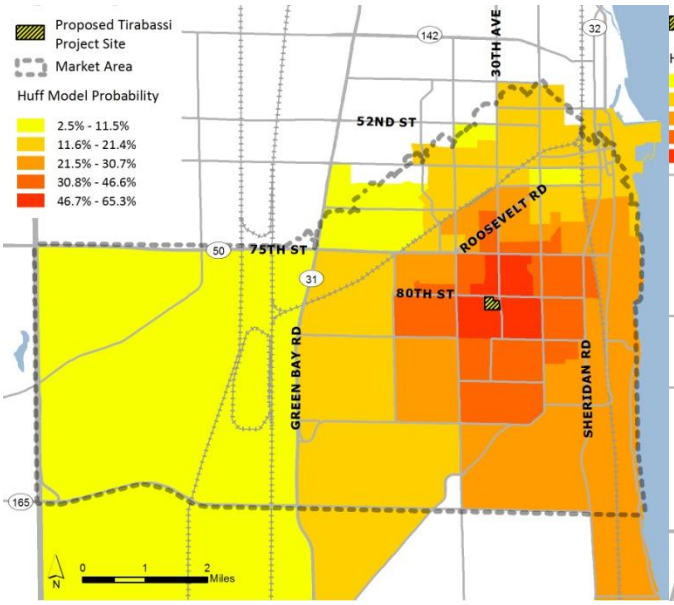


Figure 7. Results of Tirabassi Gravity Model

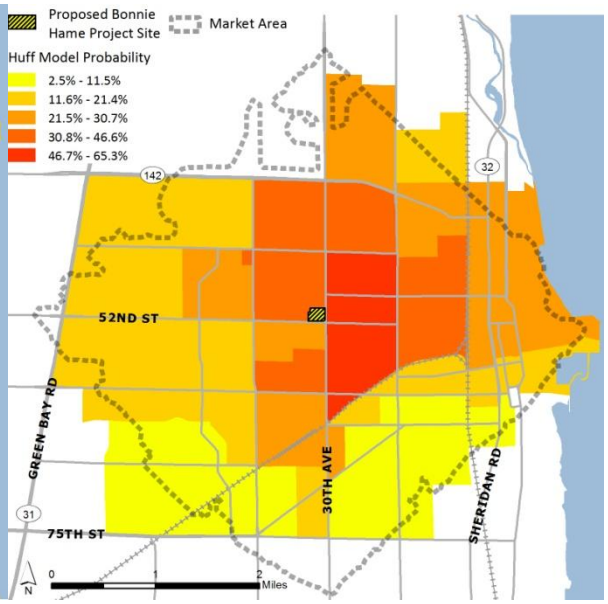


Figure 8. Results of Bonnie Hame Gravity Model

Table 7. Estimated Sales Volumes of Proposed Stores, based on Gravity Model

Proposed Store	Estimated Sales Volume	Estimated Sales per Square Foot
Tirabassi Supercenter	$52,000,000	$537
Bonnie Hame Neighborhood Market	$17,000,000	$395

Source: ESRI Business Analyst, *SB Friedman*

GRAVITY MODELING: SALES IMPACT RESULTS

The gravity models for the Tirabassi and Bonnie Hame stores were used to project the impact of each store on selected existing grocery and general merchandise stores, thus accounting for local consumer retail spending potential, other retail competition, and the sales of the Walmart stores. Selected stores include grocery stores and one general merchandise retailer in or near the market areas for the proposed stores. For each existing store, a first run of the gravity model was used to estimate baseline sales within the relevant market area, with no new Walmart store. A second run included the relevant proposed Walmart store as competition, and resulted in a sales estimate for the store once Walmart entered the market. The difference in sales between the two models represents the estimated impact of the proposed Walmart store on sales at the selected existing store.

The impacts on sales of local stores under three scenarios were analyzed:

1. Tirabassi Supercenter only
2. Bonnie Hame Neighborhood Market only
3. Both Tirabassi and Bonnie Hame stores

The sales impacts for each of these scenarios are presented in **Tables 8, 9 and 10** on this and the following pages. The estimated impacts are only for those stores listed, and do not account for impacts to other existing retailers.

The Tirabassi Supercenter alone is projected to result in a $15.5 million loss of sales for seven grocery stores and one general merchandise store in Kenosha, representing an 11 percent decline in overall sales for this group of retailers. Individual impacts range from 3 percent to 18 percent of sales, depending on distance to the Tirabassi site, distance to consumers within the market area, and current sales performance.

Table 8. Sales Impacts from Tirabassi Supercenter

Selected Existing Grocery and General Merchandise Stores	Drive Distance from Tirabassi Store (miles)	Estimated Average Annual Sales Volume [1]	Impact of Tirabassi Walmart	
			Reduction in Sales	% Reduction from Estimated Sales
SuperValu	0.1	$26,000,000	$4,700,000	18%
Piggly Wiggly 80th	0.6	$8,000,000	$1,400,000	18%
Pick n Save 63rd	1.8	$21,900,000	$2,700,000	12%
Piggly Wiggly Pershing/76th	1.0	$16,100,000	$1,900,000	12%
Sears	0.9	$13,500,000	$1,200,000	9%
Pick n Save 75th	1.9	$38,900,000	$3,100,000	8%
Kenosha Fresh Market	2.4	$7,400,000	$400,000	5%
Save A Lot	2.8	$3,500,000	$100,000	3%
Total / Average	**1.4**	**$135,300,000**	**$15,500,000**	**11%**

Source: ESRI Business Analyst, *SB Friedman*

[1] Estimated based on SEC Filings for publically traded companies, InfoUSA data and ICSC benchmarks for similar store categories.

As show on **Table 9** on the following page, sales impacts from the Bonnie Hame Neighborhood Market on eight local grocers are projected to total $9.5 million, representing a 6 percent overall decline in annual sales at these stores. Individual impacts are projected to range from 3 percent to 20 percent.

Table 9. Sales Impacts from Bonnie Hame Neighborhood Market

Selected Existing Grocery Stores	Drive Distance from Bonnie Hame Store (miles)	Estimated Average Annual Sales Volume [1]	Impact of Bonnie Hame Walmart	
			Reduction in Sales	% Reduction from Estimated Sales
Kenosha Fresh Market	0.3	$7,400,000	$1,500,000	20%
Pick n Save 63rd	1.4	$21,900,000	$3,000,000	14%
Save A Lot	0.7	$3,500,000	$400,000	11%
Piggly Wiggly Pershing/ 76th	2.0	$16,100,000	$1,000,000	6%
Pick n Save 75th	2.9	$38,900,000	$1,500,000	4%
SuperValu	2.1	$26,000,000	$1,000,000	4%
Pick n Save 18th	2.6	$24,700,000	$900,000	4%
Piggly Wiggly 80th	2.5	$8,000,000	$200,000	3%
Total / Average	**1.8**	**$146,500,000**	**$9,500,000**	**6%**

Source: ESRI Business Analyst, *SB Friedman*

[1] Estimated based on SEC Filings for publically traded companies, InfoUSA data and ICSC benchmarks for similar store categories.

To calculate the combined impact of the two proposed stores on local retailers, the Tirabassi and Bonnie Hame gravity model inputs – market areas, consumer retail potential and competitive supply – were combined, with both proposed Walmarts added as new competition. Because the Bonnie Hame store is treated as a grocery store in this analysis, and thus would not have any effects on general merchandise or other stores, only combined impacts on local grocery stores were measured. The impacts presented in **Table 10** for Sears are thus from the Tirabassi store alone. The impact for the Pick n Save on 18th Street is for the Bonnie Hame store alone because the Pick n Save is on the north side of Kenosha and insulated from the Tirabassi store. The combined impact for other existing stores is not additive due to the interaction between the two proposed stores and the respective market areas of each existing store. Some level of cannibalization or sales interaction between the Walmart stores is expected, so the impact to an existing retailer with both stores in the market is not equal to the sum of impacts from each store when calculated separately.

Together, the two proposed Walmart stores are expected to reduce the sales of local grocery stores by $23.8 million, or 15 percent of the current estimated sales volume. Individual impacts range from 4 percent to 23 percent, with five stores expected to lose more than 15 percent of sales. The threshold level of sales decline at which a store is likely to close is unknown; it is possible that some stores could adapt to significant sales declines by adjusting advertising, pricing, square footage or employment levels. These potential operating modifications are not analyzed here.

Table 10. Sales Impacts from Both Proposed Walmart Stores on Existing Stores

Selected Existing Grocery Stores	Reduction in Sales	% Reduction from Estimated Sales
Kenosha Fresh Market	$1,700,000	23%
Pick n Save 63rd	$5,000,000	23%
SuperValu	$5,600,000	22%
Piggly Wiggly 80th	$1,700,000	21%
Piggly Wiggly Pershing/76th	$2,700,000	17%
Save A Lot	$500,000	14%
Pick n Save 75th	$4,500,000	12%
Sears	$1,200,000	9%
Pick n Save 18th	$900,000	4%
Total / Average	**$23,800,000**	**15%**

Source: ESRI Business Analyst, *SB Friedman*

INTERVIEWS WITH LOCAL STORE MANAGERS

SB Friedman sought to interview the owners or managers of stores considered in the sales impact analysis, in addition to pharmacy and hardware retailers located within the market areas of the proposed stores, to determine whether the retailers expect the proposed Walmart stores to have neutral, positive or negative impacts on sales volume. Interviews with eight of the fourteen stores were conducted; summary information on the stores and interviews is presented in **Table 11** on the next page. Because some store managers and owners provided sensitive information and requested confidentiality, identifying information for interviewees is not presented in this report.

Six of the eight interviewees (75 percent) believe that a new Walmart will represent new competition to their stores, and seven of the eight (88 percent) expect the development of a local Walmart to have a negative impact on store sales volume. Expected impacts ranged from fairly low (5 to 10 percent), and within the range of gravity model estimates, to significantly higher than gravity model impacts, with three stores expecting sales declines of 25 to 30 percent or higher. At least three of the store owners or managers are familiar with the impact of a Walmart entering the market area for stores of their brand, and these interviewees based their expected impact on actual effects of a new Walmart opening near other similar stores. Most interviewees reported that recent sales volumes at their stores have been stable or increasing, and many reported that since they have a very local market, they would be impacted by a new Walmart store in the area.

Table 11. Summary Information on Competitive Store Interviews

Store	Primary Competitive Store	Viewed as Competition	Expected Impact on Sales	Effects if Decline in Sales Occurs
1	Bonnie Hame	Yes	-25%	Increased advertising Decreased hours for employees, with layoffs if necessary
2	Bonnie Hame	No, but impacts likely	-8 to -10%	Sales decline unlike to affect operations
3	Both	Not really	-5%	5 percent decline unlikely to affect operations
4	Tirabassi	Yes	-25% , based on impact to similar store	Decreased hours for employees
5	Tirabassi	Yes, in certain areas	-10% ("double digit" negative impact)	Increased advertising or partnerships with local stores to increase traffic
6	Tirabassi	Yes	no effect	Any decline in sales would be directly correlated with a reduction in employees
7	Tirabassi	Yes, in certain areas	-12 to -15%, based on impact to similar store	Would change strategy
8	Tirabassi	Yes	-30% or greater, based on impact to similar store	Employees would be cut in equal proportion to decline in sales More full-time employees would drop to part-time status Would need to renegotiate lease for smaller space

Source: Interviews with Kenosha Retailers, *SB Friedman*

Five of the eight interviewees (63 percent) expected employment to decline as an effect of a decline in sales. Some employers stated they would try to avoid layoffs by reducing employees' hours rather than cutting positions. A reduction in hours could move employees from full-time to part-time status, resulting in a loss of health and other benefits, and lost wages, and/or force employees to search for additional employment. Other interviewees mentioned changing their business strategy to adapt to the new competition presented by Walmart, and the majority (75 percent) expected to change operations in some way to offset the expected decline in sales.

Indirect Impacts on Employment and Wages

Studies examining the effects of Walmart on employment dynamics, conducted on a national level, generally find that retail wages decline by 0.5 percent to 2.2 percent with the entry of Walmart, while employment estimates range from a loss of 150 jobs to a gain of 97 jobs. However, studies conducted on a local level for specific market areas find less clear impacts, with some studies finding wage increases of up to 3.5 percent and employment gains of up to 50 jobs. Additional information is presented in the literature review summary in the **Appendix**.

Local Kenosha retailers interviewed for this analysis suggested that the proposed Walmart stores would be unlikely to result in any net change in employment in the City. Any new jobs produced at the

Walmart stores are expected to be offset by a corresponding decline in employment at existing retailers. Local retailers reported that employees at their stores would likely have hours cut, be moved from full-time to part-time status, and/or face layoffs, depending on the reduction in sales the store faced due to the new Walmart store(s). Retailers were also concerned that existing businesses in close proximity to the proposed Walmart stores would be forced to close, and thus lay off all employees.

Impacts on Consumer Prices

Walmart is known for its low prices on consumer goods and groceries, and studies back up this notion – one study found that prices for egg and dairy products are from 5 to 25 percent lower at Walmart and other non-traditional grocery retailers than at traditional supermarkets (Leibtag, 2006). The literature also examines whether the lower prices offered at Walmart have an indirect effect on the prices of consumer goods at other retailers, and finds that Walmart's entry into a market does reduce overall consumer prices. The price reductions for general merchandise and other non-food items range from 1.5 to 3 percent in the short-term to 7 to 13 percent over the long term (IHS Global Insight, 2005; Hausman and Leibtag, 2005; Basker, 2005). Grocery prices at competing retailers are found to decrease by 3 to 9 percent. The reduction in consumer prices is likely to benefit local consumers in that they will have greater purchasing power. However, a reduction in sales volume at existing retailers could impact those retailers' bottom line, potentially reducing the number of retail choices in the market.

Conclusion

This Economic Impact Assessment has considered the direct and indirect impacts of two proposed stores in Kenosha: the Tirabassi Supercenter and the Bonnie Hame Neighborhood Market. The projected impacts of the two stores are summarized below.

Direct Impacts

Direct impacts are impacts that occur on the development site as a direct result of the development, and include property value and tax impacts, and job creation. The expected property value and property tax revenue impacts and the number and quality of jobs expected to result from each of the proposed stores are summarized as follows.

PROPERTY VALUE AND PROPERTY TAXES

- The Tirabassi Supercenter is projected to have a stabilized assessed value of $8.524 million, a net increase of $8.518 million from its current value. At the current tax rate, approximately $220,000 in annual property taxes would be produced at stabilization, an increase of $218,000 from the current use. Approximately 39 percent of total property taxes collected go to the City, so the City of Kenosha would see an increase of $85,000 in revenue with the current tax rate.

- The Bonnie Hame Neighborhood Market is expected to have an assessed value of approximately $5.257 million at stabilization, an increase of $4.257 million from the current value. Annual property tax revenue from the Bonnie Hame site is expected to increase by $109,000 at stabilization, growing to $135,000. This would increase City of Kenosha property tax collections for the site by approximately $43,000 annually.

- Together, the two proposed Walmart stores are projected to increase the property tax base by $12.776 million in assessed value. At the current tax rate, this value would produce a net increase in property taxes of $328,000 annually, $128,000 of which would go to the City.

JOB CREATION AND WAGES

- The Tirabassi store is expected to produce 220 new jobs, 38 of which (17 percent) will be supervisory roles. The Bonnie Hame store is projected to create 85 jobs, 10 of which (12 percent) will be supervisory.

- An estimated 60 percent of positions at the proposed stores will be full-time and 40 percent part-time. This proportion of full-time to part-time employees fits within the range for existing local retailers. For the retailers interviewed, between 22 and 70 percent of employees are full-time.

- Depending on the types of positions offered, it appears that Walmart's average full-time wage of $12.14 per hour is in the range of typical wages for supermarkets in Kenosha County, but significantly lower than wages for supercenters:

- According to Bureau of Labor Statistics (BLS) data, Walmart's average wage is approximately 4 percent higher than the average Kenosha County wage ($11.70) for supermarket and other grocery employees. However, at least two local supermarkets appear to offer higher hourly wages for full-time employees, so full-time grocery employees in the City may receive higher than average wages.
- Walmart's average hourly wage is approximately 19 percent lower than the estimated average wage ($14.50) for full-time supercenter or warehouse club employees, per recent BLS data.

Indirect Impacts

In addition to direct impacts occurring at the site, the development of the two new Walmart stores in Kenosha may have indirect spillover impacts on the sales and viability of existing retailers, local retail wages and employment, consumer prices and property values. These impacts are summarized below.

IMPACT ON SALES OF LOCAL STORES

In order to assess the effects of the proposed Walmart stores on existing local retailers that sell similar goods as Walmart, a quantitative gravity modeling analysis was conducted. Gravity modeling analysis synthesizes the competitive supply of retail in a market area with consumer demographics and retail spending potential to determine the estimated sales of new stores. The projected sales potential of the new stores can then be used to determine changes in market share and estimate the sales impacts on existing stores. The results of the impact analysis on the annual sales of a sample of local stores (selected based on discussions with City staff) are shown and discussed below.

Projected Sales Impacts on Selected Existing Stores [1]

	Estimated Sales Reductions Due to Opening of:			Percent Sales Reductions Due to Opening of:		
Existing Local Store	**Tirabassi Only**	**Bonnie Hame Only**	**Both Walmarts**	**Tirabassi Only**	**Bonnie Hame Only**	**Both Walmarts**
Kenosha Fresh Market	$400,000	$1,500,000	$1,700,000	5%	20%	23%
Pick n Save 63rd	$2,700,000	$3,000,000	$5,000,000	12%	14%	23%
SuperValu	$4,700,000	$1,000,000	$5,600,000	18%	4%	22%
Piggly Wiggly 80th	$1,400,000	$200,000	$1,700,000	18%	3%	21%
Piggly Wiggly Pershing/76th	$1,900,000	$1,000,000	$2,700,000	12%	6%	17%
Save A Lot	$100,000	$400,000	$500,000	3%	11%	14%
Pick n Save 75th	$3,100,000	$1,500,000	$4,500,000	8%	4%	12%
Sears	$1,200,000	NC	$1,200,000	9%	NC	9%
Pick n Save 18th	NC [2]	$900,000	$900,000	NC	4%	4%
Total/ Weighted Average	**$15,500,000**	**$9,500,000**	**$23,800,000**	**11%**	**6%**	**15%**

[1] Impacts of both stores within combined Tirabassi and Bonnie Hame market areas.

[2] NC = Not Competitive, and therefore unlikely to experience significant sales impacts.

- The gravity modeling analysis shows that the introduction of the proposed Walmart stores will have substantial impacts on sales of existing stores. Impacts were projected for eight local grocery stores and one general merchandise retailer. The impacts vary based on distance from the proposed store(s) and current sales performance, and are summarized as follows.

  - The Tirabassi store alone is projected to reduce annual sales of the selected existing retailers by $15.5 million, or 11 percent. Individual store impacts resulting from the Tirabassi Supercenter range from 3 percent to 18 percent of sales.
  - The Bonnie Hame store is projected to reduce sales of eight local grocery stores by $9.5 million, or 6 percent of current estimated sales volume. Individual sales impacts on stores range from 3 percent to 20 percent of sales.
  - Together, the two proposed Walmart stores are expected to reduce the sales of local grocery stores by $23.8 million, or 15 percent of the current estimated sales volume. Impacts range from 4 percent to 23 percent, with five stores expected to lose more than 15 percent of sales.

- Interviews with local retailers suggest that the majority of stores that are likely to compete with Walmart believe they will be negatively impacted by the proposed stores (88 percent of store owners or managers interviewed believe impacts will be negative). The majority of interviewees indicated expected sales reductions ranging from 10 percent to 30 percent and only one interviewee indicated that they expected no impact from the proposed Walmart stores. Overall, the interview responses were generally consistent with the gravity modeling analysis.

IMPACT ON LOCAL EMPLOYMENT AND WAGES

- Existing literature on the impacts of Walmart stores on area employment and wages are mixed, with some studies finding that retail wages decline by up to 2.2 percent, while others finding wage increases of up to 3.5 percent. Studies also find disparate impacts on overall retail employment, ranging from an average loss of 150 jobs to a net gain of 50 jobs.

- Local retailers interviewed believed that the introduction of the Walmart store(s) would likely have no net effect on area employment. Local retailers reported that employees at their stores would likely have hours cut, be moved from full-time to part-time status, and/or face layoffs, depending on the reduction in sales the store faced due to the new Walmart store(s), so new positions created would be partially offset by declining jobs at other stores.

IMPACT ON CONSUMER RETAIL PRICES

- Literature on the impacts of Walmart on local retail prices generally finds that Walmart's entry into a market does reduce overall consumer retail prices. These impacts range from 1.5 percent to 13 percent for general merchandise, and from 3 to 9 percent for grocery items.

- A reduction in consumer retail prices would benefit local consumers initially, but existing stores could be forced to close due to declines in revenue, leaving consumers with fewer retail options.

Appendix

1. Matrix Summarizing Walmart Impact Studies
2. References
3. Explanation of Gravity Modeling
4. Limitations of Our Engagement

Matrix Summarizing Walmart Impact Studies

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Explanation of Gravity Modeling

In a retail context, Gravity Modeling is based on the premise that the probability that a given consumer will shop in a particular store is directly proportional to the store's relative attractiveness (measured through variables such as sales volume, number of products in inventory, square footage of sales floor) and inversely proportional to the accessibility of the store from the consumer's residence (measured using variables such as distance, drive time, cost). Mathematically, the probability that a consumer located at *i* selects store *j* from all store choices *n* is expressed as follows:

$$P_{ij} = A^{\alpha}_{j} D^{\beta}_{ij} / \sum_{k \varepsilon N_i} A^{\alpha}_{k} D^{\beta}_{ik}$$

Where, A*j* is the attractiveness variable of store *j*;
D*ij* = the travel time or distance from *i* to *j*; and
α (usually positive between 1 and 3) and β (usually negative between 1 and 3)are parameters that are estimated based on actual survey data or other techniques.

A consumer survey-based approach to parameter estimation was not within the scope of this analysis, so, for the purposes of this EIS, the α and β parameters were estimated based on *SB Friedman*'s analysis and review of similar stores in other urban markets where more detailed data, such as actual store sales, was available. Various modeling analyses were performed to estimate parameters that would yield the actual store sales in those markets. Parameters estimated through this approach were applied to estimate the probabilities for this EIS.

Once the parameters have been determined, the gravity model can be used to estimate the total store purchases by consumers from a given geographic area that are expected to be obtained by store *j* within the study area. That is,

$$E_{ij} = (P_{ij})(B_i)$$

Where E_{ij} = the expected purchases that will be made from geographic area *i* to store *j*; and
B_i = the total consumer expenditures available in *i*.

The total sales of each store in the study area can then be determined by summing the expected expenditures from each geographic area for all stores. That is,

$$T_j = \sum_{i=1}^{m} E_{ij}$$

Where T_j = the total expected sales of store *j*.

The market share of a store within the study area is that store's total expected sales divided by the total sales of all stores. That is,

$$M_j = T_j / \sum_{j=1}^{m} T_j$$

Where M_j = the market share of store *j*.

Limitations of Our Engagement

Our report is based on estimates, assumptions and other information developed from research of the market, knowledge of the industry and meetings during which we obtained certain information. The sources of information and bases of the estimates and assumptions are stated in the report. Some assumptions inevitably will not materialize, and unanticipated events and circumstances may occur; therefore, actual results achieved during the period covered by our analysis will necessarily vary from those described in our report, and the variations may be material.

The terms of this engagement are such that we have no obligation to revise the report or to reflect events or conditions which occur subsequent to the date of the report. These events or conditions include, without limitation, economic growth trends, governmental actions, additional competitive developments, interest rates and other market factors. However, we are available to discuss the necessity for revision in view of changes in the economic or market factors affecting the proposed project.

Our study did not ascertain the legal and regulatory requirements applicable to this project, including zoning, other state and local government regulations, permits and licenses. No effort was made to determine the possible effect on this project of present or future federal, state or local legislation, including any environmental or ecological matters.

Furthermore, we neither evaluated management's effectiveness, nor are we responsible for future marketing efforts and other management actions upon which actual results will depend.

Our report is intended solely for your information, and should not be relied upon by any other person, firm or corporation, or for any other purposes.

We acknowledge that our report may become a public document within the meaning of the Freedom of Information Acts of the various governmental entities. Nothing in these terms and conditions is intended to block the appropriate dissemination of the document for public information purposes.