

Customer Segmentation

Targeting potential customers for sales growth

—by Fred L. Miller

Introduction

Problem

*Living in the Green Lane*¹ is a three-store chain of green-lifestyle centers in the Minneapolis-St. Paul market area. Each store offers a comprehensive range of green products and services from modestly sized, strategically located retail centers, each of which exemplifies and demonstrates green-building techniques and living patterns. All three stores have been successful, and each has a large and growing Living Green Club loyalty program for its best customers.

Owners Janice Brown and Steven Bent believe that the success of the *Living in the Green Lane* concept in Minneapolis-St. Paul underscores the general attractiveness of the business model. They wish to continue the company's growth with a combination of penetration and expansion strategies.

The penetration strategy will focus on increasing sales of existing stores by reaching new customers in their market areas while also expanding sales to existing customers.

The expansion strategy will also focus on identifying attractive new geographic markets for *Living in the Green Lane* centers. This involves finding geographic concentrations of potential customers across the United States and assessing their ability to support multiple centers.

In both of these strategies, Janice and Steven plan to focus their efforts on concentrations of potential customers who match the profile of the firm's best current customers—the 1,800 members of Living Green Club loyalty programs. They have charged you, in your capacity as the firm's business geographic information system (GIS) analyst, to use existing profile data to create segmentation plans that support both the penetration and expansion strategies. That will be your task in this SpatialLAB.

¹ The organizations and people in this SpatialLAB are fictional. Any resemblance to actual individuals or organizations is coincidental.

Location

Minneapolis-St. Paul core-based statistical area
Other core-based statistical areas in the United States
Seattle-Tacoma-Bellevue, Washington, core-based statistical area

Time to complete the lab

Four to six hours

Prerequisites

An understanding of the importance of customer profiling using lifestyle segmentation in the process of identifying enterprise expansion opportunities

Access to Esri Business Analyst™ Desktop Premium 10

Data used in this lab

- Esri® demographic and Tapestry™ Segmentation data
- Market Potential Index data from GfK Mediamark Research & Intelligence, LLC (GfK MRI)
GfK MRI

Student activity

Living in the Green Lane's management team has directed you to use business GIS tools to identify opportunities for sales growth stemming from greater penetration of existing markets and identification of the most attractive opportunities for geographic expansion beyond the Minneapolis-St. Paul area and state of Minnesota.

Your task relative to the penetration strategy is to evaluate the potential for sales growth in existing stores by increasing sales to current customers and reaching new customers in the market area. You will perform this task in two steps.

First, you will develop a *Tapestry Segmentation* profile of loyalty club members with volumetric sales data and define *Core* and *Developmental* target groups.

Second, you will use *market area* and *gap analysis* reports and maps to evaluate the potential for sales growth in existing market areas. You will also design reports with *Market Potential Index* data to understand customers' values, purchasing behavior, and media exposure patterns.

The expansion strategy requires evaluation of potential market areas across the United States. Janice and Steven have determined that any new market area will require at least four *Living in the Green Lane* green-lifestyle centers given the company's emphasis on high-quality service to a local market. The centers can be owned by the company or by local partners through franchise agreements. To establish a local presence, they have decided that at least two centers in each market are to be company owned, though any remaining centers could be either company owned or franchised.

Further, Janice and Steven believe that investment in a company-owned center is only feasible if the three-mile ring around the proposed center has \$15 million or more in annual home improvement materials expenditures. Franchisees can often use facilities and assets they already own, reducing initial setup costs significantly. Thus, franchised centers are considered viable if home improvement purchase levels are \$10 million a year or higher.

Thus, the threshold for the expansion strategy is clear: a market area must be able to support at least two company-owned centers and at least two additional centers that may be either company owned or franchised. Your task, which you will perform in two steps, is to identify a *core-based statistical area (CBSA)* that meets these criteria.

First, you will design *market potential* maps and reports to identify the CBSAs in the United States that offer the most favorable prospects for market expansion. You will then use these tools at a more focused level to identify the most favorable census tracts within the CBSA. You will then use *dynamic ring analysis* to evaluate specific potential locations for new stores.

Second, you will design a *Living in the Green Lane segmentation report* to accumulate the results of your work and communicate your findings to management and potential investors.

At the conclusion of this lab, you may be required to submit written answers to the questions in this exercise, prepare a written report on this project, or prepare a written project report that covers this lab as well as the *Customer Profiling SpatialLAB*.

Conventions used in the data

CBSA Core-based statistical area

CY Current-year data

FY Future-year projections, which are five years beyond the current year

HH Household

MPI Market Potential Index, consumer survey data covering hundreds of values, behaviors, shopping patterns, and media exposure, provided by GfK MRI

Prepare your workspace

This lab uses Business Analyst™ Desktop Premium 10 to perform the analysis. To prepare for it, you should confirm that this software is available on your workstation.

CREATE SEGMENTATION REPORTS AND CHARTS FOR CUSTOMER TARGETING

Integrated business GIS systems provide a wealth of data in prepackaged reports, charts, and maps to support enterprise marketing strategies. This table lists many of these items categorized by the marketing objectives they best support. The items in the *Targeting* column create profiles from enterprise sales data used in the analyses summarized by the items in the *Penetration* and *Growth* columns. The *Customer Profiling* SpatialLAB covers the creation of these profiles, while the current lab uses profiles that have already been created.

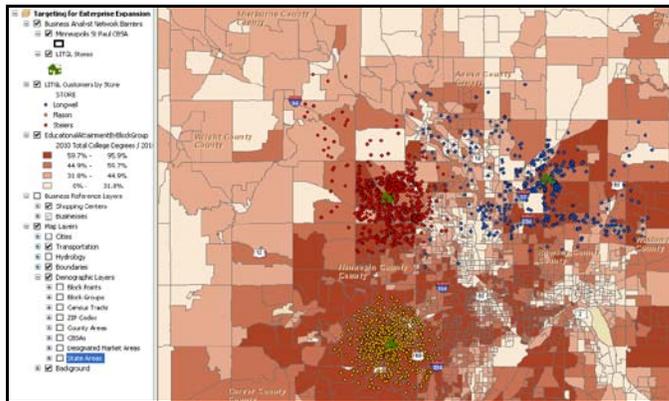
Reports	Reports	Reports
1. Tapestry Profile 2. Core Segments 3. Geographic Summary 4. Demographic Profile 5. Match Level Summary 6. Tapestry Profile with Volume	1. Market Area Gap Analysis 2. Understanding Your Profile 3. Understanding Your Target Group 4. Developing Marketing Strategies	1. Market Potential 2. Market Potential with Volume
		Maps
Charts		1. Target Map 2. Target Penetration Map 3. Four Quadrant (Game Plan) Map
1. Profile Comparison Bar Chart 2. Four-Quadrant (Game Plan) Chart		

Table 1: Segmentation Module tools for targeting, penetration, and growth

- 1 If you have not already done so, copy the *LITGL Minneapolis St Paul* project folder to the *C:\My Output Data\Projects* folder on your hard drive.
- 2 Click *Start » Programs » ArcGIS » Business Analyst » BusinessAnalyst.mxd* to run ArcMap.
- 3 Load *Business Analyst Extension* and then load *Business Analyst Message Center*.

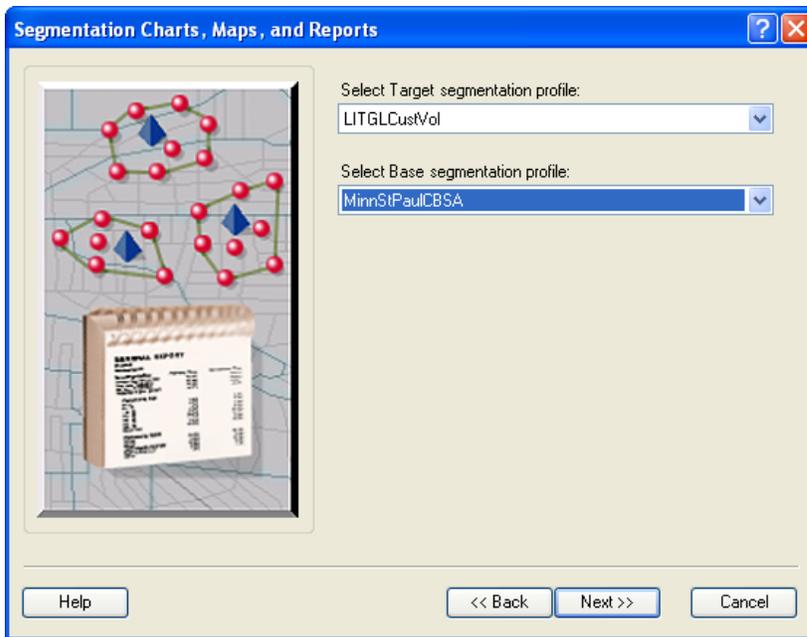
- 4 Click *LITGL Minneapolis St Paul* under *Recent Projects* to select this project and load the *Business Analyst* default map.
- 5 Click *File » Open*. Navigate to *C:\My Output Data\Projects\LITGL Minneapolis St Paul\CustomData\ChapterFiles\Chapter10\LITGLSegmentation.mxd*. Click the map file to open it.

This map has a layer displaying *Living in the Green Lane's* Steiers, Mason, and Longwell stores over a thematic map of *Educational Attainment by block group*. The data source for this layer is a shapefile customized for this enterprise. You will use this map to display the results of segmentation analyses.



Both the penetration and expansion strategies require a comprehensive understanding of loyalty club members and their values and buying patterns. You will run several descriptive reports to develop that understanding.

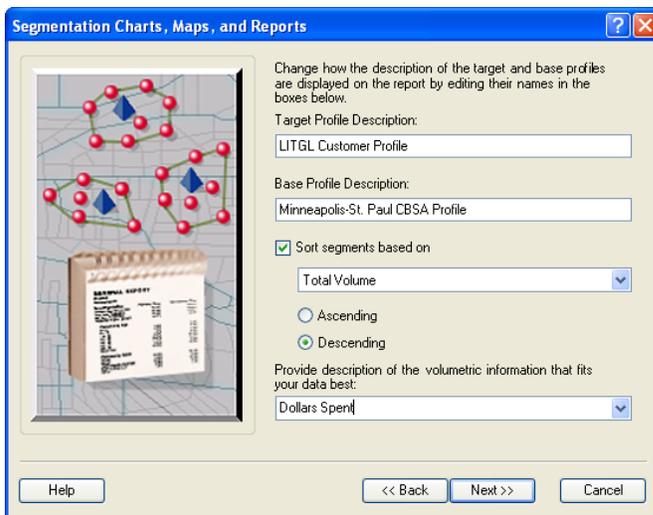
- 6 Click the drop-down menu on the toolbar; click *Target Marketing*; and click *Segmentation Charts, Maps, Reports*. Click *Create new segmentation charts, maps, reports* and click *Next*.
- 7 Click *Segmentation Reports* and click *Next* to open the *Segmentation Reports* dialog box, which lists all the segmentation reports available in the module.
- 8 Select *Tapestry Profile with Volume Report* and click *Next*. In the resultant window, select *LITGLCustVol* as the target segmentation profile and *MinnStPaulCBSA* as the base segmentation profile. When the window resembles the one below, click *Next*.



- 9 In the next window, enter **LITGL Customer Profile** for *Target Profile Description* and **Minneapolis-St. Paul CBSA Profile** as *Base Profile Description*. Select *Total Volume* as the sorting attribute and select *Descending* order. Enter **Dollars Spent** as the description of volumetric information.

With these settings, the report will compare *LITGLCustVol* with the *Minneapolis-St. Paul CBSA*. It will report the total and average dollars spent by each segment and list segments in order of highest to lowest total purchases.

- 10 When the window resembles this, click *Next*.



- 11 In the next window, enter **LITGL Profile Volume Segmentation Report** as the report title and name. Confirm that the *View Report* option is selected and click *Finish*.

The software performs the necessary analysis and calculations and then displays the report in a window on your screen.

- Review the report and scroll through its pages by clicking the arrow buttons at the left of the command bar at the top of the screen.

The first page explains the contents of the report. The next two pages display results by *Life Mode* and *Urbanization group*. The letters in the callout boxes attached to each column are keyed to the explanations in the leftmost column, which are abbreviated versions of the more extensive explanations on the first pages of the report.

- Scroll to the fourth page of the report, which displays values for each of the segments in the customer profile. It should resemble the following:

Tablestry Volume Profile by Segment

A. There are 12 Life Mode Groups, 11 Urbanization Groups, and a total of 66 Tapestry market segments.	LITGL Customer Profile			Minneapolis-St. Paul CBSA Profile			F. Total Volume	G. Average Volume	H. Volume Index
	B. Tapestry Description	C. Number	D. Penetration % Per 100	E. Number	%	Index			
B. 283 customers are classified in "4 Boomburbs". This Tapestry market represents 15.5% of all your customers.	4 Boomburbs	283	15.5 0.30	94,480	7.3	212	\$3,060,231	\$10,813.54	106
	6 Sophisticated Squires	278	15.3 0.19	147,226	11.4	134	\$3,004,898	\$10,808.99	106
	2 Suburban Splendor	225	12.3 0.44	50,721	3.9	314	\$2,974,663	\$13,220.72	130
	13 In Style	245	13.4 0.33	73,297	5.7	237	\$2,409,588	\$9,835.05	96
	7 Exurbanites	233	12.8 0.56	41,332	3.2	399	\$2,386,479	\$10,242.40	100
C. Penetration rate is 0.30.	12 Up and Coming Families	106	5.8 0.10	103,607	8.0	72	\$1,152,326	\$10,871.01	107
	16 Enterprising	95	5.2 0.21	45,806	3.6	147	\$849,921.5	\$8,946.54	88
	30 Retirement	39	2.1 0.09	42,543	3.3	65	\$421,023.3	\$10,795.47	106
	9 Urban Chic	43	2.4 0.50	8,528	0.7	357	\$419,257.2	\$9,750.17	96
	18 Cozy and Comfortable	54	3.0 0.07	73,887	5.7	52	\$402,190.0	\$7,447.96	73
D. In the base area 7.3%, or 94,480 of the base, are in Tapestry market "4 Boomburbs".	24 Main Street, USA	47	2.6 0.04	113,773	8.8	29	\$367,083.3	\$7,682.62	75
	19 Milk and Cookies	45	2.5 0.27	16,387	1.3	194	\$277,251.9	\$6,161.15	60
	28 Aspiring Young Families	17	0.9 0.04	44,481	3.4	27	\$157,162.9	\$9,244.88	91
	14 Prosperous Empty	11	0.6 0.06	19,699	1.5	40	\$95,840.95	\$8,712.81	85
E. An index of 212 shows that "4 Boomburbs" are 2.1% times as likely to be one of your customers than the average person or household.	39 Young and Restless	13	0.7 0.05	24,049	1.9	38	\$90,470.00	\$6,959.23	68
	36 Old and Newcomers	14	0.8 0.03	51,776	4.0	19	\$79,721.00	\$5,694.36	56
	3 Connoisseurs	19	1.0 0.17	10,891	0.8	124	\$69,218.00	\$3,643.05	36

Review the explanations of each column to understand the information displayed here. The segments at the top of the page have the highest total purchases of *Living in the Green Lane* products and services. Among these segments, those with *Index* values greater than 100 comprise a higher percentage of *Living in the Green Lane* customers than they do the general CBSA population. Low values in the *Penetration per 100* column indicate significant remaining opportunity to reach prospects in this segment of the CBSA area.

Note, as well, the *Average Volume* and *Volume Index* figures, in the rightmost columns of the report. *Average Volume* reports the average level of purchases of *Living in the Green Lane* products and services by households in each segment. *Volume Index* values greater than 100 indicate segments with higher average purchase levels than the customer base as a whole. Thus, segments with high *Total Volume*, *Index*, and *Volume Index* values represent a high proportion of *Living in the Green Lane's* customer base, account for a significant portion of total sales, and have above-average levels of purchases per household.

If you wish, you may print or export this report, though it will also be available to you in the project folder.

- Close the report window.

Select several other available reports from the list below, using the designated settings to view the other resources that support the targeting objective.

- 15 Go back to the toolbar. Click *Target Marketing* and then *Segmentation Charts, Maps, Reports*.
- 16 Select *Create new segmentation charts, maps, and reports*. Click *Next*.
- 17 Click *Segmentation Reports* and click *Next*.

RUN REPORTS

- 1 Click *Segmentation*. Run the *Core Segments Report* with *LITGLCustVol* and *MinnStPaulCBSA Profile*.
- 2 Select the *Use thresholds to define groups* option.
- 3 Click the *Show Game Plan Chart* button to open the *Game Plan Chart*.
- 4 Use the *Properties* button and the *Scaling* tab to confirm that *Index* and *% Composition Volume* are the *Chart Axes* settings, and then click *OK* twice to return to the *Report* window.
- 5 Accept the *4* and *110* default values and click *Next*.

This report lists the segments assigned to the *Core* and *Developmental* target groups with these settings.

- 6 Run the *Geographic Summary Report* with *LITGL Customers by Store* as the *Customer* layer to generate a report listing the geographic areas in which the customer base is concentrated, including the top 20 counties, ZIP Codes, and CBSAs.
- 7 Run the *Demographic Profile Report* with *Block Groups* as the *Geography* level and *LITGL Customers by Store* as the *Customer* layer to generate a report summarizing the demographic characteristics of the customer base.

This report uses a spatial overlay procedure to attach demographic data to customer records and then summarizes the results to produce the profile report.

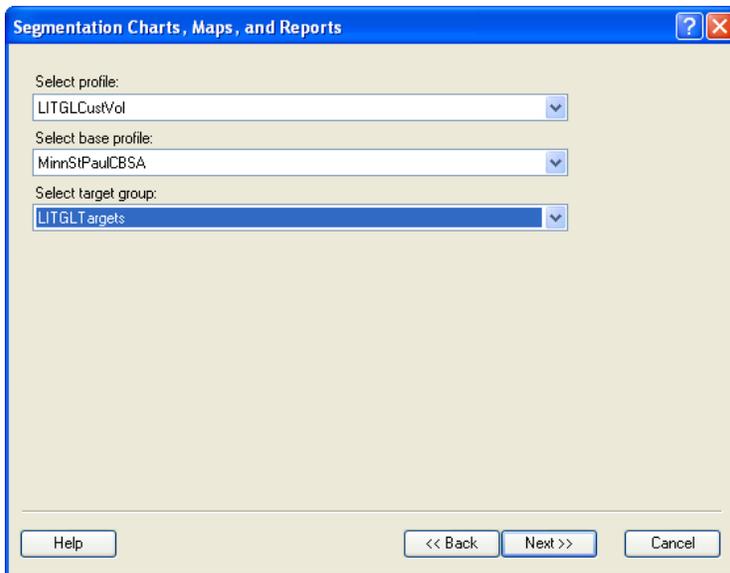
- 8 Run the *Match Level Summary Report* with *LITGL Customers by Store* as the customer layer and *Customer* as the customer description to generate a report summarizing the level at which customer addresses were geocoded when the *LITGL Customers by Store* layer was created.

Matches are listed in descending order of accuracy so that the greater the number of addresses geocoded as *Address Points*, and the fewer geocoded as *ZIP Code Centroid* or *No Match*, the more accurate the estimation of customer location and, therefore, the spatial overlay procedure.

USE PROFILE COMPARISON BAR CHART

In addition to these reports, the *Profile Comparison Bar Chart* allows you to explore customer characteristics graphically.

- 1 Click the drop-down menu on the toolbar; click *Target Marketing*; and then click *Segmentation Charts, Maps, Reports*. Click *Create new segmentation charts, maps and reports* and then click *Next*. Click *Segmentation charts* and click *Next* to open the *Segmentation Charts* dialog box, which lists the available charts.
- 2 Select *Profile Bar Chart* and click *Next*. In the next window, select *LITGLCustVol* for *Select profile*, *MinnStPaulCBSA* as the base profile, and *LITGL Targets* as the target group. When the window resembles the one below, click *Next*.



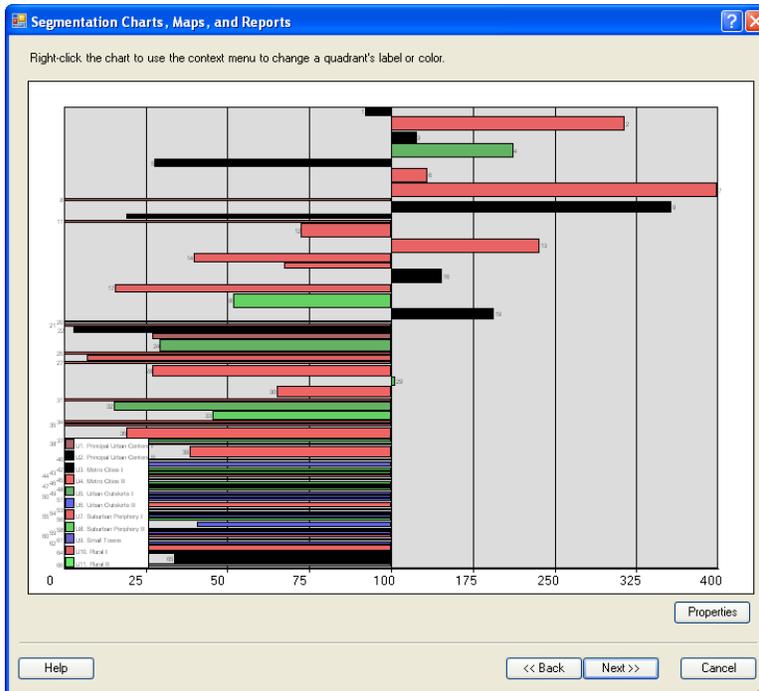
The system applies your settings and displays a bar graph of the *Index values* of each of the 65 segments for *Living in the Green Lane's* customer base. The segments you designated as target segments are displayed in a separate color. If you wish, you may customize the chart and save it in a document.

- 3 Click the *Properties* button to open the *Chart Properties* dialog box. Click the *Scaling* tab and then select the *Percent* composition option in the *Segmentation* bar chart width scaled with box. Click *OK*.

The width of each bar now represents each segment's value as a percentage of the customer base. Thus, the chart now presents both the *Index* and *Percent (%) Composition* of each segment. You may adjust the chart to depict other groups as well. This chart supports the *Core Segments Report* and illustrates the importance of each segment to *Living in the Green Lane*.

- 4 Click the *Back* button and then select *Life Modes* as the target group. Click *Next* to view the resultant chart. Note that segments are now color coded to represent their *Life Mode* groups.
- 5 Repeat this procedure to view *Urbanization* groups.

The chart should resemble the one below, though the colors may vary. Adjust it to your preferences and click *Next* to complete the wizard and create a document displaying the report. Review it, save it if you wish, and then close it.



REVIEW GAME PLAN CHART

The system also provides a *Game Plan Chart* that you can use to generate a report describing your *Core* and *Developmental* customers.

- 1 Click the drop-down menu on the toolbar; click *Target Marketing*; and then click *Segmentation Charts, Maps, Reports*. Click *Create new segmentation charts, maps and reports* and then click *Next*. Click *Segmentation charts* to view a list of available charts.
- 2 Select *Four-Quadrant (Game Plan) Chart* and click *Next*. In the next window, select *LITGLCustVol* as the profile, *MinnStPaulCBSA Profile* as the base profile, and *LITGL Target Segments* as the target group. Click *Next* to open the *Game Plan Chart*.

The *Game Plan Chart* displays the *Tapestry Segmentation* segments in a four-quadrant chart with your target segments color coded distinctly. You may adjust the scaling of the chart to define the *Niche*, *Developmental*, and *Core* groups as you wish by changing the axis values.

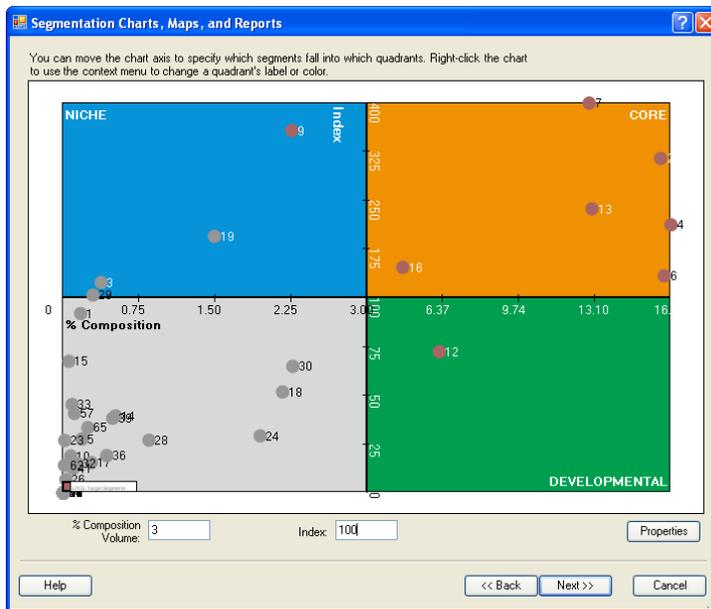
- 3 Click the *Properties* button and click the *Scaling* tab. Select each of the options in turn and click *OK* to view the impact on the chart. Repeat the process to view each option.

These options allow you to define the axes as you wish. The options include measures of the number of customers and their purchases with *Living in the Green Lane*, which is the volume attribute. The options are

"Index" & "% Composition"	Both are based on the numbers of customers in each segment.
"Index" & "% Composition Volume"	One, Index, is based on the number of customers in each segment and one, % Composition Value, is based on segment purchases.
"Index Volume" & "% Composition Volume"	Both are based on segment purchases.

Table 2: Axis definition options for Four Quadrant (Game Plan) Chart

- 4 When you have reviewed the options, select "*Index*" & "*% Composition Volume*" to display one axis based on number of customers and another based on their purchases. Click *OK*.
- 5 In the fields below the chart, enter **3** in the *% Composition Volume* field and **100** in the *Index* field. Your chart should resemble the one below. When it does, click *Next*.



With these settings, the group boundaries display both sales and customer information. The two quadrants on the right represent segments that account for 3 percent or more of customer purchases from *Living in the Green Lane*. The two segments at the top represent segments that are more prevalent in *Living in the Green Lane*'s customer base than they are in the general population of the Minneapolis-St. Paul CBSA. Thus, you are identifying customer groups that are both attracted to *Living in the Green Lane* and willing to spend money there, a very attractive combination.

The option to revise the axes of the *Game Plan Chart* allows you to define *Core* and *Developmental* groups in the manner most appropriate for your analysis. To remain consistent with the definitions in documentation and report templates, we will revert to our original settings in the following steps. However, remember these options when working with your own enterprise data.

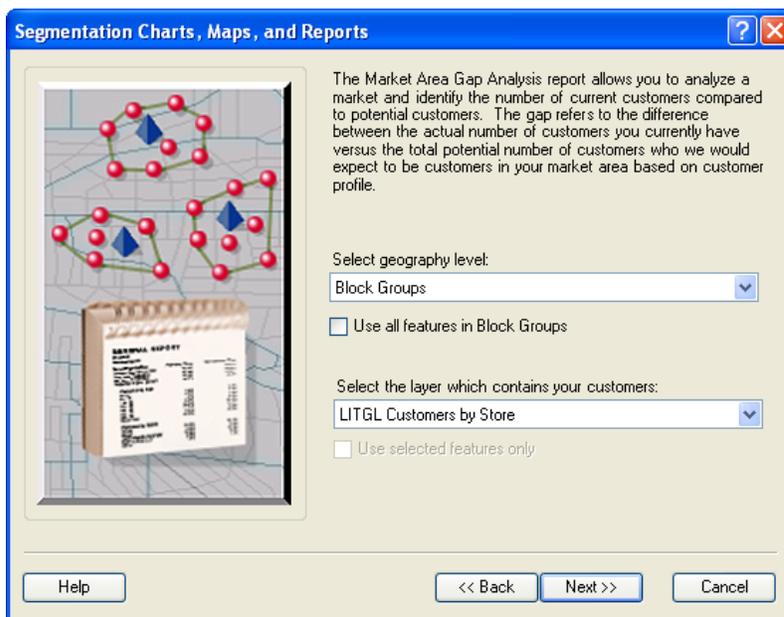
- 6 Click the *Properties* button and the *Scaling* tab. Select the "*Index*" & "*% Composition Volume*" option and click *OK*. In the fields below the chart, enter **4** in the *% Composition* field and **110** in the *Index* field (the default settings) and click *Next*.
- 7 In the next window, enter **LITGL Game Plan Chart** in the *Name* and *Title* fields, select the *View Report* option, and click *Finish* to complete the wizard and create a document that displays the chart.

You will use this chart to display the characteristics of your target customers graphically. Now that you have developed a more complete understanding of *Living in the Green Lane*'s customer base and identified target customer segments, you will create additional reports to help you develop a penetration strategy for your current market.

CREATE SEGMENTATION REPORTS TO INCREASE MARKET PENETRATION

The goal of the penetration growth strategy is to increase sales within existing market areas by serving customers more effectively. Several tools support that goal. The first is the *Market Area and Gap Analysis Report*, which identifies opportunities for growth in existing market areas.

- 1 Click the drop-down menu on the toolbar; click *Target Marketing*; and click *Segmentation Charts, Maps, Reports*. Click *Create new segmentation charts, maps and reports* and click *Next*. Click *Segmentation reports* and click *Next* to open the *Segmentation Reports* dialog box, which lists the available reports.
- 2 Select *Market Area Gap Analysis Report* and click *Next*. In the next window, select *LITGLCustVol* as the profile and *MinnStPaulCBSA Profile* as the base profile and click *Next*. In the next window, select the *Use thresholds to define groups* option, accept the default values of 4 and 110, and click *Next*.
- 3 In the next window, select *Block Groups* as the geography level and confirm that the *Use all features in Block Groups* option is *not* selected. Select *LITGL Customers by Store* as the customer layer. When the window resembles the one below, click *Next*.



- 4 In the next window, select the *Create Gap Analysis Map* option, designate *Gap* as the thematic map field to be displayed, and click *Next*. Enter *LITGL Market Area Gap Analysis Report* in both the *Name* and *Title* fields, select the *View Report* option, and click *Finish*.

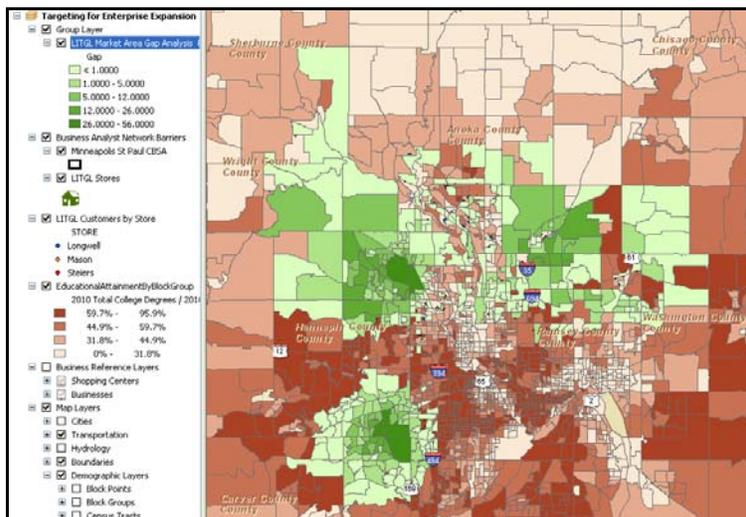
Using customer layer data relative to *Core* and *Developmental* groups, the *Segmentation Module* calculates the expected number of *Living in the Green Lane* customers in each block group where they reside. These values are then displayed as a thematic map and in the *Market Area & Gap Analysis* report. The report should resemble the one below:

esri		Market Area & Gap Analysis							
LITGL Market Area Gap Analysis Report									
Geo ID	Geo Name	State	Total HHs	% Core HHs	% Develop HHs	Actual Customer HHs	Customer HH % Pen	Expected Customers	Gap
2705302740270530274.	MN		280	0.00	0.00	1	0.00	0.00	1.00
2705302750270530275.	MN		792	0.00	0.00	1	0.00	0.00	1.00
2705302750270530275.	MN		385	100.00	0.00	1	0.00	2.00	-1.00
2705302750270530275.	MN		454	100.00	0.00	3	0.01	2.00	1.00
2705302750270530275.	MN		322	100.00	0.00	1	0.00	1.00	0.00
2701909050270190905.	MN		377	100.00	0.00	2	0.01	1.00	1.00
2701909050270190905.	MN		642	100.00	0.00	1	0.00	2.00	-1.00
2701909060270190906.	MN		2,837	100.00	0.00	2	0.00	5.00	-3.00
2701909070270190907.	MN		2,555	100.00	0.00	4	0.00	8.00	-4.00
2705302601270530260.	MN		1,396	100.00	0.00	1	0.00	4.00	-3.00
2705302601270530260.	MN		810	100.00	0.00	1	0.00	4.00	-3.00
2705302600270530260.	MN		428	100.00	0.00	6	0.01	1.00	5.00
2705302600270530260.	MN		759	100.00	0.00	12	0.02	3.00	9.00
2705302600270530260.	MN		391	100.00	0.00	18	0.05	2.00	16.00
2705302600270530260.	MN		260	100.00	0.00	6	0.02	1.00	5.00

The report lists all the block groups in which *Living in the Green Lane* customers reside. For each, it lists the number of households in each group, the percentage of these households that are in the *Core* or *Developmental* groups,² the number of actual customers, the penetration rate, the number of expected customers, and the gap between the number of expected customers and the number of actual customers. Negative numbers in this column represent opportunities to expand the customer base, while positive numbers represent customer presence above expected levels.

The map now displays the same information, as the layer legend in the *Table of Contents* indicates. Review the new *Gap* layer relative to the *Customer* layer, and then turn off the *Customer* layer.

The map should resemble the one below:



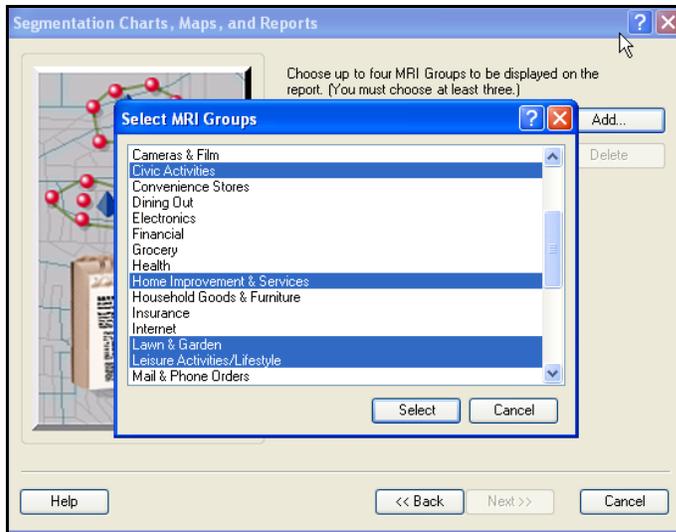
² This report contains block group level data. As this is the level at which Tapestry Segmentation assignments are made, all households in a block group are assigned to the same segment. Thus, the percentages reported in the table are 100 percent for segments in the Core group and 0 percent for those not. For larger geographies, such as census tracts or ZIP Codes, these percentages would reflect the presence of several different segments in each geographic unit.

Darker colors represent block groups in which *Living in the Green Lane's* penetration is higher than expected, while lighter colors indicate block groups with lower-than-expected penetration. Expected customer counts are based on average penetration rates, which also provide insight into the level of market opportunity available in existing markets.

- 5 Open the *Properties* window for the *LITGL Market Area and Gap Analysis Report* layer.
- 6 Click the *Symbology* tab, select *Customer%Penetration* as the *Value* field, and click *OK* to symbolize block groups by the percentage penetration of available *Core* and *Developmental* households in each.

Question 1: *Based on this analysis, does sufficient opportunity exist in the Minneapolis-St.Paul area to support Living in the Green Lane's penetration strategy? Explain your answer.*

- 7 Click the drop-down menu on the toolbar; click *Target Marketing*; and click *Segmentation Charts, Maps, Reports*.
- 8 Click *Create new segmentation charts, maps and reports* and click *Next*.
- 9 Click *Segmentation reports* and click *Next* to open the *Segmentation Reports* dialog box, which lists the available reports.
- 10 Select the *Understanding Your Target Group* report and click *Next*.
- 11 In the next window, click the *Add* button to open the *Select MRI Groups* dialog box.
- 12 Press the *CTRL* key and click the groups listed below to select them. When your window resembles the one below, click *Select* to add them to the *MRI Groups* box. Click *Next*.
 - *Civic Activities*
 - *Home Improvement & Services*
 - *Lawn & Garden*
 - *Leisure Activities/Lifestyle*



- 13 In the next window, select *LITGLCustVol* for *Select profile* and *MinnStPaulCBSA Profile* as the base profile and click *Next*.
- 14 In the next window, select the *Use thresholds to define groups* option, accept the default values of 4 and 110, and click *Next*. In the next window, enter *LITGL Understanding Target Group Report* in both the *Name* and *Title* fields, select the *View Report* option, and click *Finish*.

The software performs the necessary calculations, generates the report, and displays it on the screen, where you may export it to various other formats if you wish. The report includes an explanation of the indexes as well as listings for each of the designated MRI groups, which resemble this:

Top Lawn & Garden Characteristics:			
Description	Core Index	Developmental Index	Overall Index
Used service for property/garden maint last 12 mo	165	128	155
Purchased lawn maintenance service in last 12 mo	157	150	149
Spent \$150+ on property/garden maint in last 12 mo	153	138	145
Purch lawn fertilizer (no weed control) last 12 mo	152	138	143
Purch lawn fertilizer w/weed control in last 12 mo	152	162	144
HH owns trimmer/edger (electric)	150	138	141
HH owns trimmer/edger (gas)	144	152	134
Purchased outdoor shrub/plant in last 12 months	144	124	136
HH owns shears (non-electric)	144	130	135
Purchased lawn seed in last 12 months	143	119	135
Purchased garden fertilizer in last 12 months	136	122	130
Purchased lawn insecticide in last 12 months	136	160	130
Purchased tree in last 12 months	136	149	131

The values reported here are usually reported for individual segments. Here, however, they are aggregated for all the segments in the *Core* group, the *Developmental* group, and—in the *Overall Index* column—for all segments in *Living in the Green Lane's* customer base.

Recall that index values relate to the base profile average for a particular item, so an index value of 140 for *Core Index*, for example, means that respondents in this group are 40 percent more likely to report this behavior than the Minneapolis-St. Paul average. To facilitate interpretation,

the indexes are sorted in descending order in the *Core Index* column. Further, if an MRI group contains more than 20 items, only the top 20 are listed in the report.

This report is helpful in two ways. First, it reflects purchasing patterns for a company's goods and services. In this case, the *Lawn & Garden* values, as well as the *Home Improvement & Services* indexes, indicate the goods and services within *Living in the Green Lane's* product and service mix most often purchased by the various customer groups. This information is very useful in determining product and merchandising strategy.

Second, the report also reflects lifestyle characteristics of a company's target *Civic Activities* and *Leisure Activities/Lifestyle* customers. In this case, the indexes report the frequency with which *Living in the Green Lane's* customer groups engage in these activities relative to the average of the Minneapolis-St. Paul CBSA. This helps the company understand the lifestyle patterns of its customers and the role of the company and its products within that lifestyle. These insights are useful in merchandising and store layout decisions as well as in crafting promotional messages attractive to target customers.

If you wish, rerun this report and select different MRI groups to learn more about *Living in the Green Lane's* customers.

With these additional insights into its customer base, you are ready to refine your penetration strategies for this market area. To do so successfully, you must communicate effectively with target customers. The *Developing Marketing Strategies Report* will help you identify the most appropriate media for doing so.

PREPARE DEVELOPING MARKETING STRATEGIES REPORT

- 1 Click the drop-down menu on the toolbar; click *Target Marketing*; and click *Segmentation Charts, Maps, Reports*.
- 2 Click *Create new segmentation charts, maps and reports* and click *Next*.
- 3 Click *Segmentation reports* and then click *Next* to open the *Segmentation Reports* dialog box, which lists the reports available in the module.
- 4 Select *Developing Marketing Strategies Report* and click *Next*.
- 5 Select *LITGLCustVol* for the *Select Target* profile and *MinnStPaulCBSA Profile* for the *Select Base* profile and click *Next*.
- 6 Select the *Use thresholds to define groups* option, accept the default values of 4 and 110, and click *Next*.

- 7 In the next window, enter **LITGL Developing Marketing Strategies Report** in both the *Name* and *Title* fields, select the *View Report* option, and click *Finish*.

The software performs the necessary calculations, generates the report, and displays it on the screen, allowing you to export it to the data format of your choice.

The layout and organization of this report is identical to the *Understanding Target Customers Report* displayed above. The difference is that it identifies the top 20 media vehicles that customers in the *Core* group read, watch, or listen to. It also reports the indexes for *Developmental* customers and the overall customer base for these media vehicles.

This report is very useful in identifying the best media vehicles for communicating with Living in the Green Lane's customer base. In this role, it makes a vital contribution to the company's promotional campaigns.

Taken together, these reports allow you to assess the potential for increased penetration of the current market area, understand which products customers purchase and how they fit into their lifestyle patterns, and how to communicate *Living in the Green Lane's* promotional messages to them more effectively.

Question 2: *How do the Understanding Your Target Customer and Developing Marketing Strategies reports increase Living in the Green Lane's ability to reach new customers? Cite examples from each MPI category in the Listen and Read media reports to support your conclusion.*

CREATE SEGMENTATION REPORTS TO IDENTIFY EXPANSION OPPORTUNITIES

The goal of the expansion strategy is to identify concentrations of attractive potential customers in other geographic regions of the United States. Recall that Janice and Steven wish to identify other CBSAs in the United States that can support four *Living in the Green Lane* locations. At least two stores in a new CBSA must be company owned, though the remainder could be franchised to appropriate partners. To build a company store, Janice and Steven require a three-mile-ring service area with home improvement material sales of more than \$15 million per year. Market areas below that level but above \$10 million would be candidates for franchise agreements. You will use business GIS segmentation tools to identify these opportunities.

- 1 Click *File » Open*. Navigate to *C:\My Output Data\Projects\LITGL Minneapolis St Paul\CustomData\ChapterFiles\Chapter10\LITGLSegmentation2.mxd*.
- 2 Click the map file to open it. When prompted to save your existing file, do so, saving it with a different file name in the same folder.

This map is the standard business GIS map, with the addition of *Living in the Green Lane* store and customer layers as well as a thematic layer depicting *Home Related Expenditures by Household at the block group level* in the Minneapolis-St. Paul CBSA. At this scale, this layer is discernible only as a gray polygon covering the Minneapolis-St. Paul area. You will use this national map to identify attractive areas for *Living in the Green Lane's* expansion strategy.

Several reports support market expansion analysis. You will begin by using the *Market Potential Volume Report* to identify CBSAs in the United States with high sales potential for *Living in the Green Lane*.

- 3 Click the drop-down menu on the toolbar; click *Target Marketing*; and then click *Segmentation Charts, Maps, Reports*.
- 4 Click *Create new segmentation charts, maps and reports* and then click *Next*. Click *Segmentation reports* and click *Next* to open the *Segmentation Reports* dialog box, which lists the available reports.
- 5 Select *Market Potential with Volume Report* and click *Next*. In the next window, select *LITGLCustVol* as the profile, *MinnStPaulCBSA Profile* as the base profile, and *Total Households* in the Select Base box and click *Next*.
- 6 In the next window, select *CBSAs* as the *Geography* level and click *Next*.
- 7 In the next window, select the *Create Market Potential Map* option, designate *Expected Volume* in the *Thematic Map* field, and click *Next*. In the next window, enter **LITGL CBSA Market Potential with Volume Report** in both the *Name* and *Title* fields.
- 8 Select the *View Report* option and click *Finish*.

Based on *Living in the Green Lane*'s customer profile, the system calculates various market size measures for CBSAs in the United States and creates a report that lists them. In addition, it creates a map layer that symbolizes the expected volume of the CBSAs. The report should resemble the one below and include many of the same attributes as those you have developed in your market penetration analyses. Review it to identify CBSAs with the largest expected volume and average expected sales per household.

Market Potential Report

Market Potential data measures the likely demand for a product or service for your market area by a specific geography level. You can use this report to make decisions about where to offer products and services.

The Expected is the estimated number of adults or households that use a particular product or service.

The Penetration Percent is a measure of the percent of adults or households that use a particular product or service compared to the Total Households or Total Adults in the geography.

The Index measures the likelihood of adults or households in a specified area to exhibit certain consumer behavior compared to the base area average. The index is tabulated to represent a value of 100 as the overall demand for the base area. A value of more than 100 represents high demand; a value of less than 100 represents low demand. For example, an index of 120 implies that demand in the trade area is likely to be 20 percent higher than the base area average; an index of 85 implies demand is 15 percent lower than the base area average.

The Expected Volume is the estimated volume usage of a particular product or service. Depending on the volumetric value used, this could be a count or a dollar amount.

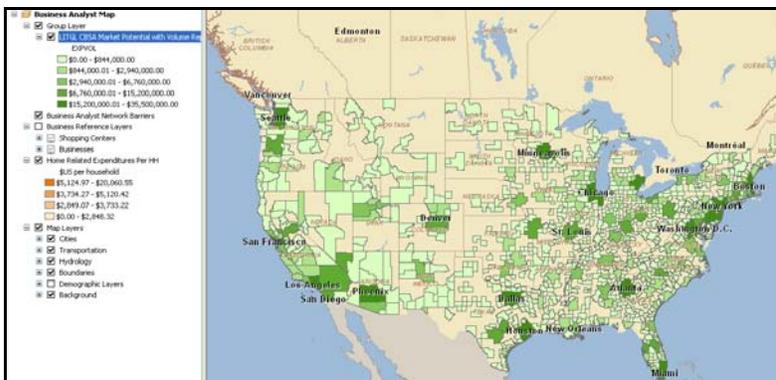
The Average Volume is the average volume usage per adult or household.

The Volume Index measures the likelihood of adults or households in a specified area to exhibit certain consumer behaviour compared to the base profile average. The index is tabulated to represent a value of 100 as the overall demand for the base area. A value of more than 100 represents high demand; a value of less than 100 represents low demand. For example, an index of 120 implies that demand in the trade area is likely to be 20 percent higher than the base profile average; an index of 85 implies demand is 15 percent lower than the base profile average.

Geographies by Market Potential Data:

Geography ID	Name	Total	Expected	Percent Penetration	Index	Expected Volume	Average Volume	Volume Index
14740	Bremerton-	93,321.00	120.00	0.13	83	1,139,644.04	9,497.03	93
42020	San Luis Obispo-	105,374.00	135.00	0.13	83	1,247,791.43	9,242.90	90
41620	Salt Lake City, UT	379,296.00	488.00	0.13	83	4,635,638.66	9,499.26	93
16940	Cheyenne, WY	35,669.00	46.00	0.13	84	414,463.23	9,010.07	88
42660	Seattle-Tacoma-	1,369,762.00	1,770.00	0.13	84	17,452,289.2	9,860.05	96
36260	Ogden-Clearfield, UT	176,193.00	230.00	0.13	85	2,195,908.66	9,547.43	93
42060	Santa Barbara-Santa	143,873.00	191.00	0.13	86	1,638,991.05	8,581.10	84
36500	Olympia, WA	101,503.00	135.00	0.13	86	1,274,220.05	9,438.67	92
39580	Raleigh-Cary, NC	445,377.00	589.00	0.13	86	6,048,145.32	10,268.50	100
30500	Lexington Park, MD	38,393.00	52.00	0.14	88	520,379.63	10,007.30	98
39900	Reno-Sparks, NV	168,832.00	230.00	0.14	88	2,245,959.22	9,765.04	95
29820	Las Vegas-Paradise,	729,385.00	1,012.00	0.14	90	9,851,109.77	9,734.30	95
40900	Sacramento-Arden-	801,275.00	1,123.00	0.14	91	11,085,926.2	9,871.71	96
33460	Minneapolis-St. Paul-	1,289,983.00	1,822.00	0.14	92	18,578,030.0	10,196.50	100

The map should resemble the one below. CBSAs in darker colors are those with the highest levels of expected sales volume, while those in lighter colors have lower values. Several CBSAs are candidates for *Living in the Green Lane's* initial geographic expansion.



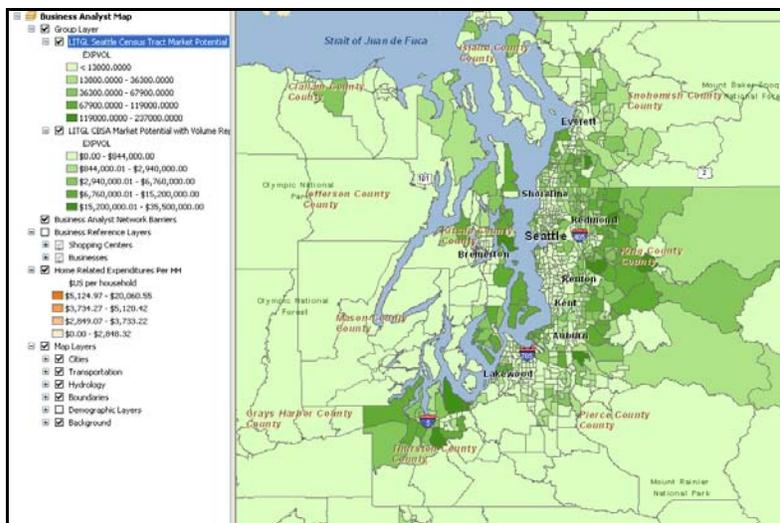
Based on the report and map, Janice and Steven have chosen to explore the Seattle-Tacoma-Bellevue, Washington, CBSA first, as it has approximately the same number of households as

Living in the Green Lane's current market, with similar market conditions and sales opportunities. In addition, this region of the country is known for its concern for environmental and sustainability issues, rendering it an attractive candidate for expansion.

EXPLORE THE CBSA

- 1 Zoom to the *Seattle-Tacoma-Bellevue CBSA*. Note that the *Olympia, Washington CBSA* is contiguous with Seattle and will also be included in the analysis. Run a second *Market Potential Volume* report, but select *Census Tracts* instead of *CBSAs* as the *Geography* level and enter **LITGL Seattle Census Tract Market Potential with Volume Report** in the *Name* and *Title* fields. Select *View Report* in the final window and click *Finish*.

The software repeats its processing steps and produces a similar report and map. The report layout is similar to the one above, though it reports data at the census tract rather than the CBSA level. It may require editing with Crystal Reports to display all fields properly. The map should resemble the one below:

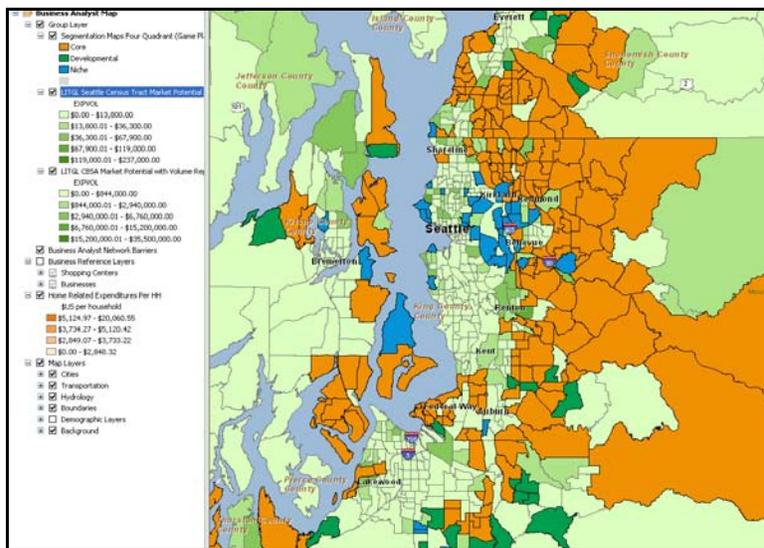


This map offers a more detailed picture of expected sales concentrations in this market area. Darker colors represent higher levels of expected sales, and lighter colors represent lower levels. You will use this map to assess the ability of this market area to support multiple *Living in the Green Lane* stores. Before doing so, however, you will explore the distribution of the company's *Core*, *Developmental*, and *Niche* groups in this area with the *Four-Quadrant (Game Plan) Map*.

The *Four Quadrant (Game Plan) Map* supports the analysis of growth opportunities, as do the *Target Map* and the *Target Penetration Map*. The *Target Map* reports the presence or absence of target customer segments in designated levels of geography. The *Target Penetration Map* reports the penetration levels of target customers as a percentage of total households by selected geography. These are useful measures of concentration when sales data is lacking, but that is not the case here.

- 2 Click the drop-down menu on the toolbar; click *Target Marketing*; and then click *Segmentation Charts, Maps, Reports*. Click *Create new segmentation charts, maps and reports* and click *Next*. Click *Segmentation Maps*, and click *Next*. In the next window, select the *Four-Quadrant (Game Plan) Map* option and click *Next*.
- 3 In the next window, select the *Create new Game Plan* option and click *Next*. In the next window, select *Lifemodes* in the *Groups* field, *LITGLCustVol* as the target profile, and *MinnStPaulCBSA Profile* as the base profile. The next window displays the *Game Plan* chart. Accept the default values of 4 in the *Percent (%) Composition Volume* field and 110 in the *Index* field and click *Next*.
- 4 In the next window, select *Tracts* for *Mapping Layer* and *Total Households* for *Segmentation base*. Select the *mapping layer* option but *not* the *mapping report* option, and then click *Next*. Enter **LITGL Seattle CT Game Plan Map** in the *Name* field and click *Finish*. When the map layer is displayed, open its *Properties* box, click *Display*, and set the *Transparency* of the layer to 0 percent so its values are clear.

The system assesses the composition of each census tract in the map extent, assigns it to one of four quadrants in the *Game Plan* model, and creates a map layer that indicates the designation of each census tract. The map should resemble the one below:



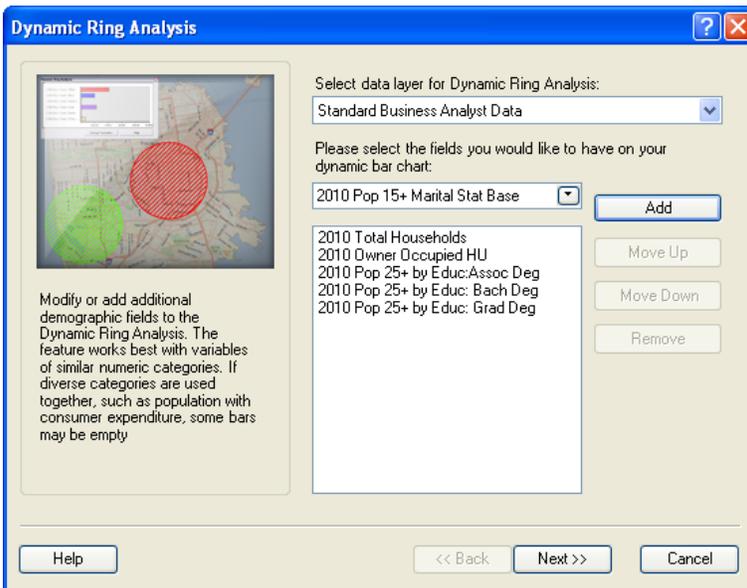
This map identifies concentrations of *Living in the Green Lane's Core*, *Developmental*, and *Niche* customers. *Core* customer concentrations present the strongest expansion potential, though *Developmental* and *Niche* customers are also important for future growth.

- 5 Toggle this map with the *Market Potential Volume* layer to compare customer segments with anticipated sales levels.

Question 3: Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient clusters of Core and Developmental customers to support expansion into this area? Explain your answer.

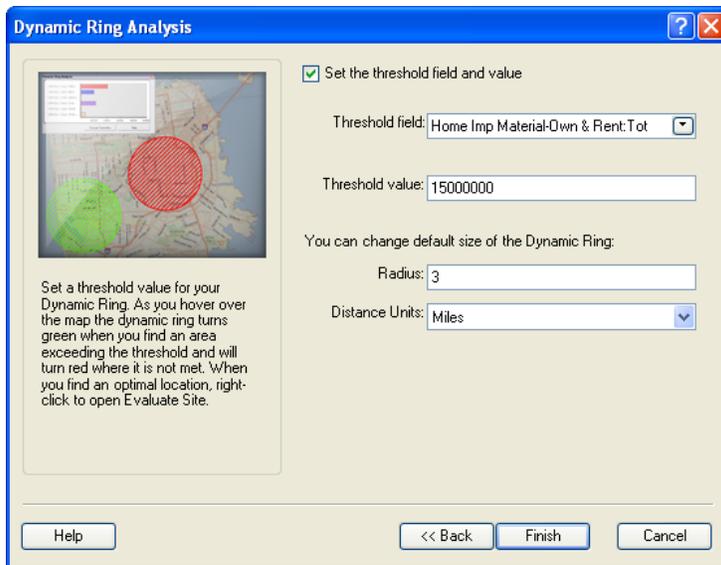
These maps display the distribution of expected sales and customer segments across this potential market area. You must now determine whether this distribution will support four new stores, which is Janice and Steven's objective. You will use the *Dynamic Ring Analysis* tool for this purpose.

- 6 Turn off the *Game Plan* layer. Click the *Toggle Business GIS Window* button  to open this window. At the bottom of the window, under *Favorites*, click the *Dynamic Ring Analysis Tool* button . This loads a graph displaying selected attributes on the left of the map.
- 7 Click the *Change Parameters* button at the bottom of the graph to load the *Dynamic Ring Analysis* wizard. Adjust the settings of the wizard until it resembles the screen below and click *Next*.



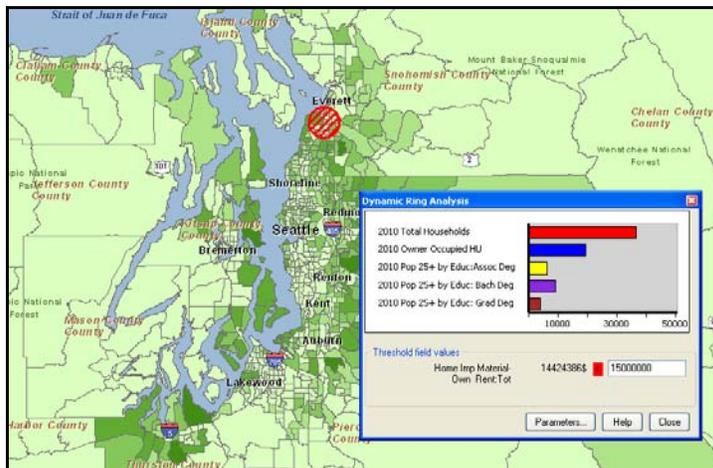
- 8 Click *Next*. In the resultant box, select the threshold option, select *Home Imp Material-Own & Rent: Tot* as the threshold field, and enter **15000000** (\$15 million) as the threshold value.
- 9 Set *Radius* as **3** and the *Distance* unit as **Miles**.

With these settings, the *Dynamic Ring* tool will distinguish between those three-mile-ring areas in which total home improvement materials expenditures are greater than \$15 million and those that fall below this level. Recall that this is the level of sales Janice and Steven require for a market area to support a company-owned store. This box should resemble the one below:



10 Click *Finish* to apply the settings and close the box.

11 With the *Dynamic Ring* icon, move around the map. Locate a site near dark green census tracts with high levels of expected sales volume and click on it. Depending on where you clicked, your map will resemble this one in structure (but not in location):



The map displays a hashed circle in a three-mile ring around your chosen site. A red ring indicates that this area falls below the \$15 million expenditure threshold, while a green ring indicates an area above the threshold. The bar chart to the left displays the number of households; owner-occupied housing units; and persons with associate, bachelor, and graduate degrees in that area. Just below the chart is a field that reports the expected sales value within this ring and whether this value exceeds (green square) or is exceeded by (red square) the threshold sales level.

Continue to move around the potential market area, trying several locations in search of attractive potential sites. If you find four geographically dispersed sites that meet the expenditure threshold, *Living in the Green Lane* can serve the market area with its own stores.

- 12 If you do not find four such sites, or if you wish to explore the incremental expansion potential of franchising, click the *Change Parameters* button and reduce the threshold from \$15 million to \$10 million. Recall that this is Janice and Steven's expenditure threshold for franchising agreements.

Revisit several of the sites that did not meet the \$15 million threshold and click again. Note that the actual expenditure figure is reported in the box at the bottom of the bar chart window. Use this procedure to identify potential sites whose expenditures lie between \$10 million and \$15 million. These are candidates for expansion through franchise agreements.

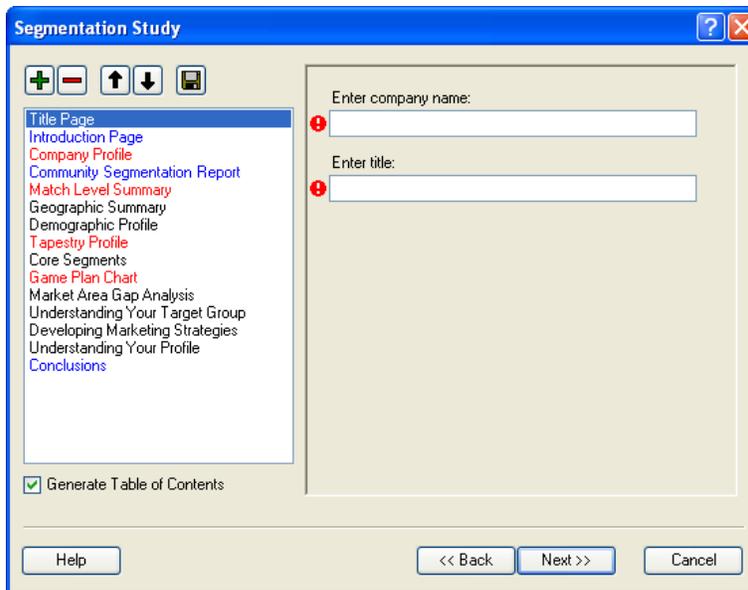
If you identify at least two sites that meet the threshold for company-owned stores and at least two other sites that meet either this threshold or the lower threshold for franchise agreements, you may conclude that the Seattle-Tacoma-Bellevue, Washington, area will support *Living in the Green Lane's* objectives for its initial geographic expansion. You may repeat this process with other attractive CBSAs to develop a national expansion plan. You will then be ready to replicate the trade area and customer analytic procedures you used to select specific store sites in the Minneapolis-St. Paul area in each of the new CBSAs.

Question 4: *Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient market opportunities to support expansion into this area? Explain your answer.*

CREATE SEGMENTATION STUDY REPORT

For purposes of formally reporting segmentation analysis results, the *Segmentation Study* report integrates the results of several of the analyses you have performed. The wizard that creates the report uses a template that combines descriptive text with report elements based on several segmentation tools. You may revise the default settings to include segmentation reports of your choice. To use the wizard, identify the existing reports you wish to include and provide appropriate settings for each new report element.

- 1 Click the drop-down menu on the toolbar, click *Target Marketing*, and then click *Segmentation Study*. Click *Create a new Study* and click *Next*.
- 2 In the next window, click *Standard Segmentation Study Template* and click *Next* to open the *Segmentation Study* contents page. (If a box appears informing you that *Some items are not valid*, click *OK* to continue. Repeat as necessary throughout this process.)



- 3 Enter *Living in the Green Lane* in the company name box and *Living in the Green Lane Segmentation Study* in the title box. Click the *Company Profile* element in the left box to open its dialog box. Click the *Remove* button  at the top of the box to remove it from the list, as you do not wish to include a company profile.
- 4 Click the *Match Level Summary* element to open its box. Select *LITGL Customers by Store* as the customer layer and enter *LITGL customers and their store affiliation* in the description field.

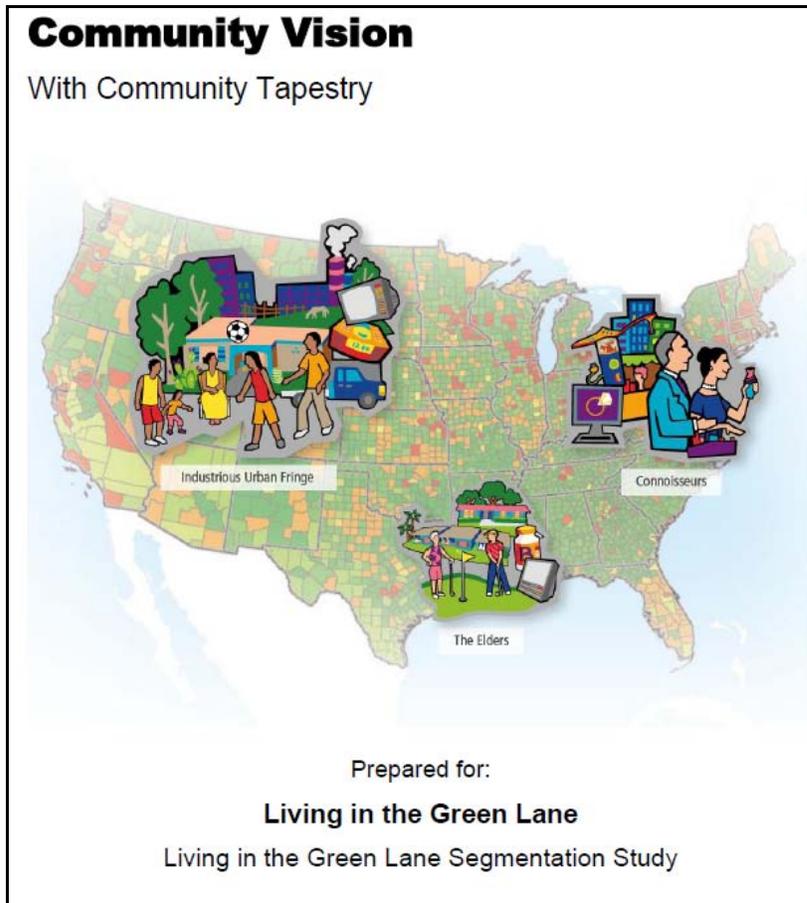
Note that as you complete the required fields for an element, its color changes from red to black in the elements list. You should review the elements in black type as well to observe the settings with which they will be processed. When all the elements are complete, you are ready to run the study.

- 5 Continue to supply required information for each of the elements in the list. The following appear in many of the elements and should be entered consistently:
 - *Geography level—Block Groups*
 - *Target segmentation profile—LITGLCustVol*
 - *Base segmentation profile—MinnStPaulCBSA*
 - *Percent composition threshold—4*
 - *Index threshold—110*

When prompted for descriptions of fields, enter brief descriptions of your choice.

- 6 When the required fields have been entered for all the elements and they are listed in black, click *Next*. In the next box, enter *LITGL Segmentation Study* as the *Study* name, confirm that the *Print this Study now!* option is not selected, and click *Finish*.

Using the settings you provided, the system generates all the study elements, combines them into a single document, and displays the study on the screen, allowing you to export it to a variety of data formats. The study is quite long, but the title page should resemble this:



The formal *Segmentation Study* is now ready to be printed to serve as a support document for your presentation, conclusions, and recommendations. By adjusting the contents of the study to the exact topic of your analysis, you can customize it to the reporting requirements of each project.

The study you created will communicate the results of your segmentation analysis and support both the penetration and expansion growth strategies envisioned by Janice and Steven.

Submit your work

Submit answers to the following questions in a Microsoft Word document:

Question 1: *Based on this analysis, does sufficient opportunity exist in the Minneapolis-St.Paul area to support Living in the Green Lane's penetration strategy? Explain your answer.*

Question 2: *How do the Understanding Your Target Customer and Developing Marketing Strategies reports increase Living in the Green Lane's ability to reach new customers? Cite examples from each MPI category in the Listen and Read media reports to support your conclusion.*

Question 3: *Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient clusters of Core and Developmental customers to support expansion into this area? Explain your answer.*

Question 4: *Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient market opportunities to support expansion into this area? Explain your answer.*

Credits

Data

Data displayed in screen captures of Business Analyst is courtesy of Esri; the U.S. Census Bureau; Infogroup; the Bureau of Labor Statistics; Applied Geographic Solutions, Inc.; Directory of Major Malls, Inc.; GfK Mediamark Research & Intelligence, LLC (GfK MRI); and Market Planning Solutions, Inc.

Instructor resources

Contextual information

This SpatialLAB is written for business students in an integrated business GIS course at the undergraduate or graduate level. It may be used to replace the exercises in chapter 10 of *Getting to Know ESRI Business Analyst* in labs with Business Analyst Desktop Premium 10 installed. The emphasis is on using existing customer profiles to perform segmentation analyses in support of market penetration and geographic expansion growth strategies.

This lab demonstrates how to use existing profiles of a firm's customers to generate reports and maps that support penetration and expansion marketing strategies.

Upon completion of the lab, students may be required to submit answers to several questions based on their observation of the maps and reports they have created. Alternatively, students may be required to submit a project report covering their work in this lab or a combined report on this lab and the *Customer Profiling SpatialLAB*.

Analysis and visualization tools

Business Analyst Desktop Premium 10 and the *Living in the Green Lane* Minneapolis-St. Paul project file are required to complete this exercise.

Data information

All the data for this exercise is provided by Business Analyst Desktop Premium 10.

Data sources

Esri Business Analyst and Tapestry Data

Answer key

Question 1: *Based on this analysis, does sufficient opportunity exist in the Minneapolis-St.Paul area to support Living in the Green Lane's penetration strategy? Explain your answer.*

Yes, the areas immediately surrounding each store are well served. However, both the map and Gap Analysis reports reveal block groups in the vicinity of each store with lower than expected customer and sales totals. Reaching potential customers in these areas should be the key objective of the penetration strategy.

Question 2: *How do the Understanding Your Target Customer and Developing Marketing Strategies reports increase Living in the Green Lane's ability to reach new customers? Cite examples from each MPI category in the Listen and Read media reports to support your conclusion.*

These reports enable the firm to identify new product and service offerings, appeal to relevant customer values, understand customer behaviors, and communicate through the most commonly used media. The Lawn and Garden category indicates above-average use of the maintenance services and fertilizer products within Living in the Green Lane's product line. The Civic Activities category indicates that these customers have above-average levels of participation in civic groups, contribute to public media, and participate in environmental causes. The Home Improvement category indicates that they are very active in home improvement, renovation, and remodeling projects. The Leisure Activities category indicates that they attend live performances, visit museum and zoos, and dine out and visit theme parks frequently.

The Marketing Strategy reports indicate that Living in the Green Lane's Core and Developmental targets are more likely to listen to talk, alternative, and public (Core group) stations for sports, classical hits, news, religious, and rock content and more likely to read magazines and newspapers with interests ranging from food and wine to sports, business/financial news, and travel. Collectively, these factors allow Living in the Green Lane to develop marketing and communication strategies to serve these customers more effectively.

Question 3: *Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient clusters of Core and Developmental customers to support expansion into this area? Explain your answer.*

It does. Large sections of the CBSA are classified as Core customer groups at the census tract level. This means that the prospects for expansion through company-owned stores, as well as franchised operations, serving these potential customers is strong.

Question 4: *Does the Seattle-Tacoma-Bellevue, Washington, CBSA offer sufficient market opportunities to support expansion into this area? Explain your answer.*

It does. There are multiple sites that meet the criteria for a company-owned store and several others that meet the criteria for franchise operations.

Additional notes

1. Although this lab is integrated with the *Customer Profiling* SpatiaLAB to create a complete project, it is not necessary for students to complete that lab to work with this one. Should you wish to use this lab as a stand-alone exercise, you should choose the reporting option of having students submit answers to the lab's questions or submit a project report based only on this lab.
2. In these instructions, students are directed to use the same settings and chart axes used to define target groups in the *Customer Profiling* SpatiaLAB. This is to maintain a consistent base of content across the reports and illustrate the default settings in the software. Encourage students to experiment with these settings or use the customized target group they created in the *Customer Profiling* SpatiaLAB in these tools. This will provide them with a sense of their options in analyzing customer segmentation data in this system.
3. Similarly, students are instructed to use four specific MRI groups in the Understanding Your Target Group report. Encourage them to rerun this report for another collection of MRI groups. Ask them to justify their selection and, when they have reviewed the results, how they will use the insights from these reports in adapting *Living in the Green Lane's* product and service mix.
4. In this lab, students evaluate only one CBSA as a new potential market. Encourage them to focus on additional CBSAs by repeating the more detailed analysis described here. Are there other CBSAs that meet the expansion criteria? If so, how should the firm decide among them?
5. While this lab, in a sense, completes the analytic processes of this series of business GIS SpatiaLABs, in reality, it brings them full circle. The next step in this enterprise's growth strategy would be to focus on the selected CBSAs using the tools of site selection and customer analysis used in earlier stages of this firm's development. This illustrates the continuing and growing role of these technologies in the planning process for the organization as it matures.
6. Instead of a project report consisting of answers to lab questions, you may wish to have students complete a more comprehensive report covering both this lab and the *Customer Profiling* SpatiaLAB. If so, you may wish to use the following structure and guidelines for that report. Feel free to adjust this format to your preferences or class requirements.

Report format

Each of your reports should be about six to eight pages in length and should follow this format:

- I. **Introduction**—A summary of the circumstances addressed by the research project
- II. **Problem statement**—A statement of the problem addressed by the project
- III. **Data information**—A statement of the sources and dates of all data used in the analysis
- IV. **Analytical methods**—A description of the analytic procedures used and how they will help solve the problem
- V. **Research results** (the largest section of the project)—To include
 - A. Presentation of the results of the analysis
 - B. Exhibits such as the required maps, charts, and tables and any others you wish to include to clarify your report
- VI. **Conclusions and recommendations**—Recommended response to the problem based on the results of the analysis

Business GIS references

Business Analyst Resource Center.

<http://resources.esri.com/businessAnalyst/>

BusinessGeoInfo newsletter.

<http://www.esri.com/industries/business/community/newsletter.html>

Directions Magazine (Look for articles on business applications of GIS).

<http://www.directionsmag.com/>

Dramowicz, Ela. 2005. "Retail Trade Analysis Using the Huff Model." *Directions* Magazine. June 29.

Esri Business GIS site—Resources for business applications of GIS.

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