



Evaluating Retail & Service Business Opportunities

This section provides techniques for estimating market demand and supply for selected retail and service business categories. It examines business opportunities in terms of number of businesses the market could bear, total sales, and square feet of occupied business space. Other more qualitative and equally important market considerations are also discussed in this section. Specific tools to measure demand and supply, ranging from simple to complex, are presented.

[Analyzing Demand & Supply-Overview](#)

[Step 1: Assess Demand](#)

[Step 2: Inventory Supply](#)

[Step 3: Draw Realistic Conclusions](#)

[Tool 1—Business Mix Analysis \(a Population Threshold Method\)](#)

[Tool 2—Gap Analysis Calculator \(A Surplus-Leakage Method\)](#)

[Tool 3—Pull Factors \(A Surplus-Leakage Method\)](#)

[Tool 4—Trade Region Gap Analysis \(An Advanced Surplus-Leakage Method\)](#)

[Appendix—Using GIS to Visualize Demand and Supply](#)

Related Content



PDF Version

Descriptions of retail and service business categories

Retail Hierarchy discussion

[Industry Links](#)

Retail and Service Business Mix Analysis of Wisconsin's Downtowns

Trade Area Gap Analysis Calculator

[Innovative Downtown Businesses Clearinghouse](#)

Analyzing Demand & Supply-Overview

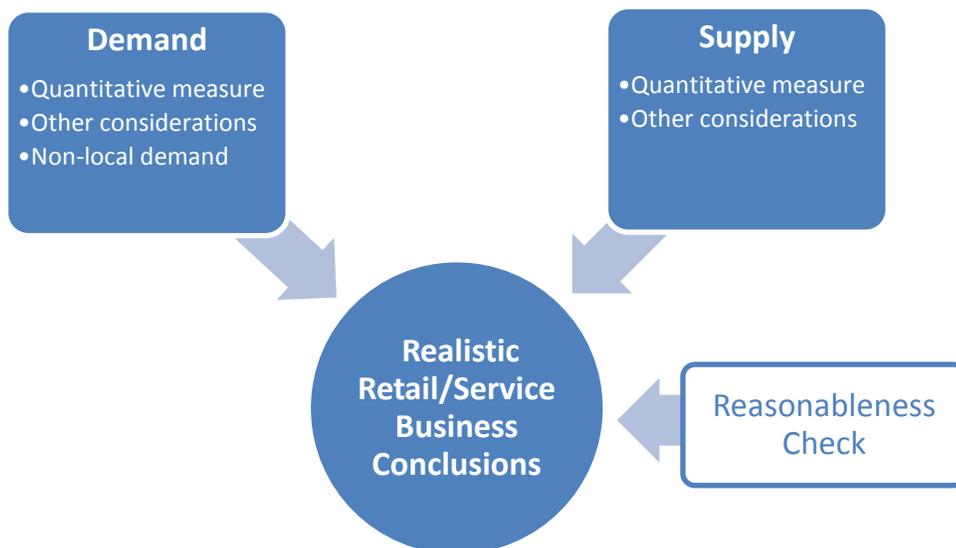
Once you have assembled sufficient background information on the trade area and characteristics of the market, you're ready to focus on a detailed analysis of business opportunities by specific category. You have learned it is imperative to fill vacancies with viable businesses and to give residents access to necessary retail goods and services. You want to support your work with data and solid analysis to help ensure the success of these businesses.

In this section we focus on those retail and service businesses that commonly have a storefronts in downtown and business districts. This includes traditional retail stores such as pharmacies and groceries, but also services such as auto repair and hair salons. The analysis of retail and service business opportunities involves both quantitative examination and qualitative insight following a three-step process:

- Assess demand;
- Inventory supply; and
- Draw realistic conclusions.

To help you with the quantitative aspects of this process, this section provides various tools, ranging from simple to complex, that can be conducted for one or multiple business categories. A quantitative demand and supply comparison is important because it helps put numbers behind your analysis and gives you some measures to support your business development activities. However, as the analysis is as much an art as a science, your study must also consider numerous qualitative factors. The following chart illustrates factors that go into an evaluation of retail and service business opportunities.

The Process of Evaluating Retail and Service Business Opportunities



Definitions Used in this Section:

NAICS: The North American Industry Classification System is used by the federal government for classifying all businesses and their related statistics. Each business is classified by a NAICS code and a specific store category. For example, 44211 is the code for furniture stores. [*Descriptions of 71 selected retail and service business categories used in this section are available here.*](#)

Demand: In market analysis, demand is the amount of a good or service required to fulfill the needs of customers in your area. This is mainly driven by the size of your trade area, the number of customers in your trade area, and their purchasing power. This is often calculated by NAICS category. Demand can be measured in square feet, number of stores, or total sales.

Supply: In market analysis, supply is the amount of a good or service currently distributed in the marketplace. This is often organized by NAICS category and can be measured in square feet, number of stores, or total sales. The data that is available to you and the ease of collecting this information determine how you measure supply in your community.

Note: Another way to analyze the retail market is to estimate spending by product type. Data is available from the U.S. Bureau of Labor Statistics as well as private data providers that can be used with local demographic data to estimate local demand. However, it is often difficult to estimate a comparative "supply" figure. Nevertheless, for certain categories, a demand and supply analysis by product type may be appropriate.

[Return to top](#)

Step 1: Assess Demand

In market analysis, demand is the amount of a good or service required to fulfill the needs of customers in your area. The spending potential of trade area residents typically determines most of the demand for local retail goods and services. This demand can be modeled using various quantitative measures. You must also consider other qualitative measures to accurately understand characteristics of your local market and of non-local consumers who may shop in your community.

Quantitative Measures of Local Demand

There are two general methods to quantitatively measure demand for your community: “population threshold” and “market potential.”

Population Threshold Method

The threshold analysis approach provides a measure of the number of businesses within a particular NAICS category that could be supported in a community based simply on its population. Thresholds are typically calculated by dividing the population of the state or country by the number of businesses in the state or country. For example, in 2007 the U.S. population was 301.6 million and there were 48,000 pharmacies and drug stores in the nation (NAICS 44611), resulting in one drug store per 6,300 people. Using this ratio, a trade area with a population of 10,000 could support between one and two drug stores.

While thresholds greatly over simplify the analysis of market potential, they are straightforward and easy-to-understand measures of demand. They are especially useful in a first-pass attempt to identify possible opportunities for business expansion or recruitment. However, thresholds are only based on population and do not take into consideration other important factors, such as income or nearby competition.

A modified and more precise application of threshold analysis can be used to measure the potential over or under supply of businesses in downtown districts. Using 2009 data on Wisconsin cities and villages, a threshold analysis was conducted to determine the number of “downtown stores” relative to community size. The results of this study are reported in [*Retail and Service Business Mix Analysis of Wisconsin’s Downtowns*](#), a 2010 University of Wisconsin-Extension staff paper; it provides data on the number and combined sales of businesses, by NAICS category, within a 0.25-mile, 0.5-mile and 1-mile radius of Wisconsin’s downtowns. While Wisconsin data may be more or less useful in other parts of the country, similar thresholds can be calculated for other states using data from the U.S. Census Bureau.

Market Potential Method

This method for determining market potential estimates total demand for retail and services businesses in a trade area based on historic customer spending patterns. From secondary data sources like the U.S. Economic Census, you can obtain reliable data to estimate domestic sales per capita and average sales per store. You can use this information to estimate demand by store type. Market potential can express demand in total sales, number of businesses, or square

feet of retail space (also known as gross leasable area, or GLA). Tools in this section such as the Gap Analysis Calculator (Tool 2), Pull Factors (Tool 3), and the Trade Region Gap Analysis (Tool 4) can be used to calculate market potential and business gaps for your trade area.

“Potential sales” are estimated sales that could be achieved if all people living within a trade area only shopped within the trade area. Actual (or estimated) sales are compared to potential sales to determine a “surplus” or “leakage.” If actual sales exceed potential sales, a sales surplus exists. A surplus implies either that (a) people travel from outside the trade area to shop or (b) people living within the trade area consume more than would be typically expected given their income levels. However, if actual sales are less than potential sales, the trade area suffers a sales leakage. A leakage indicates that either (a) people living within the trade area shop outside the county or (b) people living within the trade area consume less than would be expected given their income levels.

Market potential improves upon threshold demand estimates by incorporating local income, and calculations are based on trade area or regional population rather than a city’s population alone. However, market potential is often based on state or national spending patterns that may not accurately reflect your local market, and the income adjustment may be overly simplistic. You must decide whether market potential is worth calculating in your situation.

Other Local Demand Considerations

Examining local demand in terms of numbers and dollars is only part of the analysis. There are also a number of important qualitative considerations to help you gauge the depth of trade area demand and your downtown’s ability to capture it. These are discussed in other sections of the toolbox and include:

- **Consumer Perceptions and Behavior.** What have you learned from local research about consumer perceptions and behavior related to downtown business activities? Has a sidewalk intercept study been conducted to assess your district’s strengths and weaknesses? Has a survey been conducted to learn why some people never come downtown? Use findings from business owner surveys, consumer surveys, and focus group sessions as described earlier in the toolbox.
- **Demographic and Lifestyle Characteristics.** Does data on age, income, home ownership, and lifestyle segmentation indicate that local residents are more likely to purchase goods within a particular store category? Use findings from your analysis of market demographics and lifestyles as described earlier in the toolbox.
- **Economic Baseline Analysis.** The overall health of the local and regional economy should be considered as it indirectly impacts local demand. Do trends in the labor force, major employers, unemployment, street/highway traffic, and quality of life contribute to increased market demand for retail and services? Use findings from your analysis of local and regional economic conditions as described earlier in the toolbox.

Estimating Non-Local Demand

While demand and supply analysis typically focuses on residents of the trade area, many communities also depend on non-local demand to support local businesses. These consumer segments can include:

- Tourists and visitors;
- Second homeowners; and
- In-commuters (those who travel regularly into your area to work).

Findings from business owner surveys, consumer surveys, and focus group sessions that include questions about non-local market segments can provide valuable insight regarding non-local demand. In addition, some communities conduct research specific to these market segments such as visitor intercept surveys, second-home owner geo-demographics analyses of their place of origin, and in-commuter paycheck surveys.

[Return to top](#)

Step 2: Inventory Supply

In a market analysis, supply is the amount of a good or service available in the marketplace. To analyze supply, a database of existing businesses must be constructed for each store category examined. The database of NAICS store categories should include all of the retail businesses within the trade area (the geographic area that was used to calculate demand).

Quantitative Measures

As noted, your database should include all current retailers in the trade area. Information on each business should include:

- Name of business;
- Address;
- Estimated sales range (if available); and
- Estimated store size (in square feet).

There are two ways to build your inventory of current supply—through secondary data and through a locally generated database.

Secondary Data

The simplest method for building your inventory is to purchase a list of businesses from a national data provider. A number of national firms (such as InfoUSA) compile this information from Yellow Page listings, annual company reports, and other sources. Purchasing a list can be expensive depending on the number of businesses in your trade area. While some sources provide sales estimates per establishment, they typically do not include store size (square feet)—a useful method in comparing demand and supply. Further, the data may not be sufficiently accurate as there are often errors in store category coding, location, business status, etc. You must take care to properly examine purchased lists for accuracy and fix any errors.

Locally Generated Database

A second and often better option for assessing supply is to develop your own database. Certainly this is a time-intensive process, although it provides the most current and accurate information. Local databases are often compiled through walking or driving tours of downtown and/or trade areas. While collecting sales estimates will be nearly impossible using this method, it is possible, with a little practice, to estimate store size (see Estimating Store Size exhibit). The building and business Inventory described earlier in the toolbox can be used to record this data. Also, if your city has a GIS department it is possible they have building footprint data that could be used to estimate size.

Estimating Store Size	
Example chain pharmacy in neighborhood shopping center (approximately 10,000-15,000 square feet)	Example traditional downtown street front pharmacy (approximately 1,000-2,000 square feet)
	
Gross leasable area (GLA) can be estimated by actually measuring a building's street-front width and estimating its depth. Square feet can be estimated by simple observation and comparison with other stores. The Urban Land Institute's <i>Dollars & Cents of Shopping Centers</i> provides information on average store sizes.	

Other Supply Considerations

Qualitative factors should also be part of the supply analysis. For each NAICS retail category, consider:

- **Presence of a Market Niche.** Are there clusters of businesses in a store category that have created a critical mass of activity and a distinct market niche for the business district? For example, a cluster of home improvement stores may not represent oversupply in the market if together they have created a destination.
- **Position Relative to Other Business Districts in the Trade Area.** Most communities contain multiple business districts. These may include malls, strip centers, commercial corridors, neighborhood centers, and more. The supply analysis must recognize that downtown may not be the ideal location for all store categories.
- **Retail Vitality Relative to Other Downtowns.** What is the retail supply in this category in other peer city downtowns? Are the selections of specialty retail in your downtown as interesting and exciting as those in other places? Use findings from your peer city comparison analysis section of the toolbox.
- **Competitiveness of Existing Stores in the Trade Area.** Are existing downtown stores in this category providing the merchandise and service that local shoppers demand? Is the category already present in the district and is it thriving? Are the stores chains or independents? Use findings from business owner surveys, consumer surveys, and focus group sections of the toolbox.
- **Competitiveness of Existing Stores outside the Trade Area.** Do surrounding communities with regional shopping centers and big box stores siphon business in this category out of the trade area? Use findings from business owner surveys, consumer surveys, and focus group sections of the toolbox.

[Return to top](#)

Step 3: Draw Realistic Conclusions

Step 3 reconciles information gathered in the first two steps in an effort to identify realistic business expansion and recruitment opportunities. For purposes of this toolbox, these opportunities are identified as specific business categories where demand exceeds supply.

Realistic expectations are important so that business development initiatives lead to achievable outcomes. The *Retail and Service Business Opportunities Worksheet* that follows can be used to summarize your analysis for each of the business categories being studied. Given the amount of information that must be gathered, we suggest completing this worksheet for high-prospect categories only.

Worksheet Instructions

1. Record the **retail category** and corresponding **NAICS code**.
2. Use one or more of the quantitative tools presented later in this section to help you calculate and record **demand and supply**. The purpose here is to determine if demand significantly exceeds supply, a signal that there may be business development opportunities. These tools, which vary in complexity, can help you measure demand and supply according to number of businesses, estimated sales, or estimated square feet. They include:
 - *Business Mix Analysis*. A derivation of “threshold analysis,” this tool helps you compare the number of businesses in your downtown with other similar-sized communities.
 - *Gap Analysis Calculator*. This tool allows you to calculate trade area consumer spending and potential demand in terms of estimated sales, number of stores and square footage—then compare each with actual levels.
 - *Pull Factors*. Pull factors can be used to measure the relative strength of the local retail market and whether or not it is drawing in sales from other communities. This tool does not necessarily represent the trade area, as it is based on political boundaries.
 - *Regional Gap Analysis (Advanced)*. This tool adds precision to the analysis of pull factors by utilizing a customized “trade region” to assess trade area gaps.
3. Record **other considerations** pertinent to the local trade area consumer. This information may come from surveys, focus groups, or demographic and lifestyle analyses. These considerations should provide additional insight on local consumer behavior and competition.
4. Record **non-local consumer research** findings that describe consumers who may shop in your community, but permanently reside elsewhere. They may include visitors, second homeowners, and in-commuters.

5. Based on the above, develop and record **business expansion and/or recruitment recommendations**. The quantitative comparison of retail demand with supply provides an initial measure of market opportunities. If there is a significant amount of unmet demand, there may be opportunities for existing businesses to expand or for the community to recruit new businesses. Business development opportunities also may exist in areas where supply is greater than demand, but special conditions offer potential. For example, some communities draw customers from outside their trade area by creating a niche market. You should also consider findings from other research on non-local consumers in making recommendations. Recommendations may center on:
- Best location with regard to visibility, traffic, and complementary businesses, whether chain or independent;
 - Size in square feet;
 - Price points;
 - Expected market segments; or
 - Downtown enhancements needed.

Your recommendations should highlight business categories that promote a vibrant mix in the district, complement existing businesses, and offer reasonable evidence that an expanded or recruited business will have opportunity for success.

6. Recommendations must undergo a **check for reasonableness**. In other words, do a reality check. It is important to step back from the analysis and ask if your recommendations are based on actual consumer behavior and business location practices. Consider the following for this business category:
- *Industry Trends*. Do businesses of this type locate in downtown districts? Can they co-exist among large-format stores on the edge of town? Click on [Industry Links](#) to access trade associations for store-specific research.
 - *Principle of Retail Hierarchy*. Can your community support this business? Retail hierarchy ranks communities based upon the carrying capacity for certain types of businesses and the distances shoppers are willing to travel. A downtown may be destined to only serve a minimum convenience market (gas station and grocery store). Conversely, it might be large enough to offer a complete shopping market with retailers such as book stores, specialty foods and sporting goods. For more information, see the factsheet on [Retail Hierarchy](#).
 - *Other Successful Downtown Businesses Examples*. Examples of similar businesses that are successfully operating in other downtowns may be helpful. The [Innovative Downtown Business Online Clearinghouse](#) provides examples of specific stores that have been recognized as generators of traffic to their respective downtowns.

Retail and Service Business Opportunities – Sample Completed Worksheet

Retail Category: Grocery Stores NAICS Code: 4451

	Local Demand	Supply
Number of Businesses	4	2
Estimated Sales	\$15m	\$9m
Estimated Square Feet	17,000	20,000

Other Considerations	Local Demand	Supply
	<p><i>Survey and focus group respondents expressed need for value grocer.</i></p> <p><i>Trade area demographics indicate a higher concentration of older adults and lower-income households than the state average.</i></p>	<p><i>Sally’s C-Store:</i></p> <ul style="list-style-type: none"> •High-priced convenience foods •Pretty limited selection <p><i>Hometown Grocery:</i></p> <ul style="list-style-type: none"> •Traditional full-service grocery •Mid-range products •Does a good job in produce and dairy section
Non-Local Consumers	Non-Local Demand	
	<p><i>We have a significant influx of daytime factory workers. A focus group of workers indicated desire for value and bulk grocery purchases on their way home from work</i></p>	



Business Expansion and/or Recruitment Recommendations:

- Write to nearby value grocery chain. Give results of market analysis and inquire about their interest in locating in community.
- Contact Aldi to get sense of their site selection criteria.
- Bring idea to Hometown Grocery (a long time community supporter) and ask about expansion possibilities. Possibly Paul (owner/operator) would consider a separate store or significant expansion of current inventory.



<p>Reasonableness Check-Industry Trends:</p> <p><i>Value grocers are growing in similar communities due to recent economic conditions.</i></p>	<p>Reasonableness Check-Principle of Retail Hierarchy:</p> <p><i>We’re a “partial shopping center,” so should have a wide range of grocery offerings.</i></p>	<p>Reasonableness Check-Downtown Business Examples:</p> <p><i>A few towns of our size in our state have value grocery stores.</i></p>
---	--	--

Retail and Service Business Opportunities – Blank Worksheet

Retail Category:	NAICS Code:
-------------------------	--------------------

	Local Demand	Supply
Number of Businesses		
Estimated Sales		
Estimated Square Feet		

Other Considerations	Local Demand	Supply
Non-Local Consumers	Non-Local Demand	



Business Expansion and/or Recruitment Recommendations:



Reasonableness Check- Industry Trends:	Reasonableness Check- Principle of Retail Hierarchy:	Reasonableness Check- Downtown Business Examples:

Tool 1 –Business Mix Analysis

A Population Threshold Method

While thresholds oversimplify the analysis of market potential, they are straightforward and easy-to-understand measures of demand. They are especially useful in an initial attempt to identify possible opportunities for business expansion or recruitment. However, thresholds are only based on population and do not take into consideration other important factors such as income or nearby competition.

When conducting a business mix analysis, it is essential to remember that each community is unique. The analysis is only an indicator of what other similar communities' downtowns look like from a retail and service mix perspective. It is not an indicator of the optimal retail or service mix for any individual community. Community attractions, seasonal population, and a regional market draw all have an impact on the types of retail and service businesses that are located in a community.

The industry codes used to identify retailers and service providers only reflect the primary source of business sales and do not take into consideration any secondary product lines. Further market study is recommended before making any product expansion conclusions.

You can conduct retail and service business mix analysis by comparing your downtown with either the Wisconsin data, or alternatively, selected downtowns. The [*Retail and Service Business Mix Analysis of Wisconsin's Downtowns*](#) staff paper can be used to complete the comparison.

Business Mix Comparison Data from All Wisconsin Communities

A modified and more precise application of threshold analysis can be used to measure your community's potential over- or undersupply of businesses in downtown districts. Using 2009 business location data for Wisconsin cities and villages, threshold research was conducted to determine the number of "downtown stores" relative to community size. The [Retail and Service Business Mix Analysis of Wisconsin's Downtowns](#) is a 2010 University of Wisconsin-Extension staff paper that provides data on the number and combined sales of businesses, by NAICS category, within a 0.25-mile, 0.5-mile and 1-mile radius around the center of Wisconsin's downtowns. A sample of the data in this paper is presented below. The table provides the average number of businesses and combined sales within each of the three rings (buffers) for cities and villages with 5,000 to 10,000 residents.

Table 3. Wisconsin Cities/Villages with 5,000-10,000 Pop. - Average of 45 Downtowns

NAICS	NAICS Description	.25-Mile Buffer		.5-Mile Buffer		1-Mile Buffer	
		Number	Sales (000's)	Number	Sales (000's)	Number	Sales (000's)
44111000	New car dealers	0.07	1,260	0.16	3,169	0.64	15,251
44112000	Used car dealers	0.40	1,342	0.80	1,953	1.49	3,638
44121000	Recreational vehicle dealers	0.02	156	0.04	242	0.11	583
44122000	Motorcycle, boat, & other motor vehicles	0.16	474	0.42	1,688	0.60	2,740
44130000	Automotive parts, accessories, & tire stores	0.67	1,068	1.09	1,550	1.84	2,831
44210000	Furniture stores	0.47	782	0.69	959	0.91	1,455
44220000	Home furnishings stores	0.51	440	0.64	773	1.16	1,329
44311000	Appliance, television, & other electronics stores	1.20	1,637	1.69	3,322	2.49	4,890
44312000	Computer & software stores	0.29	267	0.44	434	0.78	808
44313000	Camera & photographic supplies stores	0.00	-	0.00	-	0.00	-
44411000	Home centers	0.02	31	0.16	804	0.24	2,632
44412000	Paint & wallpaper stores	0.16	401	0.24	479	0.31	556
44413000	Hardware stores	0.31	950	0.44	1,382	0.71	2,322
44419000	Specialized building material dealers	0.60	549	1.27	2,240	2.27	3,671

Note: While Wisconsin data may be useful elsewhere, similar thresholds can be calculated specifically for other states.

You can use the [Worksheet for Analyzing Your Downtown](#) to summarize the number of businesses by retail or service category, for your downtown and the corresponding average for comparison cities and villages.

[Return to top](#)

Business Mix Comparison Data from Selected Downtowns

As an alternative to the Wisconsin business mix data, you can compare your downtown to a selected sample of economically vibrant peer downtowns. Choosing the right comparative downtowns can inspire local efforts to attain a higher level of economic vitality in your town.

Selecting communities for comparison requires choosing places that are similar in selected aspects. For purposes of this analysis, you should choose downtowns with “vibrant” commercial activity (i.e. a strong retail and service mix). Some aspects for comparison include:

- Population size: Choose communities that are similar in size.
- Demographic: Choose communities with similar incomes, education, age levels, etc.
- Distance from major metropolitan areas: Communities that are closer to metro areas may have different retail mixes than those at greater distances.
- Vibrancy of downtown: Choose communities that have successful downtowns as measured by a strong retail and service mix. Seasonal population– If your community is a retirement or vacation destination, choose communities that experience increased seasonal population for the same reason.

Before gathering data on the number and possibly sales of businesses, establish geographic rings around the center of each downtown. Then compare your downtown on similar-sized areas in other communities. Data should be collected on all businesses that are located within a specified radius of downtown (select a 0.25, 0.5, or 1-mile ring). Two methods of collecting data from the comparative downtowns and other business districts are:

- **Inventory the Storefronts.** – Inventory the storefronts of the comparative downtowns and business districts. While doing so, record the number and types of businesses on a clipboard or hand-held device. This method is the most labor intensive but provides first-hand, visual information on the retail character of the business districts. Aspects such as streetscape, facades, atmosphere and vibrancy can also be recorded.
- **Purchase data.** - Private data sources such as InfoUSA offer business database lists that include NAICS codes for each business, allowing lists to be purchased according to business categories. You can also request data organized by pre-defined geographic areas (0.25, 0.5, or 1-mile ring around the center of the district). This method is fast, easy and can be used for any community in the United States. However, this method might include data errors (in “geocoding” and NAICS classifications) and does not allow for any additional insight that could be gained by actually inventorying the storefronts.

You can use the [Worksheet for Analyzing Your Downtown](#) to summarize the number of businesses by retail or service category. This step can be repeated and columns added for each comparative downtown to create a business mix comparison table.

[Return to top](#)

Tool 2 –Gap Analysis Calculator

A Surplus-Leakage Method

This tool compares the demand for stores based on the spending potential of your trade area’s residents to the supply of stores actually in your trade area. For a quick introduction to the tool and a basic “how-to” guide, view the video below:



To use the downloadable [Trade Area Gap Analysis Calculator](#) (MS Excel Workbook), you need to collect and enter some basic information about your community in an Assumptions worksheet within the Excel Workbook. Information to be entered includes supply of stores by number and/or square foot, local per capita income, and population of trade area.

The workbook formulas are based on available secondary data from the 2007 U.S. Economic Census released in 2010, and the 2008 Urban Land Institute *Dollars and Cents of Shopping Centers*. Formulas are also based on data about spending patterns from the 2007 Economic Census. The Economic Census provides the most complete and accurate dataset about sales per establishments and per person in the United States. Outputs generated from the calculator can be used as initial estimates of your trade area’s spending potential.

Once your assumptions are entered, click the Report worksheet of the workbook to generate your report. The report will list market demand in sales and square feet for the 71 retail categories.

Assumptions Worksheet

Columns are provided for entering the number of stores and/or square feet of space. The Assumptions Worksheet also requires entering the name of your trade area, population, per capita income, and U.S. per capita income for the same year.

Trade Area Gap Analysis - Number and Square Feet of Businesses

Assumptions

NAICS	Name	No. of Businesses (Supply)*	Sq. Ft. of Businesses (Supply)*	Trade Area Name	Current Year
44111000	New car dealers	1		Trade Area Name	Insert Your Trade Area Name
44112000	Used car dealers	5		Trade Area Population	10,000
44121000	Recreational vehicle dealers	1		Trade Area Per Capita Income	\$ 25,000
44122000	Motorcycle, boat, & other motor vehicles	3		U.S. Per Capita Income	\$ 27,277
44130000	Automotive parts, accessories, & tire stores	3	14,000		
44210000	Furniture stores	1	3,000		
44220000	Home furnishings stores	2	6,000		
44311000	Appliance, television, & other electronics stores	2	8		
44312000	Computer & software stores	1	500		
44313000	Camera & photographic supplies stores	1	500		
44411000	Home centers	1	15,000		
44412000	Paint & wallpaper stores	0			
44413000	Hardware stores	1	10,000		
44419000	Specialized building material dealers	2			
44420000	Lawn & garden equipment & supplies stores	1			
44510000	Grocery stores	4	30,000		
44520000	Specialty food stores	2	1,000		
44530000	Beer, wine, & liquor stores	1	2,000		
44611000	Pharmacies & drug stores	2	20,000		
44612000	Cosmetics, beauty supplies, perfume stores	3	1,000		
44613000	Optical goods stores	1	1,000		
44619000	Other health care (vitamin, medical equip)	1			
44710000	Gasoline stations	4	10,000		
44811000	Men's clothing stores	1	1,000		
44812000	Women's clothing stores	2	5,000		
44813000	Children's & infants' clothing stores	1	1,000		
44814000	Family clothing stores	1	7,000		
44815000	Clothing accessories stores	1	1,000		
44819000	Specialized clothing stores (dress, etc)	1	800		
44821000	Shoe stores	1	3,000		
44831000	Jewelry stores	2	1,000		
44832000	Luggage & leather goods stores	0	0		
45111000	Sporting goods stores	1	3,000		
45112000	Hobby, toy, & game stores	1	2,000		
45113000	Sewing, needlework, & piece goods stores	1	1,000		
45114000	Musical instrument & supplies stores	1			
45121000	Book Stores	1	2,000		
45122000	Tape, compact disc, & record stores	1	500		
45200000	General merchandise stores	2	120,000		
45310000	Florists	1	700		

Instructions:

1. Clear any sample assumptions preloaded in the blue cells
2. Estimate how many businesses, by NAICS code, are in the Trade Area and record in column C.
3. If possible, also estimate and record the combined square feet of these businesses in column D. Cells with fill pattern are not available for analysis using this method.
4. Enter Trade Area population, per capita income and U.S. per capita income for same year in column G.
5. Click on the "Report" tab to view results.

* Based on local data collection reflecting best estimates of the number and size of businesses in trade area.

Instructions follow for using the Assumptions Worksheet in the Trade Area Gap Analysis Calculator:

1. Clear any sample assumptions preloaded in the blue cells of the Assumptions Worksheet.
2. Estimate how many businesses, by NAICS code, are in your trade area and record in column C of the Assumptions Worksheet.
3. If possible, also estimate and record the combined square feet of businesses in column D. Cells with the fill pattern are not available for analysis using this method.
4. Enter the trade area population, per capita income and U.S. per capita income for same year in column G.

Report Worksheet

Once assumptions are entered, the Report Worksheet generates estimates of trade area demand, supply and any gap (demand less supply) in terms of number of businesses. For certain business categories (where data is available), data is also provided using square feet of business space as the measure. Specific calculations follow:

- Column C – *U.S. Sales Per Capita* is equal to the total employer and non-employer sales in each business category (according to the 2007 U.S. Economic Census) divided by the U.S. population in 2007 (301.6 million).
- Column D – *Average Sales per U.S. Store* is equal to total employer and non-employer sales in each business category (according to the 2007 U.S. Economic Census) divided by the number of establishments in that category.
- Column E – *Potential Sales in Trade Area* is equal to U.S. sales per capita multiplied by the ratio of local trade area per capita income to U.S. per capita income, then multiplied by the trade area population.
- Column F – *Number of Businesses (Demand)* is equal to potential sales in trade area divided by the average sales per U.S. Store.
- Column G – *Number of Businesses (Supply)* is based on a business count conducted locally.
- Column H – *Business Gap (in terms of number of businesses)* is equal to number of businesses (demand) less number of businesses (supply). A positive gap may be one indicator of opportunities for business expansion or recruitment.
- Column I – *Square Feet of Business (Demand)* is equal to potential sales in the trade area divided by the average sales per square feet from the 2008 Urban Land Institute's Dollars and Cents of Shopping Centers.
- Column J – *Square Feet of Businesses (Supply)* is based on an estimate of actual occupied business space as inventoried locally.
- Column K – *Business Gap (in terms of square feet of businesses)* is equal to square feet of business (demand) less square feet of business (supply). A positive gap may be one indicator of opportunities for business expansion or recruitment.

Trade Area Gap Analysis - Number and Square Feet of Businesses										
Report: Insert Your Trade Area Name										
This report estimates the potential number (and Sq. Ft.) of trade area businesses across various categories based on the spending of the area residents (demand) compared to the number of businesses in the trade area (supply). Those categories where demand is greater than supply are possible opportunities for businesses development. Demand estimates are calculated from the 2007 US Economic Census and supply listings are manually inventoried in the community. Sales per square foot were derived using Urban Land Institute data reflecting 2007 activity. THESE CALCULATIONS ARE PROVIDED FOR THE STUDY OF ECONOMIC CONCEPTS. THEY SHOULD NOT BE USED AS THE SOLE DETERMINANT IN BUSINESS FEASIBILITY ANALYSIS.										
NAICS	Name	U.S. Sales Per Capita	Average Sales per U.S. Store	Potential Sales in Trade Area	No. of Businesses (Demand)	No. of Businesses (Supply)*	Bus. Gap (Demand - Supply)	Sq. Ft. of Businesses (Demand)	Sq. Ft. of Businesses (Supply)*	Sq. Ft. Gap (Demand - Supply)
44111000	New car dealers	\$ 2,280	\$ 27,632,089	\$ 20,898,532	0.8	1	-0.2			
44112000	Used car dealers	\$ 268	\$ 633,563	\$ 2,453,988	3.9	5	-1.1			
44121000	Recreational vehicle dealers	\$ 65	\$ 2,426,928	\$ 591,706	0.2	1	-0.8			
44122000	Motorcycle, boat, & other motor vehicles	\$ 162	\$ 1,039,132	\$ 1,481,918	1.4	3	-1.6			
44130000	Automotive parts, accessories, & tire stores	\$ 249	\$ 789,354	\$ 2,282,212	2.9	3	-0.1	13,200	14,000	(800)
44210000	Furniture stores	\$ 197	\$ 1,271,871	\$ 1,804,245	1.4	1	0.4	3,376	3,000	376
44220000	Home furnishings stores	\$ 172	\$ 775,414	\$ 1,579,083	2.0	2	0.0	5,773	6,000	(227)
44311000	Appliance, television, & other electronics stores	\$ 286	\$ 1,437,590	\$ 2,622,981	1.8	2	-0.2	7,145	8	7,137
44312000	Computer & software stores	\$ 68	\$ 1,008,571	\$ 624,354	0.6	1	-0.4	305	500	(195)
44313000	Camera & photographic supplies stores	\$ 13	\$ 1,034,341	\$ 121,234	0.1	1	-0.9	210	500	(290)
44411000	Home centers	\$ 447	\$ 14,117,083	\$ 4,100,809	0.3	1	-0.7	10,551	15,000	(4,449)
44412000	Paint & wallpaper stores	\$ 34	\$ 1,024,804	\$ 309,027	0.3	-	0.3			
44413000	Hardware stores	\$ 68	\$ 948,935	\$ 624,751	0.7	1	-0.3	4,325	10,000	(5,675)
44419000	Specialized building material dealers	\$ 393	\$ 2,014,250	\$ 3,601,683	1.8	2	-0.2			
44420000	Lawn & garden equipment & supplies stores	\$ 123	\$ 1,165,506	\$ 1,128,035	1.0	1	0.0			
44510000	Grocery stores	\$ 1,631	\$ 3,570,309	\$ 14,946,444	4.2	4	0.2	31,191	30,000	1,191
44520000	Specialty food stores	\$ 62	\$ 258,156	\$ 568,622	2.2	2	0.2	2,660	1,000	1,660
44530000	Beer, wine, & liquor stores	\$ 127	\$ 877,029	\$ 1,164,229	1.3	1	0.3	2,938	2,000	938
44611000	Pharmacies & drug stores	\$ 671	\$ 4,218,922	\$ 6,147,552	1.5	2	-0.5	15,370	20,000	(4,630)
44612000	Cosmetics, beauty supplies, perfume stores	\$ 39	\$ 116,573	\$ 357,832	3.1	3	0.1	980	1,000	(20)
44613000	Optical goods stores	\$ 27	\$ 518,023	\$ 250,723	0.5	1	-0.5	705	1,000	(295)
44619000	Other health care (vitamin, medical equip)	\$ 50	\$ 218,306	\$ 458,465	2.1	1	1.1			
44710000	Gasoline stations	\$ 1,499	\$ 3,506,684	\$ 13,734,658	3.9	4	-0.1	10,395	10,000	395
44811000	Men's clothing stores	\$ 29	\$ 696,349	\$ 266,842	0.4	1	-0.6	1,024	1,000	24
44812000	Women's clothing stores	\$ 134	\$ 754,680	\$ 1,225,786	1.6	2	-0.4	4,803	5,000	(197)
44813000	Children's & infants' clothing stores	\$ 32	\$ 675,687	\$ 291,880	0.4	1	-0.6	925	1,000	(75)
44814000	Family clothing stores	\$ 281	\$ 1,984,619	\$ 2,571,196	1.3	1	0.3	7,581	7,000	581
44815000	Clothing accessories stores	\$ 21	\$ 231,336	\$ 194,175	0.8	1	-0.2	553	1,000	(447)
44819000	Specialized clothing stores (dress, etc)	\$ 40	\$ 308,106	\$ 366,335	1.2	1	0.2	1,090	800	290
44821000	Shoe stores	\$ 89	\$ 803,282	\$ 815,293	1.0	1	0.0	3,283	3,000	283

[Return to top](#)

Tool 3 – Pull Factors

A Surplus-Leakage Method

The pull factor is another important tool of retail trade analysis that will help you answer key questions and identify your community's economic strengths and weaknesses. The pull factor is a measure of a city, county or regional area's ability to attract consumers based on its population and statewide average expenditures.

Introduction

“Is our retail marketplace becoming stronger or weaker? Are we losing customers to nearby competitors or are we attracting new customers to our community? Are our sales better than average? “

The answers to these questions are important to your community's existing and potential retailers. Understanding market performance will help local leaders and development practitioners foster a more conducive environment for retail business development. This also becomes a base for further market analysis that will help current and future business operators make more informed decisions.

Local and regional economic data, as well as these tools of retail trade analysis, will help you analyze your community's strengths and weaknesses. These tools are not intended to be used in the measurement of specific business or real estate demand and supply analyses, but they are intended to gauge the overall economic health surrounding the business district.

The pull factor—a measure of a community's or regional area's ability to attract consumers based on its population and statewide average expenditures— was developed by Ken Stone, Ph.D., and Jim McConnon, Ph.D., at Iowa State University in the 1980s and later refined by numerous economists such as Glen Pulver, Ron Shaffer, and Tom Harris. The pull factor measure is an important part of trade area analysis.

The following examples are based on Dr. Stone's definitions and calculations used during his years at Iowa State. As you view pull factor examples from various sources, you will see that they all use similar information but may change the order of calculations, use alternative names for intermediate steps, or determine pull factors as dollars, people, or ratios. The most common modification by economists is the inclusion of the local income index in the pull factor calculation. Dr. Stone did not use the income index until calculating the local sales surplus or sales leakage. If key stakeholders ask you to explain your economic analysis, this methodology has been easier to demonstrate than others.

Determining the Pull Factor

As noted, the pull factor is a measure of a community's ability to attract consumer trade based on its population and statewide average expenditures. It can be used for any trade area for which retail sales are measured whether it is a city, county, or multi-county region. It can also be used for the sum of all retail sales or individual NAICS categories if the state releases such data for local government divisions. If you are able to obtain data for service businesses, such as restaurants or repair shops, the pull factor analysis can also measure your economic health in those categories.

Calculation Examples

The following examples apply Dr. Stone's definitions and formulas to Owatonna, Minnesota. In its simplest form, pull factor is a ratio that equals the "sales per person in a community" divided by the "sales per person in the state." Following are calculations for furniture sales and overall retail businesses.

Example 1

2008 taxable furniture sales (NAICS 442) in Minnesota = \$1.424 million

2008 Minnesota population = 5.22 million

Therefore, Minnesota furniture sales per capita = $\$1.424 \text{ million} \div 5.22 \text{ million} = \272

2008 taxable furniture sales in Owatonna = \$3.336 million

2008 Owatonna population = 24,855

Therefore, Owatonna furniture sales per capita = $\$3.336 \text{ million} \div 24,855 = \134

Owatonna pull factor for furniture = $\text{Owatonna furniture sales per capita} \div \text{Minnesota taxable furniture sales per capita}$

Therefore, Owatonna pull factor for furniture = $\$134 \div \$272 = 0.49$

Example 2

2008 taxable sales per capita for all retail (NAICS 441-454) in Minnesota = \$4,913

2008 taxable sales per capita for all retail in Owatonna = \$7,127

Therefore, Owatonna pull factor for retail businesses = $\$7,127 \div \$4,913 = 1.45$

Interpreting Calculations

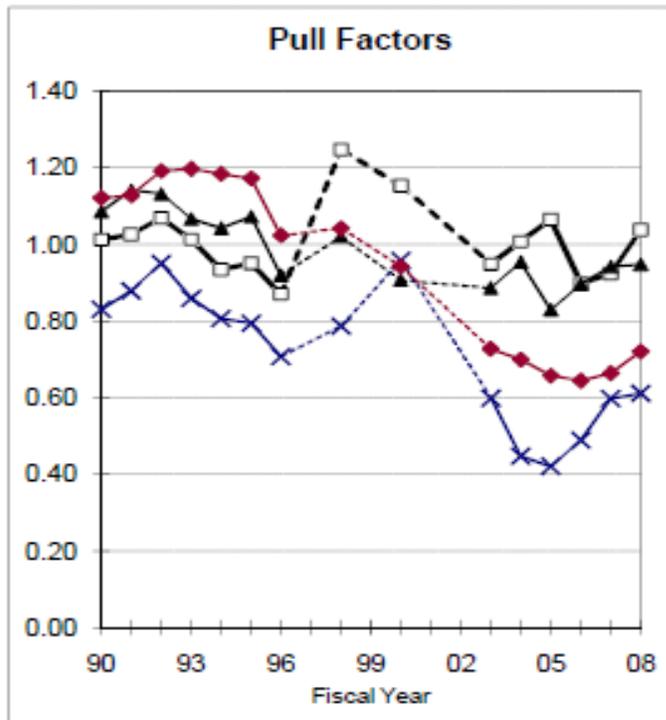
A pull factor **greater than 1.00** indicates that a community is attracting more customers than its population base. To be sure, some residents do travel elsewhere to make purchases, but more people are coming to this city/county to make purchases than are leaving. If a pull factor is **less than 1.00**, it indicates that more people are leaving, than entering, the city/county to make purchases.

The simple pull factor calculation demonstrated by the previous examples can be used for any geographic area with existing measures of sales and population, such as cities, counties, and

multi-county economic regions. The simple calculation shows how sales are distributed. You can also use this calculation for non-retail businesses, such as restaurants or repair shops.

Comparisons

A pull factor covering a single year in your community is useful. However, you can obtain a better indicator of the health of your retail sector by graphing pull factor over several years for your own community and the communities around you. The graph below shows that a strategy implemented in the late 1990s helped Owatonna outperform other shopping centers in neighboring communities.



□ Owatonna
× Austin
▲ Albert Lea
◆ Faribault

Interpreting Pull Factors

A one-year retail pull factor for a city or county has limited use in an analysis. It does tell you how your community compares to the state average. However, if you have data for different NAICS retail categories, you can start to understand factors that draw people to your community. For example, a **longitudinal analysis** that covers multi years will give you insight on how important events affected your community's retail health.

To conduct a longitudinal analysis, match significant changes in pull factors with events such as road construction, the opening (or closing) of a store, a natural disaster, the start of evening store openings, or an economic downturn.

Remember to consider the effect of events in nearby communities, too. Did a Big Box store open in a community 10 miles away? Did another community begin a loyalty program? Did a major employer lay off a large number of workers? Once you see how your retail community has fared during significant events you will see how resilient or susceptible your community is to external factors.

Existing businesses and entrepreneurs can also use pull factor data to gain financing for expansion. As an example, if a community has a strong building materials pull factor, people must be coming to the community to make purchases in that merchandise category.

Business owners can then take a close look to see if they stock a full range of products in the merchandise category with a strong pull factor. Business owners should ask questions such as, “Do we have the latest types of fireplace inserts and accessories? Do we have tool lines that different types of customers want? Is there a need for a better quality garden center?”

When interpreting pull factors, you also should take into account political boundaries that may be producing unrealistic results not suitable for comparisons with other communities. For example, many communities are actually two political entities because a river divides them. Two such examples are Lafayette and West Lafayette, Indiana, and Mankato and North Mankato, Minnesota.

Sometimes a city and bedroom suburb have grown to become one *physical* entity. The city offers the most shopping, while the suburb is preferred for home ownership. In essence, the city and suburb act as one business community, but a pull factor analysis for each *political* entity would show a higher retail pull factor for the city. In cases like this, merge the population and sales data of the city and suburb to produce one community for comparison with others.

Comparing Sales Performance with Expectations

Pull factors are a good measure of how sales are distributed in a state and they enable quick comparisons among communities. But this method does not account for differences in incomes. Dr. Stone developed formulas to obtain this more layered data, as the following examples illustrate.

You would expect people with higher incomes to spend more on retail items. They may simply buy more quantities of retail items or they may buy more expensive items, such as a 50-inch plasma TV versus a 32-inch flat screen variety. With that in mind, you can calculate expected sales in a two-step process. The first step is to calculate the income index based on the following formula:

Income index = Local per capita income ÷ State per capita income

Example 3

2008 Minnesota personal income = \$224,670 million

2008 Minnesota population = 5.22 million

2008 Minnesota per capita income = \$43,040

2008 Minnesota per capita retail sales = \$4,913 (as calculated in Example 1)

2008 Steele County personal income = \$1,355 million (Owatonna is in Steele County)

2008 Steele County population = 36,546

2008 Steele County per capita income ($\$1,355 \text{ million} \div 36,546$) = \$37,638

Therefore, the income index for Steele County = $\$37,638 \div \$43,040 = 0.87$

After determining your income index, you can determine expected sales using the following formula:

Expected sales = Local population × State per capita sales × Income index

Example 4

Expected 2008 retail sales for Owatonna = $24,855 \times \$4,913 \times 0.87 = \$106,237,975$

Actual 2008 retail sales were \$177,141,585

Therefore, the retail sales surplus for Owatonna = \$70,903,610 (or 66.7 percent above expected sales). That equates to 16,578 more people shopping in the city (or 66.7 percent above the Owatonna population).

Advanced Topic – Calculating Expected Sales Using Peer Group Pull Factors

States that release extensive sales data, such as Iowa and Minnesota, have made further enhancements to the expected sales formula. These enhancements help adjust for city size or distance to regional retail centers. Cities that have a population of 10,000 will have a different retail mix than those of 90,000. Also, cities of 10,000 people in the middle of a metropolitan area with a population of 2 million will have different retail mix than a rural community of 10,000 that is the largest marketplace within 1,200 square miles. The enhanced expected sales formula follows:

Expected sales = Local population × State per capita sales × Income index × Peer group pull factor

Using a peer group pull factor requires calculating pull factors for many communities similar to the one you are analyzing and determining an average peer group pull factor. A trimmed mean average is typically used to account for outliers. (A trimmed mean of 20 percent computes the mean average after removing the lowest 10 percent and the highest 10 percent of the numbers in the set.)

One example of a peer group may be all cities in the state with a population of +/- 20 percent of your target city.

A more complex peer group might be cities with populations +/- 50 percent of the target city but only in rural counties. In our Owatonna example, the peer group pull factor for furniture was 0.50, so the enhanced expected sales calculation would be as follows:

Expected 2008 furniture sales for Owatonna = $24,855 \times \$272 \times 0.87 \times 0.50 = \$2,940,844$

Actual 2008 furniture sales in Owatonna = \$3,330,570 (a surplus!)

You can see that selection of a peer group can have a major effect on whether a community is determined to have a surplus or a deficit. For example, Iowa divided its cities into 21 peer groups (with 5 of those peer groups for cities under 1,000 population) and its 99 counties into 4 peer groups. More information on Iowa's process for establishing peer groups is available in [*"Iowa Retail & Service Business Threshold Analysis: A comparative look at Iowa's Counties,"*](#) by Meghan O'Brien. You will also find information about similar Midwestern cities in this resource.

Finding Data for Pull Factor Calculations

Sales Tax Data

Several state revenue departments house research divisions that release sales tax collections on a regular basis. For example, in Minnesota and Iowa, sales data is grouped by city, county, and state using 3-digit NAICS codes. In smaller communities with very few firms in an NAICS category, no sales tax collection data is released. This is because of disclosure issues for business categories that have one or few business establishments in a geographic area. In those cases, requests can be submitted to receive 2-digit NAICS reports. This still allows for the calculation of total retail pull factors.

Some states such as Wisconsin do not issue general releases of sales tax data. However, you may still be able to obtain some sales tax data for communities or counties with a local option sales tax. This data normally encompasses more than retail, but it still can offer some useful numbers for comparison. Since tax rates can vary from county to county, use the tax rate to determine the taxable sales that generated the revenue.

Minnesota uses taxable sales in its pull factor calculations, while some other states use gross sales. Use the most reliable set of numbers available to you, with the following caveats. Gross sales numbers can be an issue if retailers feel no responsibility to provide accurate numbers, while retailers *are* legally responsible to provide accurate taxable sales data. Remember, too, that while grocery stores may not collect sales taxes on food items in some states, they also sell taxable items (such as candy, sodas, and cleaning products) that can be used in comparing pull factors.

Population and Other Data

You can find population information on the [U.S. Census Bureau](#) website or through your state demographer's office. Personal income information is available on the [U.S. Bureau of Economic Analysis](#) website.

You will also need to take local conditions into account when determining which data to collect. For example, the overall personal income for a very rural county may not indicate average consumer income because a high degree of farm income skews the results. For this reason, the state of Iowa recently chose to use exclusively non-farm personal income in its pull factor calculations since agricultural price swings can further skew data for some counties.

[Return to top](#)

Tool 4 – Trade Region Gap Analysis

An Advanced Surplus-Leakage Method

The following tool is similar to Tool 3—Pull Factors (A Surplus-Leakage Method). However, it is a more regionalized approach to measure your trade area’s retail gap relative to competing and neighboring trade areas. It requires more extensive data and GIS analysis.

Trade area surplus/leakage analysis is one approach to help understand the overall health of your community’s retail business by identifying retail market trends and documenting gaps and opportunities for growth. This approach illustrates the pattern of retail spending within the local trade area relative to spending in neighboring areas (competing trade areas).

By understanding local retail spending patterns relative to spending in competing trade areas, you can estimate retail sales surplus and leakages. Retail sales leakages may show that local demand for a particular product is not being met within the community, while retail sales surpluses may indicate that the local community serves a regional market that pulls in consumers from outside the local area.

Estimation of retail surpluses and leakages by specific retail sectors provides a means to identify the relative strengths and weaknesses of an area’s retail market and thereby inform economic development strategies for local communities. A retail trade analysis is not a detailed plan of action. Rather it provides facts and analysis for input into the community’s decision-making process about future economic development.

Definitions Used in this Tool

Trade centers are the places where people from your community shop and are also places of concentrated retail activity where people come from to shop in your community. Therefore, you have your own community’s trade center, in addition to competing trade centers. A convenience trade area is the geographic area in which most of the customers of a shopping district live. Another way to describe a convenience trade area is the area where local residents shop for goods such as gas and groceries. You have your own **trade area** that is located around your trade center and competing trade areas that are located around competing trade centers. A **trade region** is the outer boundary of all the trades areas related to your community (your own and competing trade areas).

A few additional terms are useful when calculating surpluses and leakages. In general, surpluses and leakages are determined by comparing actual sales to potential sales. A **sales surplus** exists where actual sales exceed potential sales. Potential sales are calculated by estimating sales that could be achieved in a trade area if its local population only shopped there. Potential sales are a function of population, income, and known regional demand in particular business categories. A surplus implies either that (a) people travel to a trade area of interest to shop or (b) people

living in this trade area consume more than typically expected given their income levels. In cases where actual sales are less than potential sales, a **sales leakage** exists. A sales leakage indicates that either (a) people living within a trade area shop outside it or (b) people living within the trade area consume less than expected given their income levels. A leakage does not mean that retail businesses are failing. On the contrary, the businesses in question may be doing quite well. A leakage simply means that total sales within a local area are not as high as they could be based on the area's population.

Conducting Surplus/Leakage Analysis

A more sophisticated tool to better model demand and supply and measure your community's retail gap is to compare your trade area with competing trade areas in your region. To conduct this type of surplus/leakage analysis, refer to the downloadable spreadsheet titled "[example surplus leakage.xls](#)."

Before getting started, here are the data points you will need:

- Parameters of your primary trade area and trade center, and competing trade areas and associated centers. To identify these, refer to the "Analyzing Your Trade Area" section of the toolbox.
- The population of each trade area.
- The per capita income of each trade area.
- A list of businesses in each trade area, including the business type and estimated annual sales (typically obtained through a private data source such as InfoUSA).

Steps:

1. First determine the geographic trade area of primary interest, as well as competing trade areas.
2. Calculate the amount of sales in each trade area, by retail sector. If you have access to ESRI's ArcGIS Business Analyst, you can calculate sales by extracting InfoUSA business data using a shapefile of trade areas. Note: Any use of secondary data should be fact-checked for currency of location and validation of sales. Sheet "1 raw data" in the "example surplus leakage" spreadsheet lists businesses by trade areas, along with sales and NAICS codes.
3. Aggregate sales by trade area by sector. See Sheet "2 by trade area" in the "example surplus leakage" spreadsheet.
4. Aggregate sales by sector for the region and then calculate the sales per capita. You will need to know the trade region population for this step. See Sheet "3 by region per capita" in the "example surplus leakage" spreadsheet.

5. Calculating the income ratio enables the determination of trade area potential. You will need to know the population and per capita income by trade area. Again, if you have access to ArcGIS Business Analyst, you can estimate the population and per capita income by using the spatial overlay function to overlay the shapefile of trade areas on the block group shapefile containing demographic data. See Sheet “4 income ratio” in the “example surplus leakage” spreadsheet.

6. By plugging in the primary trade area of interest's population, income ratio, and regional per capita sales per sector, potential sales can be calculated. The potential sales are the population X income ratio X regional per capita sales. Potential sales are then subtracted from actual sales to determine if there is a surplus or leakage. See Sheet “5 surplus primary trade area.”

7. The final Sheet “6 comparison” is set up to calculate the competing trade areas’ surplus and leakage. See the example below.

Table Showing Sample of Surplus/Leakage Analysis – Sheet 6 in “example surplus leakage.xlsx”

Sector	Pop	Income Ratio	Regional per cap sales	Potential Sales	Actual Sales	Surplus/ Leakage	% Surplus/ Leakage
Apparel & Accessory Stores	28,674	0.99	1241.86	35,252,925	\$ 1,308,000	\$(33,944,925)	-96.3%
Books & Office Supplies	28,674	0.99	180.09	5,112,202	\$ 496,000	\$(4,616,202)	-90.3%
Florists	28,674	0.99	59.90	1,700,308	\$ 1,408,000	\$(292,308)	-17.2%
Furniture & Home Furnishings	28,674	0.99	889.87	25,260,854	\$ 9,277,000	\$(15,983,854)	-63.3%
Gasoline Service Stations	28,674	0.99	1347.77	38,259,457	\$91,660,000	\$ 53,400,543	139.6%
Gift Novelty & Souvenir Shops	28,674	0.99	224.23	6,365,272	\$ 1,652,000	\$(4,713,272)	-74.0%
Grocery Stores	28,674	0.99	2856.36	81,084,353	\$78,120,000	\$(2,964,353)	-3.7%
Hardware Stores	28,674	0.99	85.56	2,428,854	\$ 3,186,000	\$ 757,146	31.2%
Health and Drug Stores	28,674	0.99	677.10	19,221,132	\$28,212,000	\$ 8,990,868	46.8%

[Return to top](#)

Appendix: Using GIS to Visualize Demand and Supply

A geographic information system (GIS) is an excellent way to illustrate and analyze the geographic distributions of retail demand and supply, which is vital to understanding the market. Mapping these distributions will show concentrations of high and low demand, as well as the location of potential competition.

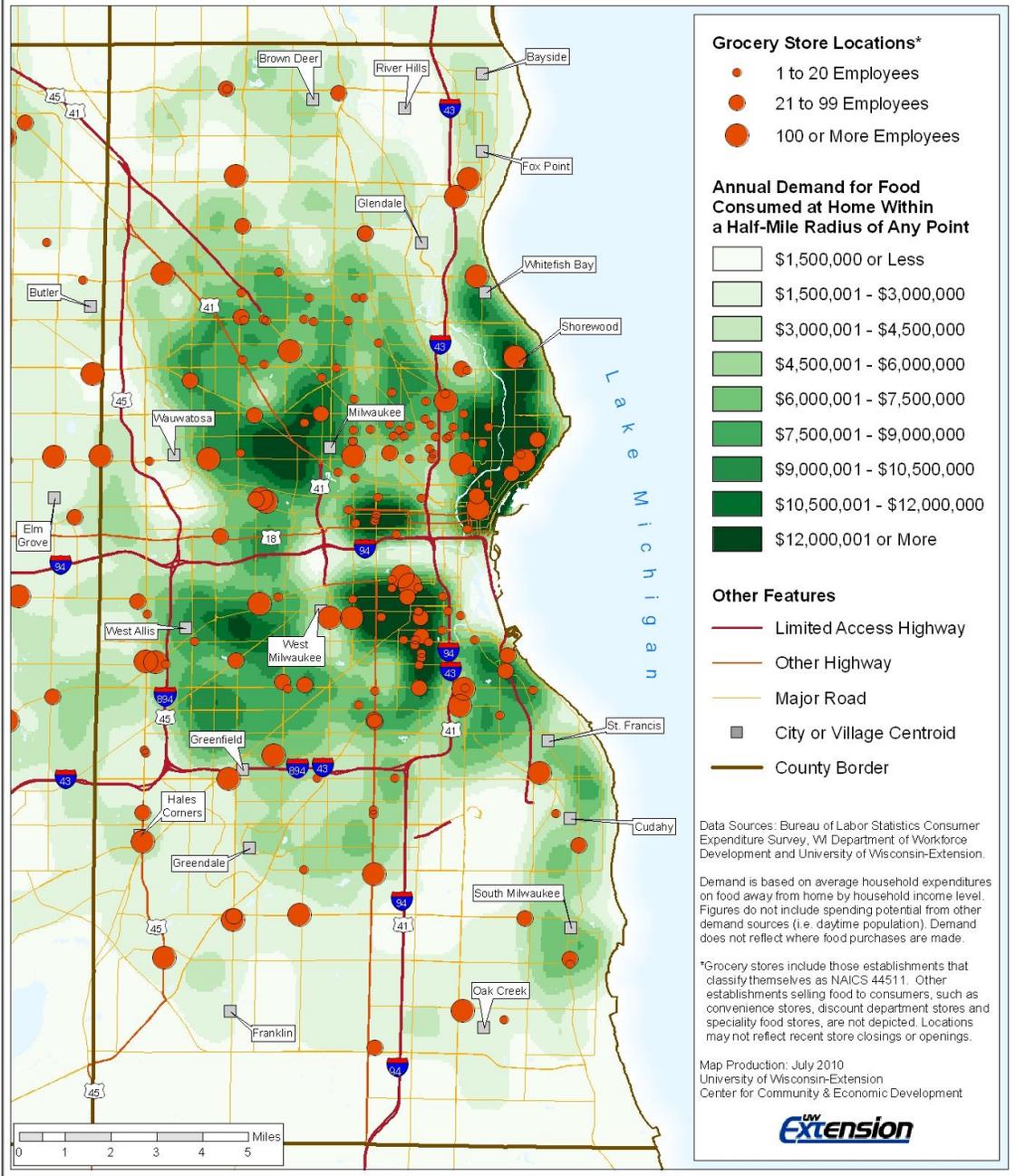
More important, mapping these distributions will show the relationships between demand and supply. For instance, do areas of high demand have a large number of nearby stores or do gaps exist in the market? As GIS can overlay, or superimpose, different data sets onto one another, it is an ideal tool for exploring this relationship.

To map supply, a GIS can use business addresses and plot existing retail locations in a given NAICS retail category. Furthermore, the amount of consumer demand can be mapped using the demand calculations previously discussed in this section. Once mapped, the supply of retail locations can be shown along with the retail demand distribution.

The following map illustrates the use of GIS in examining the grocery store market in Milwaukee County, WI. Here the locations of grocery stores (graduated symbols represent the size of each store) are overlaid on consumer spending demand (food consumed at home). The map illustrates areas that are underserved (dark green demand and a lack of stores) as well as those well-served.

The combination of this information on the same map creates a powerful visual tool that can be used to analyze the downtown market. If the locations of retailers do not match the concentrations of consumer demand, a market gap may exist. If these gaps occur in or near a downtown or other business district, the maps could reveal opportunities for new retailers.

Milwaukee County Grocery Store Distribution and Demand for Food Consumed at Home - 2009



About the Toolbox and this Section

The 2011 update of the Downtown and Business District Market Analysis toolbox is a result of a collaborative effort involving staff and educators from University of Minnesota Extension, Ohio State University Extension, and University of Wisconsin Extension. The update was supported with funding from the North Central Regional Center for Rural Development.

The toolbox is based on and upholds the economic restructuring principles of the National Trust Main Street Center. The Wisconsin Main Street Program (Wisconsin Department of Commerce) has been an instrumental partner in the development of this toolbox.

This section includes new methods added by Jill Clark, Ph.D., of Ohio State University Extension; Ryan Pesch and Bruce Schwartau of University of Minnesota-Extension; and Bill Ryan of University of Wisconsin-Extension. Edited by Mary Vitcenda of University of Minnesota Extension.