

Economic Impact of Oakland County's Water Resources

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Executive Summary

Oakland County, Michigan, boasts an extensive green infrastructure network and diverse natural environment that contributes substantially to residents' quality of life. It is also Michigan's most densely populated county and leads the state in terms of economic prosperity. As Oakland County grows and pursues its economic development objectives, its natural resources are under increasing pressure. To better understand the impact of Oakland's green infrastructure assets on the local economy, the county retained the services of Public Sector Consultants to prepare an analysis of the economic value of Oakland's green infrastructure assets. This study documents, and quantifies where possible, how green infrastructure (water resources in particular) benefit Oakland County's residents and businesses. Key findings of the research include the following:

RECREATION

- Oakland County residents attribute substantial value to the county's green infrastructure and water resources. The value derives in part from direct use. About 40 percent of county residents use the county's recreational resources at least once per week. Green infrastructure resources contribute substantially to residents' quality of life. In general, however, the contribution of green infrastructure is considered less important to quality of life than community characteristics such as high-quality schools or low crime rates.
- County residents visit water recreation sites primarily for general recreation (walking, running, biking, picnicking, relaxing, etc.). Watching wildlife is the next most frequent activity, followed by swimming or using a beach. Fewer residents engage in power boating, canoeing, fishing, and hunting.
- Among residents who use local recreational resources, more visit parks (80 percent) than any other recreational resource. About 60 percent to 65 percent visit trails, public lakes, and rivers and streams. Fewer people visit undeveloped woods and fields (54 percent), private lakes (45 percent), and wetlands (43 percent).
- When accounting for the *frequency* of visits, however, residents make the most visits to wetlands (an average of 29 visits per year per household). Residents visit rivers and streams an average of 26 times per year, private lakes an average of 25 times per year, parks an average of 23 times per year, trails and public lakes an average of 22 times per year, and undeveloped woods and fields an average of 18 times per year.¹
- Considering only aspects of green infrastructure, county residents rate general characteristics such as the quality of the natural environment and scenic beauty as more important than specific components like trails, pathways, and water resources. This finding suggests that county residents value green infrastructure at least as much for reasons not related to recreational use as for direct use.
- Five primary recreational activities dependent on Oakland County's water resources generate an estimated \$200 million in annual recreational benefits to county residents,

¹ Variations in average visitation rates between parks, trails, and undeveloped woods and fields and between wetlands and rivers are not statistically different. All other differences are significant at a level of at least 90 percent.

even based on seemingly conservative estimates of day use values. Two categories of activity, beach visits/swimming, and canoeing/kayaking/sailing, generate over half of the total value.

TOURISM

- Oakland County attracted an estimated 394,514 pleasure trips from Michigan, neighboring states, and the province of Ontario during 2007. About 1.3 million people visited Oakland County on these trips and spent an average of 3.5 days in the county.
- While recreation is rarely the primary purpose of pleasure trips to Oakland County, recreational activities figure prominently in visitors' activities while in the county. More than 40 percent of visitors (accounting for approximately 161,000 pleasure trips) engaged in some outdoor activity in Oakland County, and 20 percent (accounting for approximately 78,000 pleasure trips) engaged in activities that directly depended on water resources.
- Even though a substantial number of tourists engage in water-based recreation while they are in Oakland County, this type of recreation is rarely the primary purpose of their trips.
- Available tourism data do not provide the activity-specific spending information necessary to estimate the direct impact of water-based recreation; however, the fact that in 2007 an estimated 78,000 pleasure trip visits to Oakland County involved water-based recreation suggests that the economic impact of the county's water resources is not trivial.

ECOSYSTEM SERVICES

- Oakland County's substantial and varied freshwater resources likely produce substantial ecosystem services. Many of these services accrue primarily to Oakland County residents and other residents of the five watersheds of which Oakland County is the source.
- Oakland County's water resources produce an estimated \$806 million in ecosystem services annually, \$167 million attributable to 34,600 acres of lakes and ponds and \$639 million stemming from 56,400 acres of wetlands.
- Three services (disturbance regulation values associated with wetlands, water supply values of wetlands, and water regulation values of lakes and rivers) account for almost three-quarters of the total value of freshwater ecosystem services in the county.

BUSINESS LOCATION AND RETENTION

- A substantial proportion of firms felt that access to parks, trails, and paths (34 percent); access to water-based recreation (23 percent); and proximity to natural areas (18 percent) were at least of moderate importance in their decision to locate in Oakland County.
- Similarly, green infrastructure affected many firms' perceived ability to attract and retain a high-quality workforce. More than half (59 percent) said that access to parks,

trails, and paths influenced recruiting and retention; 54 percent said that access to water-based recreation was at least moderately important in recruiting; and 49 percent said the same of proximity to natural areas.

- Although green infrastructure factors were important to many firms, even more firms ranked business-oriented factors (proximity to customers, labor and costs, access to transportation, and government support) and community factors (quality of schools, safety, housing costs) as important factors for business location decision-making.
- While New Economy firms (such as financial, health, information, and professional services) and smaller firms (fewer than 20 employees) also ranked business-oriented and community factors as more important than green infrastructure to location decisions and recruiting, they placed a greater importance on many green infrastructure factors than did other types of firms.

In summary, the research found that Oakland County's green infrastructure and water resources are a substantial source of value to county residents, visitors, and others who live in the five watersheds to which Oakland County's water resources contribute. They also contribute to making Oakland County a desirable place in which to locate a business, play a role in attracting businesses to Oakland County, and make it easier for firms to recruit and retain employees.

Introduction

The term “green infrastructure” means different things to different people, but the definitions have in common a recognition of the importance of the natural environment in providing services for communities. A Green Infrastructure Work Group, consisting of representatives of the U.S. Department of Agriculture (USDA) Forest Service; local, state, and federal agencies; and nongovernmental organizations, including The Conservation Fund, defines green infrastructure as:

an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas; greenways, parks and other conservation lands; working farms, ranches, and forests; and wilderness and other open spaces that support native species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life for America’s communities and people (Benedict and McMahon 2002).

Located in southeast Michigan, Oakland County is part of the greater Detroit metropolitan area and has a strong history of economic prosperity. Key indicators presented below characterize the county’s economic profile:

- Oakland County ranks first among Michigan counties in mean annual household earnings (\$81,000) and second in median annual household income (almost \$61,900) (U.S. Census Bureau, November 2002).
- Oakland County’s 41,812 businesses and government agencies employed more than 720,000 people with a total annual payroll of over \$35 billion in 2005.
- About 60 percent of Fortune 500 companies and 50 percent of Global Fortune 500 companies have locations in Oakland County.
- Oakland County is home to 70 percent of southeast Michigan’s OEM (original equipment manufacturer) parts suppliers and 46 percent of Michigan’s research and development firms (Oakland County Fast Facts).
- Oakland County is one of only 20 counties in the nation with a Triple-A bond rating.

In terms of population, approximately 1.2 million people or roughly 12 percent of all Michigan residents live in Oakland County. It is also Michigan’s most densely populated county, with 95 percent of the population classified as urban (U.S. Census Bureau, September 2002).

In spite of its location in a major metropolitan area and its largely urban population, Oakland County boasts an extensive and diverse natural environment that, in addition to numerous lakes and wetlands, includes substantial areas of undeveloped forests and open space. These resources provide recreational opportunities to county residents as well as to visitors; provide ecosystem services such as wildlife habitat, flood control, and water supply; serve as a recreational resource for tourists from outside the county; and contribute to an environment that attracts businesses and workers to Oakland County.

As Oakland County grows and pursues its economic development objectives, these resources are under increasing pressure from development and population growth. It is likely that Oakland County's prosperity depends to some extent on its natural environment and recreational infrastructure. To see if evidence supports this assertion, the county has taken steps to document and quantify the role that Oakland County's green infrastructure assets play in the local economy. In 2007, the county worked with Michigan State University's Land Policy Institute to document the impact that proximity to green infrastructure assets has on residential property values. Results of this work indicate that specific green infrastructure amenities (lakes and rivers, recreation lands, and trails and paths) contribute positively and significantly to residential property values. For example, the study concluded that residential properties in Oakland County that are situated within 15 meters of a lake have an average \$55,082 greater market value (Land Policy Institute, December 2007).

The county hopes local communities will utilize this information in support of progressive and forward-looking planning to retain, enhance, and maintain a strong green infrastructure network that complements growth and economic development. The results of this study clearly indicate that Oakland's green infrastructure assets contribute significantly and positively to the county's economy and quality of life and should be considered as an integral component to local economic development strategies.

This introduction first briefly reviews the purpose of the study and the methods employed to carry out the work. It then presents a profile of Oakland County's green infrastructure and water resources. Finally, it reviews the key study findings. The chapters of the report that follow the introduction describe the four key components of the research individually.

STUDY PURPOSE AND METHODS

Public Sector Consultants (PSC) worked on this study with Oakland County's Planning & Economic Development Services (PEDS) office, a division within the county's Economic Development and Community Affairs Department. The PEDS office assists in preserving and strengthening the economic base and natural environment in order to maintain and create sustainable and distinctive communities for the present and future residents of Oakland County.

This study focuses primarily on one component of Oakland County's green infrastructure, its abundant water resources. Surveys and secondary data were used to identify the ways in which water resources benefit Oakland County's residents and businesses and, to the extent possible, to quantify these benefits in monetary terms. Primary components of the research include:

- **Estimating recreational values to Oakland County residents**—PSC designed and administered a survey of 600 Oakland County households to determine their recreational use of the county's green infrastructure and water resources. Recreational use levels were multiplied by existing estimates of the value of recreational activities to obtain an estimate of the recreational value of Oakland County's water resources to county residents.

- **Reviewing ecosystem service values**—A literature review summarized the ecosystem services associated with Oakland County’s water resources and estimates of the economic value of those resources.
- **Estimating tourism activity and values**—The study used secondary data from Michigan State University’s Michigan Travel Market Survey to estimate tourism activity from neighboring states and provinces to Oakland County.
- **Assessing the impact of the county’s natural environment on business location decisions and employee recruiting and retention**—PSC designed and administered a survey of Oakland County businesses to assess the importance of the county’s green infrastructure and water resources in attracting businesses to the county and on the ability of those firms to attract and retain workers.

OAKLAND COUNTY’S GREEN INFRASTRUCTURE AND WATER RESOURCES

Oakland County owes its natural diversity and abundance of water resources to events of the distant past. Approximately 14,500 years ago the last glaciers to cover the state of Michigan began to melt and their retreat gave rise to the major river drainage systems of the Great Lakes basin. As the glaciers melted they deposited large amounts of sediment and debris across the landscape and created the glacial moraines and associated lakes, rivers, and wetlands that now dominate Oakland County’s landscape.

Today, Oakland County’s rolling landform is a mosaic of remnant natural features combined with commercial, residential, and industrial land uses and transportation corridors. Undeveloped forests and fields in both public and private ownership; state, county, and municipal parks; and a developing trail system tie many of these components together for recreational use.

Roughly one-quarter of Oakland County’s area is accessible for public recreation, an impressive figure for a largely urbanized county. Key features of Oakland County’s natural environment and recreational infrastructure include:

- About 1,450 lakes covering 34,600 acres (6.0 percent of the total area of the county)
- Over 25,000 acres of wetlands (4.3 percent of the total land area)
- Headwaters of five major rivers (Clinton, Flint, Huron, Rouge, and Shiawassee)
- Over 80,000 acres of public parks and recreation land (13.9 percent of the county’s area)
- 342 public and private beaches
- An extensive network of public trails including 96 miles of completed trails, 13 miles in the planning and design phase, and 155 miles under consideration

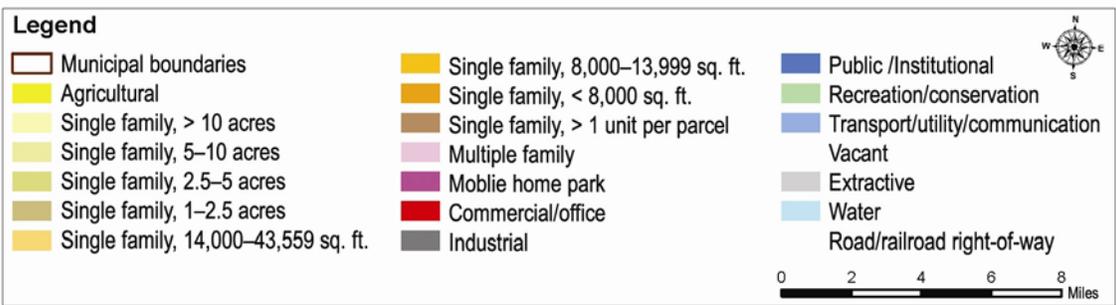
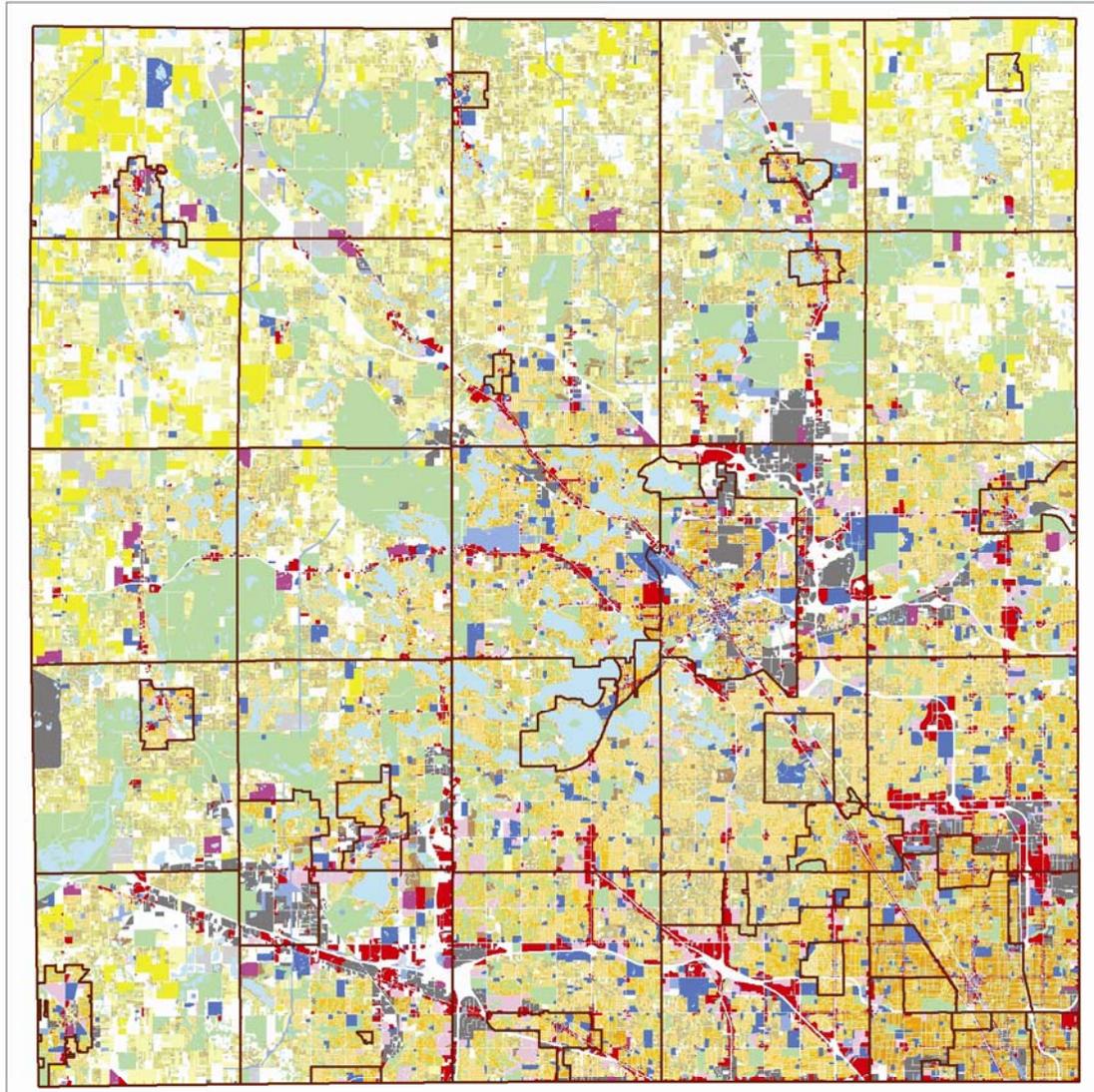
Between 2005 and 2008, PEDS facilitated a series of workshops with participants from Oakland County communities to establish a countywide green infrastructure vision. Generally, workshop participants (5–8 people) included community planning commission members, zoning board of appeals members, residents, and parks and public works employees. During the workshops, community participants used their local knowledge and a set of information resource maps (including aerial photography, water resources,

trails and recreation lands, remaining high-quality natural areas, land use, topography, etc.) to identify and document the community's existing green infrastructure. When compiled, the information creates a countywide vision that can be used to guide future conservation activities. Exhibit 1 illustrates the extent of Oakland County's green infrastructure as identified during the workshops.

Exhibit 2 shows the pattern of development in Oakland County within which its green infrastructure provides services.² The density of commercial, industrial, and residential development declines with movement away from the southeast corner of the county. The concentration of lakes in the center of the county is largely developed but has substantial areas of recreation and conservation land nearby. The northern and western edges of the county are less densely populated and contain agricultural and vacant lands in addition to most of the recreation and conservation land in the county.

² Land use is derived from tax classifications of parcels.

EXHIBIT 2
Oakland County Land Use (2007)



SOURCE: Oakland County, 2008.

While much of the research conducted in conjunction with this report addresses green infrastructure in general, the main focus of the report, particularly the economic valuation component, is on water resources.

KEY FINDINGS

Oakland County's green infrastructure and water resources are a substantial source of value to county residents, visitors, and others who live in the five watersheds to which Oakland County's water resources contribute. They also contribute to making Oakland County a desirable place in which to locate a business, play a role in attracting businesses to Oakland County, and make it easier for firms to attract employees. Key findings of the research with respect to recreation, tourism, ecosystem services, and business location/retention include the following:

Recreation

- Oakland County residents attribute substantial value to the county's green infrastructure and water resources. The value derives in part from direct use. About 40 percent of county residents use the county's recreational resources at least once per week. Green infrastructure resources also contribute substantially to residents' quality of life. In general, however, the contribution of green infrastructure is less important to quality of life than community characteristics such as high-quality schools or low crime rates.
- County residents visit water recreation sites primarily for general recreation (walking, running, biking, picnicking, relaxing, etc.). Watching wildlife is the next most frequent activity, followed by swimming or using a beach. Fewer residents engage in power boating, canoeing, fishing, and hunting.
- Among residents who use local recreational resources, more visit parks (80 percent) than any other recreational resource. About 60 percent to 65 percent visit trails, public lakes, and rivers and streams. Fewer people visit undeveloped woods and fields (54 percent), private lakes (45 percent), and wetlands (43 percent).
- When accounting for the *frequency* of visits, however, residents make the most visits to wetlands (an average of 29 visits per year per household). Residents visit rivers and streams an average of 26 times per year, private lakes an average of 25 times per year, parks an average of 23 times per year, trails and public lakes an average of 22 times per year, and undeveloped woods and fields an average of 18 times per year.³
- Considering only aspects of green infrastructure, county residents rate general characteristics such as the quality of the natural environment and scenic beauty as more important than specific components like trails, pathways, and water resources. This finding suggests that county residents value green infrastructure at least as much for reasons not related to recreational use as for direct use.
- Five primary recreational activities dependent on Oakland County's water resources generate an estimated \$200 million in annual recreational benefits to county residents, even based on seemingly conservative estimates of day use values. Two categories of

³ Differences in average visitation rates between parks, trails, and undeveloped woods and fields and between wetlands and rivers are not statistically different. All other differences are significant at a level of at least 90 percent.

activity, beach visits/swimming, and canoeing/kayaking/sailing, generate over half of the total value.

Tourism

- Oakland County attracted an estimated 394,514 pleasure trips from Michigan, neighboring states, and the province of Ontario during 2007. About 1.3 million people visited Oakland County on these trips and spent an average of 3.5 days in the county.
- While recreation is rarely the primary purpose of pleasure trips to Oakland County, recreational activities figure prominently in visitors' activities while in the county. More than 40 percent of visitors (accounting for approximately 161,000 pleasure trips) engaged in some outdoor activity in Oakland County and 20 percent (accounting for approximately 78,000 pleasure trips) engaged in activities that directly depended on water resources.
- Even though a substantial number of tourists engage in water-based recreation while they are in Oakland County, this type of recreation is rarely the primary purpose of their trips.
- Available tourism data do not provide the activity-specific spending information necessary to estimate the direct impact of water-based recreation; however, the fact that in 2007 an estimated 78,000 pleasure trip visits to Oakland County involved water-based recreation suggests that the economic impact of the county's water resources is not trivial.

Ecosystem Services

- Oakland County's substantial and varied freshwater resources likely produce substantial ecosystem services. Many of these services accrue primarily to Oakland County residents and other residents of the five watersheds of which Oakland County is the source.
- Oakland County's water resources produce an estimated \$806 million in ecosystem services annually, \$167 million attributable to 34,600 acres of lakes and ponds and \$639 million stemming from 56,400 acres of wetlands. Oakland County residents are the primary beneficiaries of most of these services although populations downstream in the five watersheds to which Oakland County contributes share in the benefits.
- Three services (disturbance regulation values associated with wetlands, water supply values of wetlands, and water regulation values of lakes and rivers) account for almost three-quarters of the total value of freshwater ecosystem services in the county.

Business Location and Retention

- A substantial proportion of firms felt that access to parks, trails, and paths (34 percent); access to water-based recreation (23 percent); and proximity to natural areas (18 percent) were at least of moderate importance in their decision to locate in Oakland County.
- Similarly, green infrastructure affected many firms' perceived ability to attract and retain a high-quality workforce. More than half (59 percent) said that access to parks,

trails, and paths influenced recruiting and retention; 54 percent said that access to water-based recreation was at least moderately important in recruiting; and 49 percent said the same of proximity to natural areas.

- Although green infrastructure factors were important to many firms, even more firms ranked business-oriented factors (i.e., proximity to customers, labor and costs, access to transportation, and government support) and community factors (i.e., quality of schools, safety, housing costs) as important factors for business location decision-making.
- While New Economy (such as financial, health, information, and professional services) and smaller firms (fewer than 20 employees) ranked business-oriented and community factors as more important than green infrastructure to location decisions and recruiting, they placed a greater importance on many green infrastructure factors than did other types of firms.

Household Recreation Survey

INTRODUCTION

Water resources and other natural features have become a highly valued amenity in many Michigan communities and throughout the nation. They provide residents and visitors with a place for recreation and offer a high-quality setting in which to live. Just like any other infrastructure or local amenity, however, these water resources must be protected to ensure that they maintain their high appeal for residents and visitors and their usefulness in providing a number of ecological services, such as water quality and temperature control, storm water management, groundwater recharge, and wildlife habitat.

Oakland County's Planning & Economic Development Services (PEDS) staff recognize the intrinsic value of their water resources to individuals and the environment, but seek to quantify and document the economic importance of these inherent values to the local economy and the welfare of county residents. To achieve this goal, Public Sector Consultants (PSC) used different valuation approaches, one of which was a telephone survey of Oakland County households that focused on recreational use of the county's water resources. A benefits transfer approach then determined the economic values associated with estimated levels of recreational use.

METHODOLOGY

In April 2008, PSC conducted a telephone survey of 600 households in Oakland County to examine county residents' recreational use of water resources. Survey results provide a basis for estimating the frequency with which Oakland County residents use water resources for recreational purposes. The tightly focused survey addressed three primary issues:

- county residents' perceptions of the relative importance of selected characteristics of Oakland County with a focus on green infrastructure components and water resources,
- the frequency of use of various recreational resources in Oakland County, and
- the frequency of water-based recreation activities.

The survey also collected basic demographic information with which to compare the sample to the general population and to analyze responses.

This study then used a benefits transfer⁴ approach to develop monetary values associated with a day spent on various water-based recreational activities. Coupled with survey estimates of annual recreational use by county residents, these values generate estimates of the economic value to Oakland County residents associated with different water-based recreational activities.

⁴ The benefits transfer approach transfers value estimates from sites where valuation research has been conducted to other sites that lack estimates from original research.

Survey Instrument Development

To develop the survey instrument, PSC followed a process of drafting the instrument, testing it with potential respondents, revising it, and retesting. Specific steps were:

- In collaboration with Oakland County personnel, PSC developed a draft questionnaire that addressed research objectives.
- PSC conducted three focus groups with Oakland County residents to learn how potential respondents thought about and articulated the issues addressed by the survey. Each focus group began with a structured discussion of the issues and ended with a pretest of the draft questionnaire. During the pretests, participants first filled out the questionnaire with instructions to note any questions or difficulties. Subsequent debriefing explored the source of difficulties and how they might be resolved.
- After each focus group PSC modified the questionnaire based on lessons learned during the focus group.
- This process produced a final questionnaire that communicated well with potential respondents and used familiar language and concepts. Appendix A contains the final questionnaire and survey results.

Personnel from Oakland County’s PEDS division of the Economic Development and Community Affairs Department identified and recruited focus group participants. Exhibit 3 summarizes characteristics of the three focus groups.

EXHIBIT 3 Focus Group Details

Date	Location	Participants	
		Recruited from	Number
December 5, 2007	Executive Office Building	County employees	14
December 5, 2007	Executive Office Building	Conservation organizations	17
December 13, 2007	Oakland Schools Admin.	School district employees	9

SOURCE: Public Sector Consultants Inc., 2008.

Sample Selection

PSC expected that respondents’ proximity to water would influence recreational use; therefore a random sample of county residents would not have yielded enough interviews with households living on the waterfront to facilitate statistically significant comparisons between those households and those not living on water. To address this issue, the survey was administered to two strata with a random sample selected from each.⁵ One was a random sample of 300 households in Oakland County and the other was a random sample

⁵ The experimental design called for two strata, (1) all households and (2) households located on the waterfront. A sample of 300 was randomly selected from each stratum. Even though the sample of all households contains some households on the water, those households are not part of the “on-water” stratum. The analysis applies sample weights only to the oversampled on-water stratum and not to the sample of all households for which the sampling rate reflects the entire population.

of 300 households on parcels of land adjacent to a water body measuring 10 or more acres.

PSC used a private vendor to generate the 300-household sample through random digit dialing. To generate the sample of on-water households, PSC used addresses provided by the Oakland County Planning Department, which used its geographic information system (GIS) to identify all residential parcels that intersect a lake of at least 10 acres in size. The selection identified 22,011 households. A private vendor was able to obtain telephone numbers for 12,331 of these households, from which PSC randomly selected 10,000 as potential survey subjects. The private vendor then called households on the list until 300 interviews were completed. The survey has a margin of error of ± 5.6 percent at a 95 percent confidence interval for both strata.⁶

Of the 600 interviews completed, 325 respondents said that the property on which they lived had frontage on a lake, river, or stream and 270 did not (five declined to answer or did not know). Exhibit 4 summarizes characteristics of the sample.

EXHIBIT 4
Sample Characteristics

Sample stratum	Lived on water (from questionnaire)		Don't know/refused	Stratum size
	No	Yes		
Waterfront	21	277	2	300
Non-waterfront	249	48	3	300
Totals	270	325	5	600

SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

KEY FINDINGS

Key conclusions of the survey include:

- Oakland County residents attribute substantial value to the county’s green infrastructure and water resources. The value derives in part from direct use. About 40 percent of county residents use the county’s recreational resources at least once per week. Green infrastructure resources contribute substantially to residents’ quality of life. In general, however, the contribution of green infrastructure is less important to quality of life than community characteristics such as high-quality schools or low crime rates.
- County residents visit water recreation sites primarily for general recreation (walking, running, biking, picnicking, relaxing, etc.). Watching wildlife is the next most

⁶ For example, if the answer to a survey question is 60 percent “Yes,” the margin of error and confidence level mean that if this question were asked 100 times, in 95 occurrences the answer of the entire universe of respondents would be between 54.4 percent and 65.6 percent (i.e., the ± 5.6 percent margin of error). In the other 5 occurrences, the true answer from the universe would be either below or above this range (confidence interval).

frequent activity, followed by swimming or using a beach. Fewer residents engage in power boating, canoeing, fishing, and hunting.

- Among residents who use local recreational resources, more (80 percent) visit parks than any other recreational resource. About 60 percent to 65 percent visit trails, public lakes, and rivers and streams. Fewer people visit undeveloped woods and fields (54 percent), private lakes (45 percent), and wetlands (43 percent).
- When accounting for the *frequency* of visits, however, residents make the most visits to wetlands (an average of 29 visits per year per household). Residents visit rivers and streams an average of 26 times per year, private lakes an average of 25 times per year, parks an average of 23 times per year, trails and public lakes an average of 22 times per year, and undeveloped woods and fields an average of 18 times per year.⁷ Differences in average visitation rates between parks, trails, and undeveloped woods and fields and between wetlands and rivers are not statistically different. All other differences are significant at a level of at least 90 percent.
- Considering only aspects of green infrastructure, county residents rate general characteristics such as the quality of the natural environment and scenic beauty as more important than specific components like trails, pathways, and water resources. This finding suggests that county residents value green infrastructure at least as much for reasons not related to recreational use as for direct use.
- Even based on seemingly conservative estimates of day use values, five primary recreational activities dependent on Oakland County's water resources generate an estimated \$200 million in annual recreational benefits to county residents. Two categories of activity, beach visits/swimming, and canoeing/kayaking/sailing, generate over half of the total value.

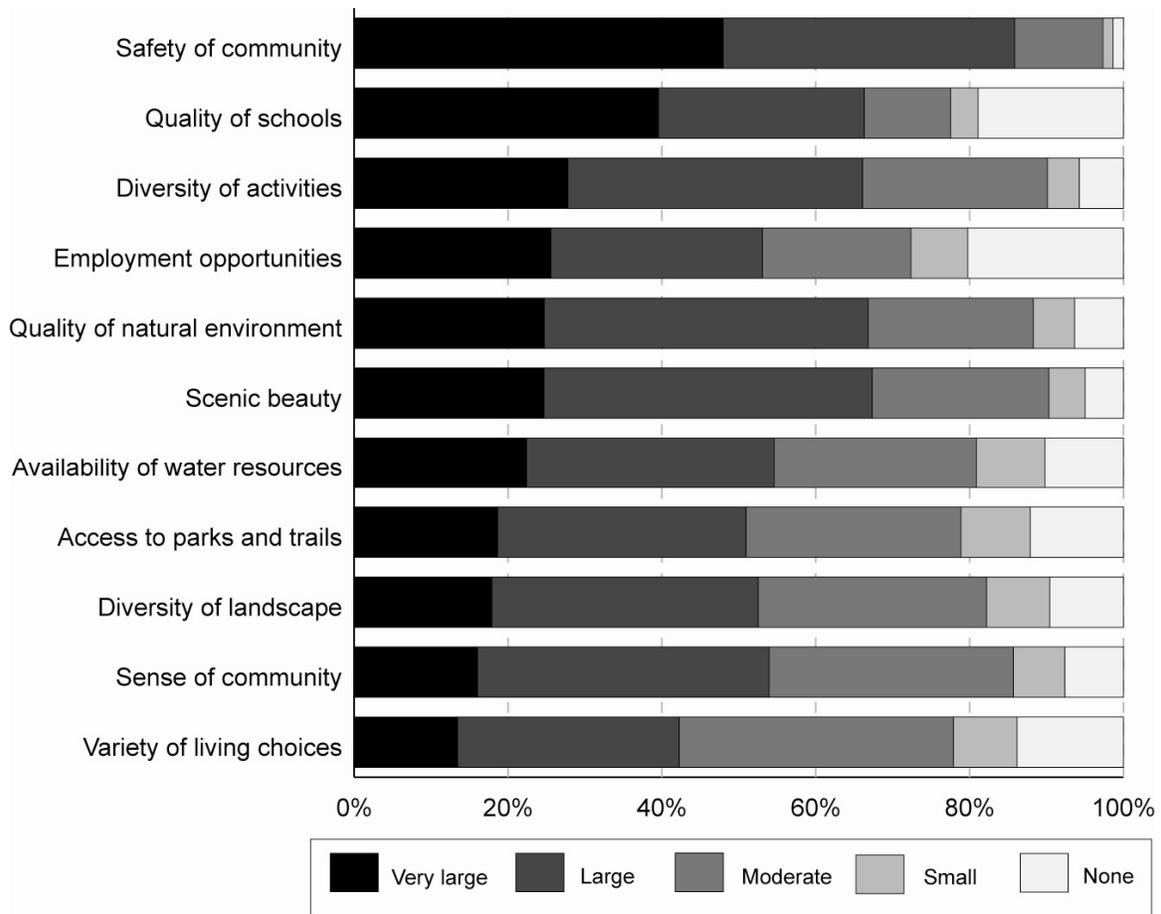
OAKLAND COUNTY'S GREEN INFRASTRUCTURE

The survey began by exploring the contribution of Oakland County's green infrastructure to residents' quality of life relative to other county characteristics. Green infrastructure components included the availability of lakes, rivers, and streams; easy access to parks, trails, and pathways; the diversity of the landscape; the quality of the natural environment; and the county's scenic beauty. Other characteristics included the variety and number of employment opportunities; the safety of communities; the diversity of activities available nearby; the sense of community, the quality of schools; and the variety of living choices available.

The survey asked respondents how much each characteristic currently affects their quality of life. Response categories were a very large effect, a large effect, a moderate effect, a small effect, or no effect at all. Exhibit 5 summarizes the proportion of responses in each category.

⁷ Variations in average visitation rates between parks, trails, and undeveloped woods and fields and between wetlands and rivers are not statistically different. All other differences are significant at a level of at least 90 percent.

EXHIBIT 5
Effect of County Characteristics on Quality of Life



SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

Each of these characteristics, with the exception of a variety of living choices, has at least a “large” effect on the quality of life of a majority of county residents. Overall, however, several key community characteristics (i.e., safety, quality of schools, diversity of activities) are considered more important than green infrastructure elements. Nevertheless, well over half of respondents believe that green infrastructure makes at least a “large” contribution to their quality of life.

Considering only aspects of green infrastructure, general characteristics such as the quality of the natural environment and scenic beauty are more important to residents than specific components like trails, pathways, and water resources. This finding suggests that county residents value green infrastructure at least as much for reasons not related to recreational use as for direct use.

USE OF RECREATIONAL RESOURCES

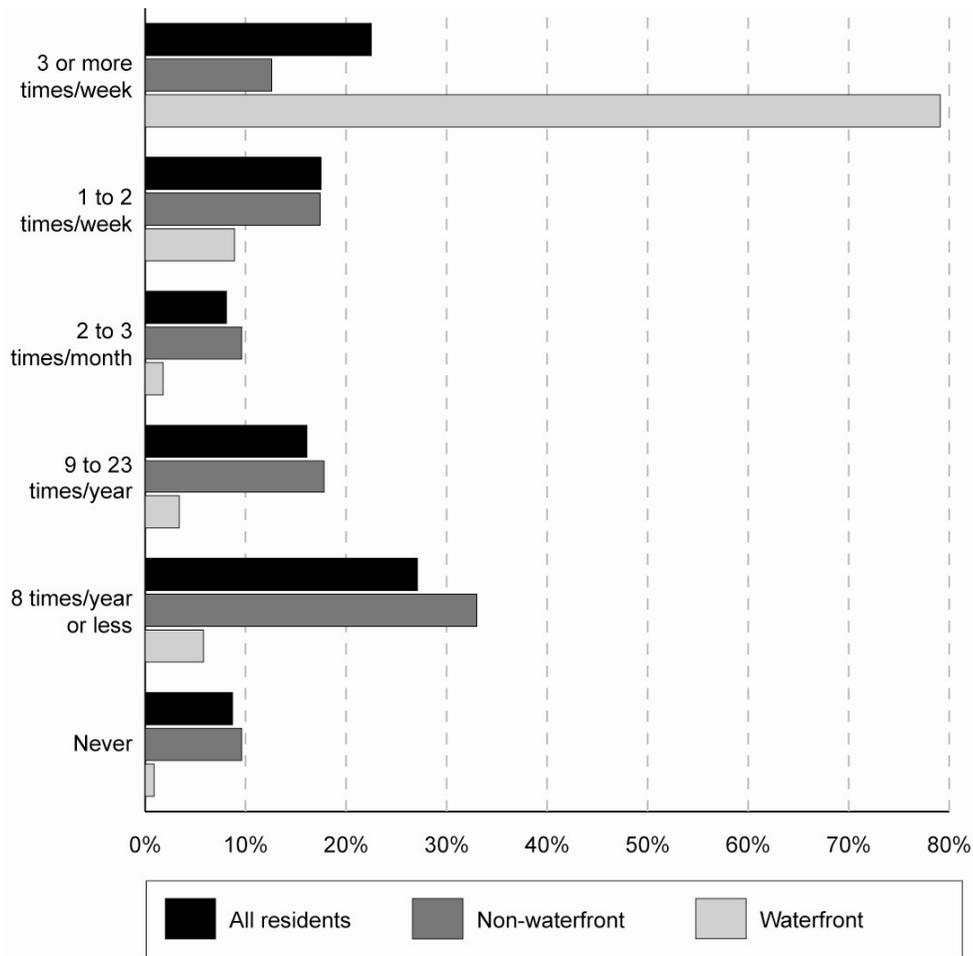
Many Oakland County residents make frequent use of the county’s recreational resources. Survey results suggest that 40 percent of county residents visit a recreational

site such as a park, trail, lake, wetland, river, or undeveloped open space at least weekly. A nearly equal proportion of residents (36 percent), however, visit these resources at most occasionally, i.e., no more than 8 times per year. The location of a residence relative to water dramatically affects the frequency of use. Not surprisingly, residents who live adjacent to the water are significantly more likely to visit a recreational resource daily than are those who do not have a waterfront residence; those who live on the water presumably choose to live there, in part, for ease of use/access.

Exhibit 6 summarizes data on the frequency of visits to recreational resources for waterfront residents, those who do not live on the waterfront, and the average for all county residents.⁸

⁸ The average for all county residents is a weighted average to account for the different sampling rates for waterfront and non-waterfront respondents.

EXHIBIT 6
Frequency of Recreational Activity, by Location of Residence

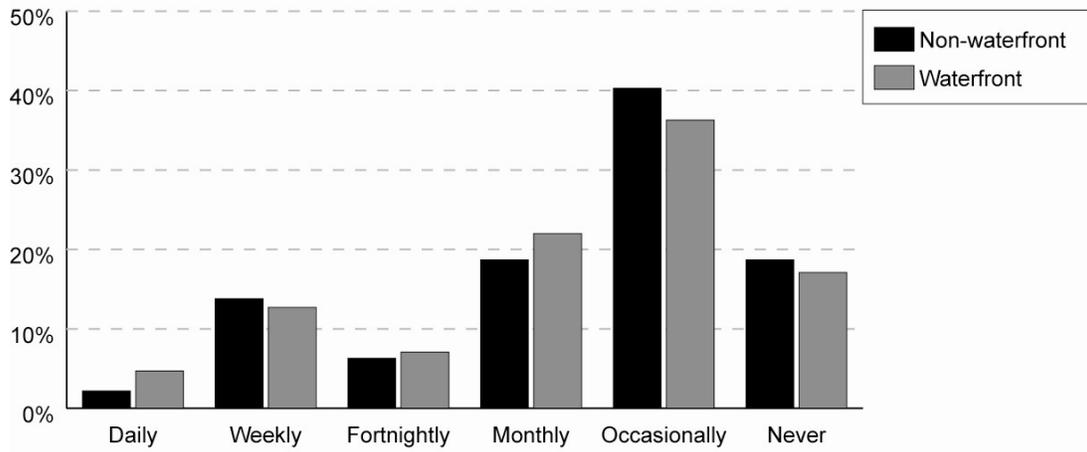


SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

What is less intuitive, however, is that those who live on the water are also significantly more likely than other respondents to visit not only public and private lakes but also wetlands, rivers and streams, and undeveloped forests or fields. Exhibit 7 compares visitation frequencies for the separate types of recreational resources.

EXHIBIT 7
Use of Recreation Resources, by Location of Residence

Parks



Trails and Pathways

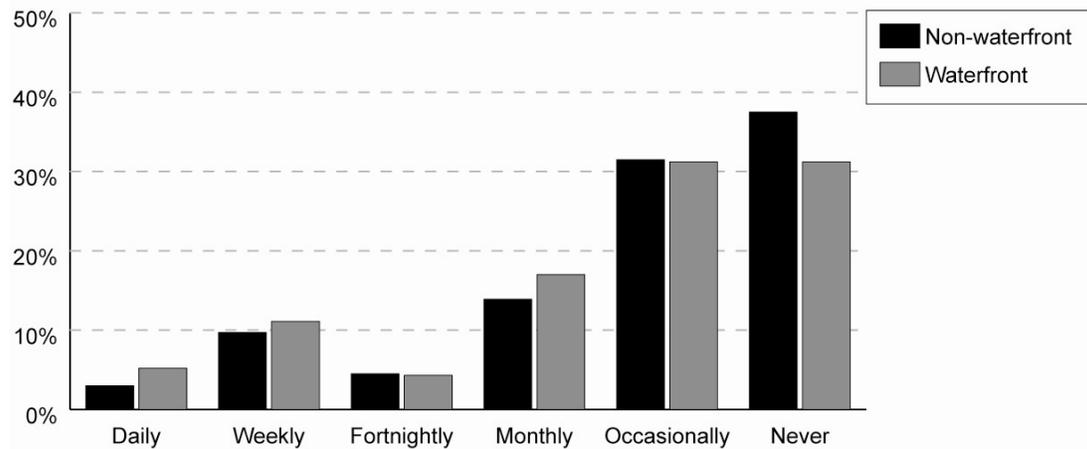
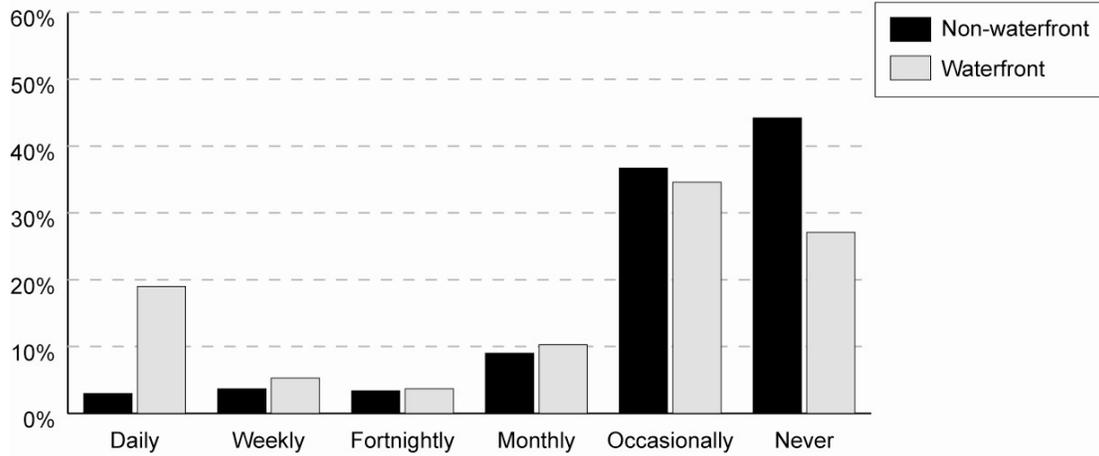


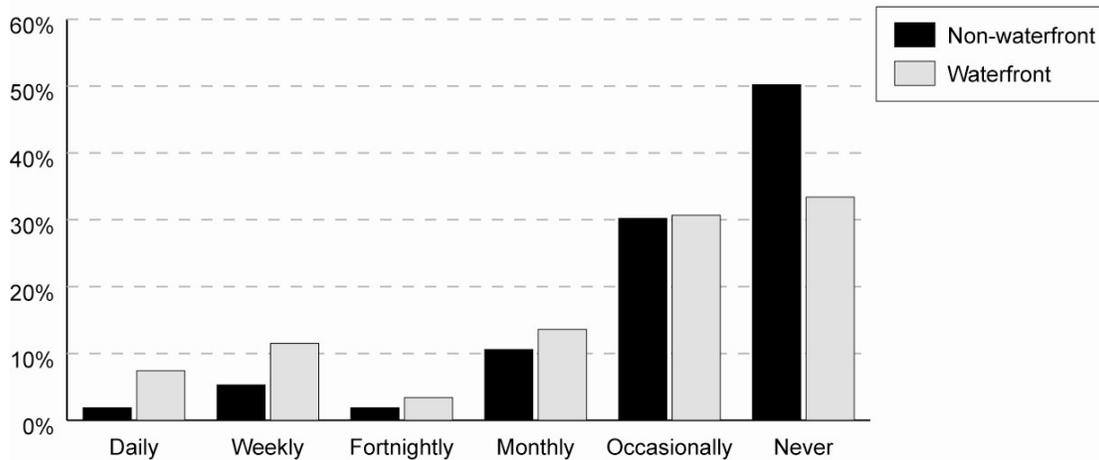
EXHIBIT 7 (cont.)

Use of Recreation Resources, by Location of Residence

Rivers and Streams



Undeveloped Forests



Wetlands

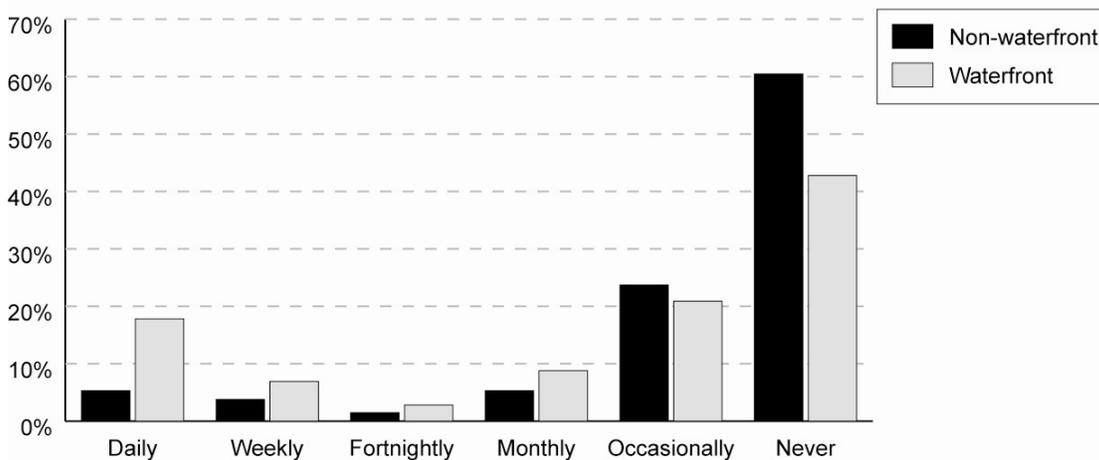
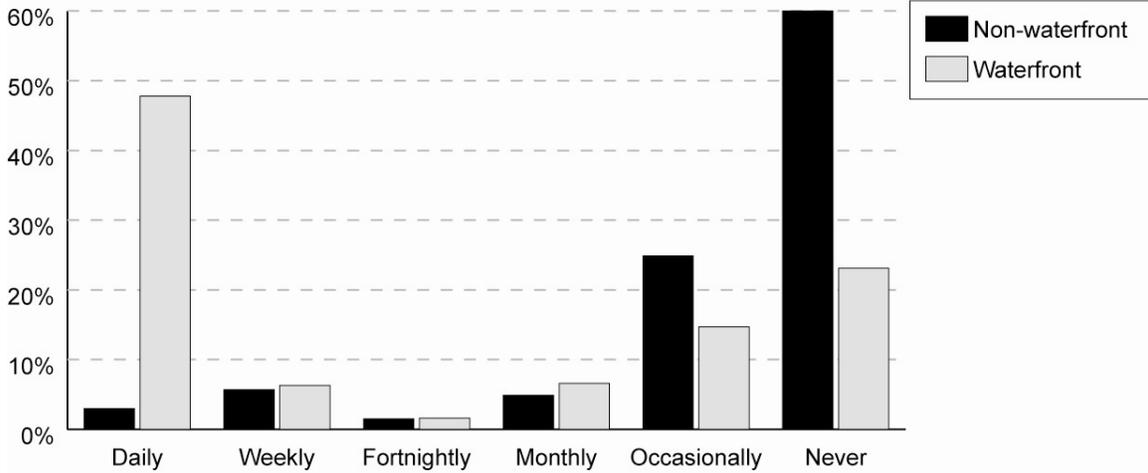
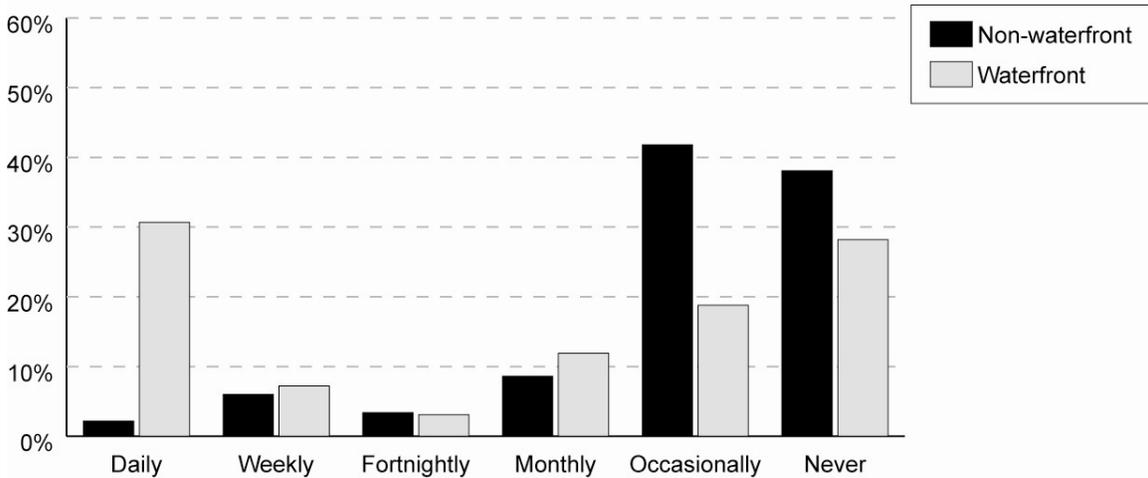


EXHIBIT 7 (cont.)
 Use of Recreation Resources, by Location of Residence

Private Lakes



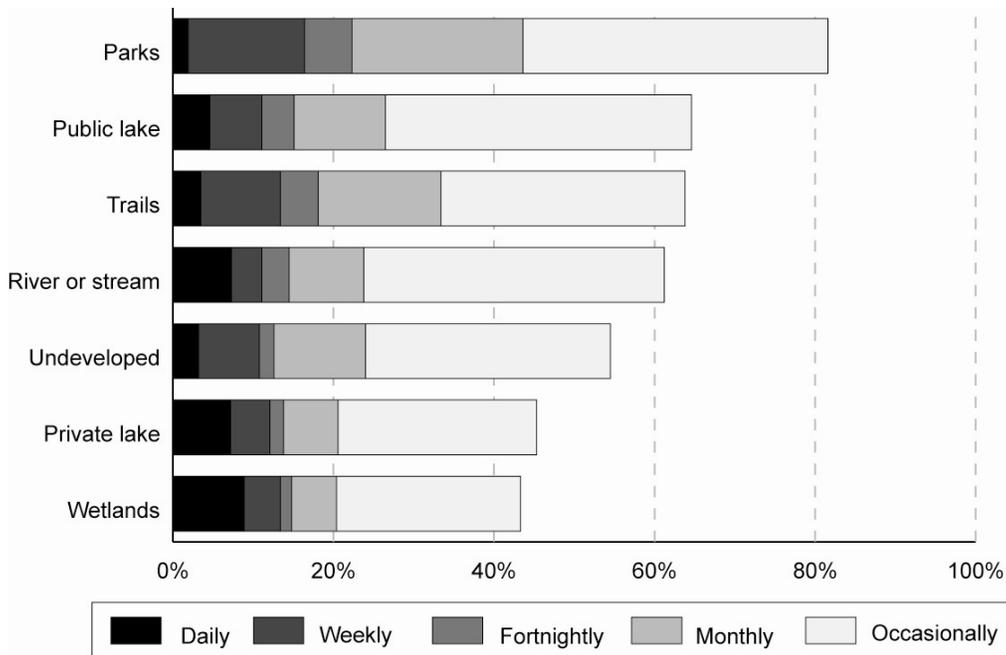
Public Lakes



SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

Exhibit 8 summarizes the use of specific types of recreational sites. The length of each bar represents the proportion of county residents who visited specific types of recreational sites within the past 12 months. The size of each bar segment represents frequency of use. For example, more survey respondents reported visiting parks than any other type of recreational site. Of those who visited parks, more visited occasionally than monthly and more visited monthly than weekly.

EXHIBIT 8
Use and Frequency of Visits to Recreational Resources



SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

More county residents (81 percent) use parks than any other individual recreational resource. About 60 percent to 65 percent report visiting trails, public lakes, or rivers or streams within the past 12 months. Fewer residents (45 percent) report visiting a wetland during the past 12 months.

It is important to note that the number of people who visit a resource (volume) is not always proportional to the frequency of use. Although fewer residents visited wetlands than other resources, those who did visited more frequently than visitors to other resources. Conversely, although more people visited parks than other types of resources, they visited less frequently. Exhibit 9 summarizes estimates of average annual visitation rates. The questionnaire asked whether respondents visited each type of site daily, weekly, twice monthly, monthly, occasionally, or never.⁹ Visitation frequency data are thus not exact numbers but ranges with lower and upper bounds. Exhibit 9 reports

⁹ The questionnaire defined “Daily” as three or more times per week, “Weekly” as 1 to 2 times per week, “Once every two weeks” as 2 to 3 times per month, “Monthly” as 9 to 23 times per year, and “Occasionally” as no more than 8 times per year.

estimates based on the lower and upper bounds and on the range midpoints. The table also reports separate estimates for all county residents, waterfront residents, and those who do not live adjacent to water.

EXHIBIT 9
Annual Visitation Rates, by Type of Recreation Resource
and Place of Residence

Recreational resource	Average annual visitation rate (days/year/household)								
	All residents			Waterfront			Non-waterfront		
	Midpoint	Lower	Upper	Midpoint	Lower	Upper	Midpoint	Lower	Upper
Wetlands	29	17	41	73	44	103	18	11	26
River or stream	27	16	37	74	44	103	15	9	21
Private lake	25	15	35	85	51	118	11	7	15
Parks	23	14	32	27	17	37	22	14	30
Trails	23	14	31	34	21	47	19	12	27
Public lake	22	13	31	58	35	81	14	8	18
Undeveloped	18	11	25	40	25	56	13	8	18

SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

Although private lakes have the highest average (midpoint) annual visitation rate among those who live on the waterfront, and parks have the highest average (midpoint) annual visitation rate among those who do not live on water, wetlands have the highest average (midpoint) annual visitation rate among all county residents. The typical household visits most types of recreational sites about twice a month, although there is considerable variation in visitation rates across households.

Regression analysis of visitation rates reveals that living on water has the greatest influence on how frequently a respondent visits *any* type of recreational site with the exception of visits to trails and pathways. Analysis also shows that:

- Higher-income households visit trails more frequently than lower-income households.
- Men visit private lakes more frequently than do women.
- Older respondents visit parks more frequently than do younger respondents.

WATER-BASED RECREATIONAL ACTIVITY

The survey also asked about how frequently respondents engage in specific water-based recreation activities. Exhibit 10 summarizes the average number of times per year the average household reported engaging in each activity; it shows the average for all households, for households that live on the waterfront, and for households that do not live adjacent to water.

EXHIBIT 10**Average Annual Recreational Visits for Water Resources, by Type of Activity and Location of Residence**

Recreational activity	All residents	Waterfront	Non-waterfront
General recreation	19.36	40.52	14.47
Watching wildlife	11.06	21.07	8.85
Swimming or using a beach	8.17	22.13	4.92
Power boating or jet skiing	4.78	15.77	2.17
Canoeing, kayaking, or sailing	2.36	5.48	1.62
Fishing	2.22	5.25	1.51
Hunting	0.33	1.3	0.11

SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

Estimated rates of recreational activity provide the basis for estimating the total number of recreational visits to Oakland County's water resources by county residents. The 2006 American Community Survey for Oakland County estimated that there were 478,527 households in Oakland County in 2006. Multiplying this by the estimates of annual visits per household from Exhibit 10 yields the total number of recreational visits reported in Exhibit 11.

EXHIBIT 11**Annual Recreational Use of Water Resources, by Activity**

Recreational activity	Number of individual visits
General recreation	9,264,283
Watching wildlife	5,292,509
Swimming or using a beach	3,909,566
Power boating or jet skiing	2,287,359
Canoeing, kayaking, or sailing	1,129,324
Fishing	1,062,330
Hunting	157,914
Total	23,103,284

SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008, and U.S. Census Bureau, American Community Survey 2006.

The questionnaire also asked respondents to relate, in their own words, other reasons (i.e., non-recreational) that Oakland County's water resources were important to them. Almost half (296) of respondents provided an answer. The most common reason (given by 32 percent of respondents) was the contribution water resources make to the county's scenic beauty. The following response is representative.

"It is for natural beauty. It is beautiful to see something soothing to the eyes."

Many respondents also mentioned general environmental issues (25 percent) and wildlife (20 percent) as reasons water resources are important. The following representative comments illustrate respondents' views on environment and wildlife, respectively.

“All natural resources should be highly protected. My husband and I are strong advocates for all natural resources of Michigan. We want to keep and protect what is natural in Michigan. We need to use these natural resources with precaution.”

“They are important for the habitat they provide for all the birds, mammals, and amphibians. I would rather look at trees than houses.”

Preservation of water resources, particularly for future generations, and concerns about water quality were common themes among respondents who mentioned general environmental issues as reasons for the importance of water resources.

Respondents also mentioned the impact of water resources on property values, general quality of life, general recreation, and relaxation/serenity. Many of these categories of responses overlap. Appendix A contains complete transcriptions of responses.

THE ECONOMIC VALUE OF WATER-BASED RECREATION

A key objective of the survey was to estimate monetary values associated with water-based recreation. Original research to establish the values of each type of recreation in Oakland County would be expensive and time consuming and was beyond the scope of this study. In lieu of original research, the study used a benefits transfer approach, which applies existing value estimates for different types of recreation activities to the recreational use estimates obtained from the household recreation survey.¹⁰

Two recent summaries of recreational use values (Loomis 2005; Rosenberger and Loomis 2001) helped identify studies that estimated values that were potentially transferable to Oakland County.

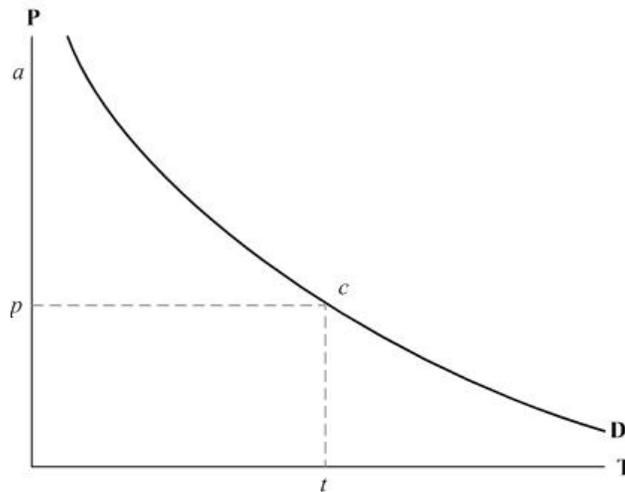
Values reported in this study are measures of consumer surplus. Consumer surplus is the difference between the maximum amount an individual would be willing to pay for a recreational experience and the amount he or she actually pays (Freeman 1993). To illustrate, consider the demand curve D in Exhibit 12. The demand curve describes a relationship between the price (P) of accessing a recreational resource and the number of trips (T) an individual makes to the resource in a year. The downward slope of the demand curve implies that individuals will make fewer trips to a site as the cost of doing so increases. The cost of accessing the site may consist of the cost of travel, admission fees, the opportunity cost of the time required for travel, and other costs associated with gaining access to the site.

For a given individual, the downward slope of the demand curve implies that the person is willing to pay more for the first trip, less for the second, and so forth. Therefore, if the fixed cost of visiting the site is p , the individual enjoys a surplus for the first visit, a lesser surplus from the second visit, and so forth until the marginal benefit from another trip just

¹⁰ Rosenberger and Loomis (2001) provide an excellent discussion of the benefits transfer approach in the context of outdoor recreation values.

equals the trip cost at t trips. The sum of the surpluses over all trips is the individual's consumer surplus. This is the area apc in Exhibit 12. The total consumer surplus (i.e., value) of a site is the sum of consumer surpluses over all visitors to the site.

EXHIBIT 12 Consumer Surplus Model



SOURCE: Public Sector Consultants Inc., 2008.

Individuals who live close to a site, and thus have lower travel costs (i.e., a lower value of p), enjoy larger consumer surpluses than those who live further away and have higher travel costs (i.e., a higher value of p).

Consumer Surplus

Consumer surplus is the net value of an amenity to a consumer. It is the difference between an individual's maximum willingness to pay for access to an amenity and what the individual actually has to pay to gain access. Consumer surplus is not actual spending. It is the *surplus* in value remaining after actual expenses.

The accuracy of a benefits transfer approach depends, in part, on how well the demand curve estimated for the site that provides the value estimate matches the demand curve of the site to which values are transferred. This analysis selected studies of sites that appear as similar as possible to Oakland County. Since the studies were conducted at different times, inflation distorts the comparison. This study thus uses the Consumer Price Index (CPI) to convert all values to 2007 dollars.

The analysis concludes that Oakland County's water resources generate more than \$200 million annually in recreational benefits to county residents. Exhibit 13 summarizes estimated per day and aggregate consumer surplus values accruing to Oakland County residents from the five most common water-based recreational activities addressed in the household recreation survey: wildlife viewing; beach use and swimming;

power boating; canoeing, kayaking, and sailing; and fishing.¹¹ The remainder of this section briefly reviews the original research that provided the transferred values and describes the calculation of aggregate values.

EXHIBIT 13
Aggregate Values

Recreational activity	Per day value (\$)	Estimated annual visits by Oakland County residents	Aggregate value to Oakland County residents (millions of \$)
Wildlife viewing	\$6.26	5,292,509	\$33
Swimming or using a beach	18.34	3,909,566	72
Power boating or jet skiing	13.02	2,287,359	30
Canoeing, kayaking, or sailing	37.93	1,129,324	43
Fishing	21.63	1,062,330	23
Total			\$201

SOURCE: Public Sector Consultants Inc., Oakland County Household Recreation Survey, April 2008.

Values for Wildlife Viewing

A study of wildlife viewing values in Pennsylvania (Shafer, Carline, Guldin, and Cordell, 1993) estimated, among other values, consumer surplus values for viewing migratory waterfowl at a 5,200-acre wildlife management area. Although this does not precisely match the experience of Oakland County residents visiting local sites, it is much more similar than many other existing wildlife viewing values (e.g., elk viewing).¹² Most of the visitors to the Pennsylvania site came from 50 to 100 miles away, somewhat farther than the average Oakland County resident would have to travel to a local site. As with Oakland County, however, most visitors to the Pennsylvania site (95 percent) made single-day trips.

The Pennsylvania study estimated the consumer surplus value of a day trip for viewing waterfowl as \$6.26. This is well below the average value of \$34.36 reported in a review (Loomis 2005) of 65 values estimated in the northeast region and also well below the average value of \$34.44 reported in a review of 56 northeast region value estimates (Rosenberger and Loomis 2001). The estimate for Oakland County is thus likely to be conservative.

The household survey estimated that the average Oakland County household visited a site in Oakland County to view wildlife 11.1 times per year. Multiplied by the estimated 478,527 households in Oakland County, this implies almost 5.3 million wildlife viewing trips by county residents. The total consumer surplus to county residents associated with these visits is an estimated \$33 million.

¹¹ The category of “general recreation” near water was too vague to identify potential values for benefits transfer. Nevertheless, the survey found that many county residents engage in general recreation enhanced by the proximity to water and that water resources do have value in this context.

¹² Focus group participants in Oakland County gave the impression of more casual wildlife viewing than that implied by trips to specific sites to view specific types of wildlife (e.g., migratory waterfowl).

Values for Beach Use and Swimming

A study of the value of day trips to Headlands beach on eastern Lake Erie (Sohngen, Lichtkoppler, and Bielen, 1998) provided values for recreational use of beaches (i.e., general beach recreation and swimming) that appear applicable to Oakland County. The study used the travel cost approach to estimate a demand curve for day trips to the beach. Headlands beach is comparable to Oakland County beaches in a number of ways. First, it is close to major metropolitan areas: Cleveland, Ohio; Pittsburgh and Erie, Pennsylvania. Second, the average distance that people travel for day visits to Headland beach is 26 miles—probably not too much farther than the distance an average Oakland County resident travels to visit a local beach. Third, the lack of other recreational amenities near the Headlands beach (e.g., golf courses, casinos) suggests that people visit the beach primarily for beach recreation, a situation that likely characterizes Oakland County residents' visits to local beaches. On the other hand, the beach is on a Great Lake, which may be a different experience than a beach visit to the inland lakes of Oakland County.

The study estimated average consumer surplus of a trip to the beach at \$18.34. This value appears conservative as it is well below average values estimated by other studies. Loomis (2005) reports an average value of \$46.76 over 22 estimates of the value of beach use and \$24.38 over seven estimates of the value of swimming in the northeast (a region that contains Michigan). The review of Rosenberger and Loomis (2001) reported an average value of \$21.63 for swimming in the northeast region. The estimate from Headlands beach used for the benefits transfer is thus likely to be relatively conservative.

The household survey estimated that the average Oakland County household visits a beach for beach recreation or swimming 8.2 times per year. Multiplied by the estimated 478,527 households in Oakland County, this implies over 3.9 million annual beach visits by county residents. In terms of consumer surplus, the total value of these visits to county residents is an estimated \$72 million.

Values for Power Boating

The Rosenberger and Loomis review (2001) notes only one study of the value of power boating in the northeast region and only 13 nationwide. Loomis (2005) cites three studies associated with power boating in the northeast region. The present study draws values for “power boating and waterskiing” from a national study that estimates values for ten separate regions (Bhat, Bergstrom, Teasley, Bowker, and Cordell, 1998). While the study report provides little detail with which to assess the applicability of the value estimates to Oakland County, it is based on a large national sample, estimates region-specific values, and, among the available studies, probably provides the values most applicable to Oakland County. The estimate is conservative compared to other estimates, however, and may therefore understate the value of power boating to Oakland County residents.

The original research estimated the average value of a day of power boating and water skiing in the northeast and Great Lakes region at \$13.02.¹³ For the sake of comparison, Loomis (2005) reported an average value of \$32.58 over a single study in the northeast

¹³ The original study does not report the basis for estimated values. Values are thus assumed to be denominated in dollars as of the publishing date (1996) and adjusted to 2007 values from that basis.

region. Rosenberger and Loomis (2001) reported an average value of \$88.21 per day for motor boating in the northeast region.

Applied to the 2.3 million annual power boating trips made by Oakland County households within the county, the consumer surplus value associated with power boating among Oakland County residents is an estimated \$30 million.

Values for Canoeing, Kayaking, or Sailing

Two reviews (Rosenberger and Loomis 2001; Loomis 2005) document 19 and six value estimates, respectively, for the aggregate categories of “floatboating/canoeing/rafting,” and “non-motorized boating,” with most focusing on whitewater rafting. A 1996 study sponsored by the U.S. Forest Service (Bergstrom et al. 1996), however, estimated consumer surplus values specifically for “sailing and boating,” excluding power boating. The analysis used data from the ongoing, national, multi-agency Public Area Recreation Visitors Study (PARVS) that collects data from over 350 sites nationwide. It estimated separate values for ten separate regions. The study estimated the average consumer surplus value for sailing and boating in the northeast and Great Lakes region at \$37.93.

This also appears to be a relatively conservative estimate. The Rosenberger and Loomis (2001) review found an average value of \$70.03 per trip based on four studies of “non-motorized boating” in the northeast region. Loomis (2005) calculated an average per day value of \$96.94 from six studies for “float boating/rafting/canoeing” in the northeast region.

The household recreation survey conducted in Oakland County concluded that the average household makes 2.36 canoeing, kayaking, or sailing trips per year. Aggregated over the estimated 478,527 households in Oakland County and valued at \$37.93 per trip, Oakland County residents enjoy an estimated aggregate consumer surplus of \$43 million annually associated with canoeing, kayaking, and sailing activities.

Values for Fishing

A study of the value of freshwater fishing in New York (Connelly and Brown 1991) produced value estimates that appear reasonably applicable to Oakland County. While the study included a variety of fishing locations and target species, values reflected primarily those associated with warmwater species in inland lakes, which likely account for a majority of the fishing activity in Oakland County. The study did not report the distribution of trip length so it is not clear how many trips were day trips.

The study estimated an average per-day consumer surplus value of \$21.63. This value is likely conservative. Loomis (2005) reported an average value of \$35.78 over 69 studies in the northeast region. Rosenberger and Loomis (2001) reported an average of \$41.18 over 43 estimates in the northeast region.

The Oakland County household survey estimated that the average household made 2.2 fishing trips each year. Aggregated over the estimated 478,527 households in Oakland County, Oakland County households took about 1.1 million fishing trips within the county in 2007. At an average per trip value of \$21.63, this implies a total value associated with county residents’ fishing activity of \$23 million.

CONCLUSIONS

Oakland County's efforts to preserve and maintain its green infrastructure and water resources have protected an environment and recreational infrastructure that generates substantial benefits for county residents. Many residents use the county's recreational amenities and place a substantial value on access to those resources. Using very conservative estimates of day-use values, the benefits transfer exercise reported here estimates that five primary water-based recreational activities (beach use and swimming; fishing; power boating; wildlife viewing; and canoeing, kayaking, and sailing) generated about \$200 million in recreational benefits to Oakland County residents in 2007.

The Economic Value of Water-Based Tourism in Oakland County, Michigan

INTRODUCTION

Tourism activity stimulated by Oakland County's water resources has the potential to generate substantial economic impact. If tourists visit the county to use its water resources they will spend money on food, lodging, and supplies. Such expenditures represent an economic benefit to county residents and businesses. This report presents evidence of the economic impact of water-based tourism activity in Oakland County.

Estimating the likely impact of water-based tourism first requires data on the number of tourists who come to Oakland County for the purpose of water-based recreation and their spending behavior. Survey data from Michigan State University's Michigan Travel Market Survey provided data on tourist activity and the extent to which that activity relied on the county's water resources. The survey focused on "pleasure trips," defined as overnight trips or day trips to places at least 50 miles from home. It did not include the potentially substantial number of day trips that people from nearby areas, within a 50-mile radius, may have made to the county for recreational purposes. Nevertheless, the data reveal substantial tourist use of the county's recreational resources.

The economic impact of water-dependent tourism is the local economic impact of tourist spending in pursuit of water-based recreation. Unfortunately, analysis of the survey data found that pleasure trip tourists do not visit Oakland County specifically for water-based recreation. Even though a substantial number do engage in water-based recreation while in the county, it is not the primary or secondary purpose of their visit. Therefore, trip expenditures, even though they represent an economic impact on Oakland County, are not attributable to the county's water resources.

Key conclusions of the analysis include:

- Oakland County attracted an estimated 394,514 pleasure trips from Michigan, neighboring states, and the province of Ontario during 2007. About 1.3 million people visited Oakland County on these trips and spent an average of 3.5 days in the county.
- While recreation is rarely the primary purpose of pleasure trips to Oakland County, recreational activities figure prominently in visitors' activities while in the county. More than 40 percent of visitors (accounting for approximately 161,000 pleasure trips) engaged in some outdoor activity in Oakland County and 20 percent (accounting for approximately 78,000 pleasure trips) engaged in activities that directly depend on water resources.
- Even though a substantial number of tourists engage in water-based recreation while they are in Oakland County, this type of recreation is rarely the primary purpose of their trips.
- Available tourism data do not provide the activity-specific spending information necessary to estimate the direct impact of water-based recreation; however, the fact

that in 2007 an estimated 78,000 pleasure trip visits to Oakland County involved water-based recreation suggests that the economic impact of the county's water resources is not trivial.

ESTIMATING TOURISM ACTIVITY IN OAKLAND COUNTY

Between 1996 and 2003, the Michigan Travel Market Survey (MTMS) surveyed random samples of households in Michigan and its neighboring states and province on a monthly basis.¹⁴ The survey collected detailed data on travel activity of households in each of the seven jurisdictions (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, and Ontario). Exhibit 14 summarizes the distribution of the sample by residence of respondent and year. Data from these interviews provided the information necessary to estimate tourist activity in Oakland County and the extent to which tourist visits and activities depend on the county's water resources.

EXHIBIT 14
Sample Distribution, Michigan Travel Market Survey, 1996–2003

State of residence	1996	1997	1998	2000	2001	2002	2003	Total
Illinois	711	643	653	724	695	627	320	4,373
Indiana	593	628	635	615	595	629	318	4,013
Michigan	1,001	990	1,036	1,208	1,215	1,237	582	7,269
Minnesota	780	631	717	0	0	0	0	2,128
Ohio	794	828	823	840	805	864	339	5,293
Wisconsin	763	657	687	779	799	721	323	4,729
Ontario	682	695	770	739	957	954	457	5,254
Totals	5,324	5,072	5,321	4,905	5,066	5,032	2,339	33,059

SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

NOTE: Data from 1999 were excluded from the analysis because of unexplained inconsistencies.

The survey solicited detailed information about the respondent's most recent pleasure trip¹⁵ and, if the most recent trip was not to Michigan, their most recent pleasure trip to Michigan. The detailed data includes the trip destination, the purpose of the trip, and the activities in which the respondent engaged while on the trip. The survey also asked for the total number of pleasure trips taken in the 12 months prior to the survey and the total number of pleasure trips to Michigan during the same period.

Of the 33,059 households interviewed between 1996 and 2003, excluding responses from 1999 for which data were inconsistent, 20,443 (62 percent) had taken a pleasure trip during the 12 months prior to the survey; 5,291 (26 percent of those who had taken pleasure trips) had gone to Michigan; and 204 had visited Oakland County on their most

¹⁴ Michigan State University's Travel, Tourism, and Recreation Resource Center (TTRRC) conducted the survey.

¹⁵ The survey defined a pleasure trip as "any overnight or day trip to a place at least 50 miles from your home that was made for your enjoyment, including vacations, weekend getaways, shopping trips, trips to a second home, and trips to visit friends or relatives."

recent pleasure trip to Michigan. Data from these 204 respondents provide the information necessary to describe tourism activities in Oakland County.

Because the surveys were conducted throughout the year, and thus controlled for any seasonal patterns in pleasure trip destination, the most recent trips to Michigan are a random sample of all trips to Michigan. The data therefore suggest that, on average between 1996 and 2003, Oakland County accounted for 0.6 percent of annual pleasure trips and 3.9 percent of all pleasure trips to Michigan. These proportions are applied to the estimated number of households in each state in 2007 (the most recent Census figures available) to estimate tourism activity for 2007.¹⁶ Exhibit 15 summarizes Oakland County tourism activity based on these data:

¹⁶ Population estimates for Ontario, Canada, are from 2006, the most recent estimates available for Canada.

EXHIBIT 15
Estimated Pleasure Trip Activity in Oakland County, 2007

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
State/ province of residence	Households*	Average % of households who took trips	Average annual trips/household	Total annual trips	Average % of trips to MI	Annual trips to MI	Average % of MI trips to Oakland County	Annual trips to Oakland County
Illinois	4,724,252	60.9%	2.89	8,315,584	12.1%	1,004,553	5.1%	51,636
Indiana	2,435,274	59.8	3.11	4,529,293	13.0	589,492	2.7	15,866
Michigan	3,869,117	64.2	3.98	9,880,259	70.1	6,921,644	3.4	233,855
Minnesota	2,042,297	64.3	3.87	5,080,915	1.8	92,482	4.9	4,567
Ohio	4,499,506	59.6	2.84	7,621,135	10.1	771,758	6.7	51,549
Wisconsin	2,230,060	63.8	3.69	5,240,800	6.9	360,441	3.3	12,015
Ontario	4,555,025	58.3	3.25	8,633,442	6.1	530,574	4.7	25,027
Totals								394,514

SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

* U.S. Census Bureau, 2007 Population Estimates, and Statistics Canada, 2006 Census.

- First, data on pleasure trip activity from the Michigan Travel Market Survey provided an estimate of the proportion of households that took at least one pleasure trip during the 12 months prior to the survey (column B).
- Column C presents the average number of pleasure trips per household during the 12 months prior to the survey. The average considers all years but only households that reported at least one pleasure trip.
- Multiplying columns B, C, and A (the estimated number of households from 2007 Census estimates) yields column D, the total number of trips per year taken by households in the state or province (U.S. Census 2007b; Statistics Canada 2007).
- Multiplying the average proportion of pleasure trips taken to Michigan (column E) by total annual trips (column D) yields an estimate of the total number of trips annually to Michigan.
- Finally, data on the destination of Michigan trips reveal the proportion of Michigan trips taken to Oakland County (column G). Multiplying this by the annual number of trips to Michigan yields the total number of pleasure trips per year to Oakland County (column H). The visitation estimates represent estimates for 2007.

Two common measures of travel activity are person trips (i.e., number of trips multiplied by average size of party) and person days (i.e., person trips multiplied by average length of stay). On average, pleasure trip visitors to Oakland County traveled in parties of 3.3 persons and stayed 3.6 nights. Based on the estimated 394,514 annual pleasure trips to Oakland County, these numbers imply 1.3 million person trips and 4.7 million person days each year. These numbers are reasonably close to more recent estimates from the period 2000 through 2004 of 2.8 million person trips and 5.6 million person days (MSUE 2005).

Michigan was the most common destination of respondents' most recent pleasure trip, accounting for 17.7 percent of all trips. Furthermore, Oakland County is one of the most popular destination counties in the state. Between 1996 and 2003, the county accounted for 3.9 percent of all pleasure trips documented in the survey. This ranked it fifth in the state behind Wayne, Grand Traverse, Saginaw, and Mackinac counties. Exhibit 16 summarizes the ranking of Michigan counties by the number of pleasure trip visits.

EXHIBIT 16
Distribution of Tourist Visits to Michigan, 1996–2003

County	Total trips in sample			County	Total trips in sample		
	Number	Percentage	Rank		Number	Percentage	Rank
Wayne	525	9.9%	1	Ontonagon	38	0.7%	41
Grand Traverse	328	6.2	2	Benzie	37	0.7	44
Saginaw	238	4.5	3	Houghton	37	0.7	44
Mackinac	226	4.3	4	Leelanau	37	0.7	44
Oakland	206	3.9	5	Midland	32	0.6	47
Kent	173	3.3	6	Bay	31	0.6	48
Berrien	157	3.0	7	Lake	31	0.6	48
Chippewa	157	3.0	7	Branch	29	0.5	50
Ingham	150	2.8	9	Ogemaw	29	0.5	50
Cheboygan	146	2.8	10	Mecosta	28	0.5	52
Isabella	146	2.8	10	Keweenaw	27	0.5	53
Washtenaw	130	2.5	12	Lenawee	25	0.5	54
Ottawa	111	2.1	13	Livingston	25	0.5	54
Emmet	101	1.9	14	Monroe	25	0.5	54
Muskegon	96	1.8	15	Montmorency	25	0.5	54
Allegan	93	1.8	16	Iron	22	0.4	58
Jackson	92	1.7	17	Baraga	21	0.4	59
Kalamazoo	89	1.7	18	Alcona	20	0.4	60
Charlevoix	80	1.5	19	Montcalm	19	0.4	61
Marquette	78	1.5	20	Arenac	18	0.3	62
Mason	75	1.4	21	Luce	18	0.3	62
St Clair	75	1.4	21	Newaygo	18	0.3	62
Roscommon	72	1.4	23	Oscoda	18	0.3	62
Gogebic	68	1.3	24	Hillsdale	17	0.3	66
Genesee	67	1.3	25	Menominee	17	0.3	66
Otsego	67	1.3	25	Shiawassee	15	0.3	68
Macomb	63	1.2	27	Missaukee	14	0.3	69
Delta	61	1.2	28	Schoolcraft	14	0.3	69
Iosco	59	1.1	29	Presque Isle	13	0.2	71
Van Buren	59	1.1	29	Sanilac	13	0.2	71
Manistee	55	1.0	31	Gratiot	11	0.2	73
Wexford	48	0.9	32	Lapeer	11	0.2	73
Calhoun	47	0.9	33	Gladwin	10	0.2	75
Crawford	46	0.9	34	Kalkaska	10	0.2	75
Oceana	45	0.8	35	St Joseph	10	0.2	75
Alger	41	0.8	36	Ionia	9	0.2	78
Alpena	40	0.8	37	Eaton	7	0.1	79
Huron	40	0.8	37	Barry	6	0.1	80
Clare	39	0.7	39	Osceola	5	0.1	81
Dickinson	39	0.7	39	Clinton	4	0.1	82
Antrim	38	0.7	41	Tuscola	3	0.1	83
Cass	38	0.7	41				

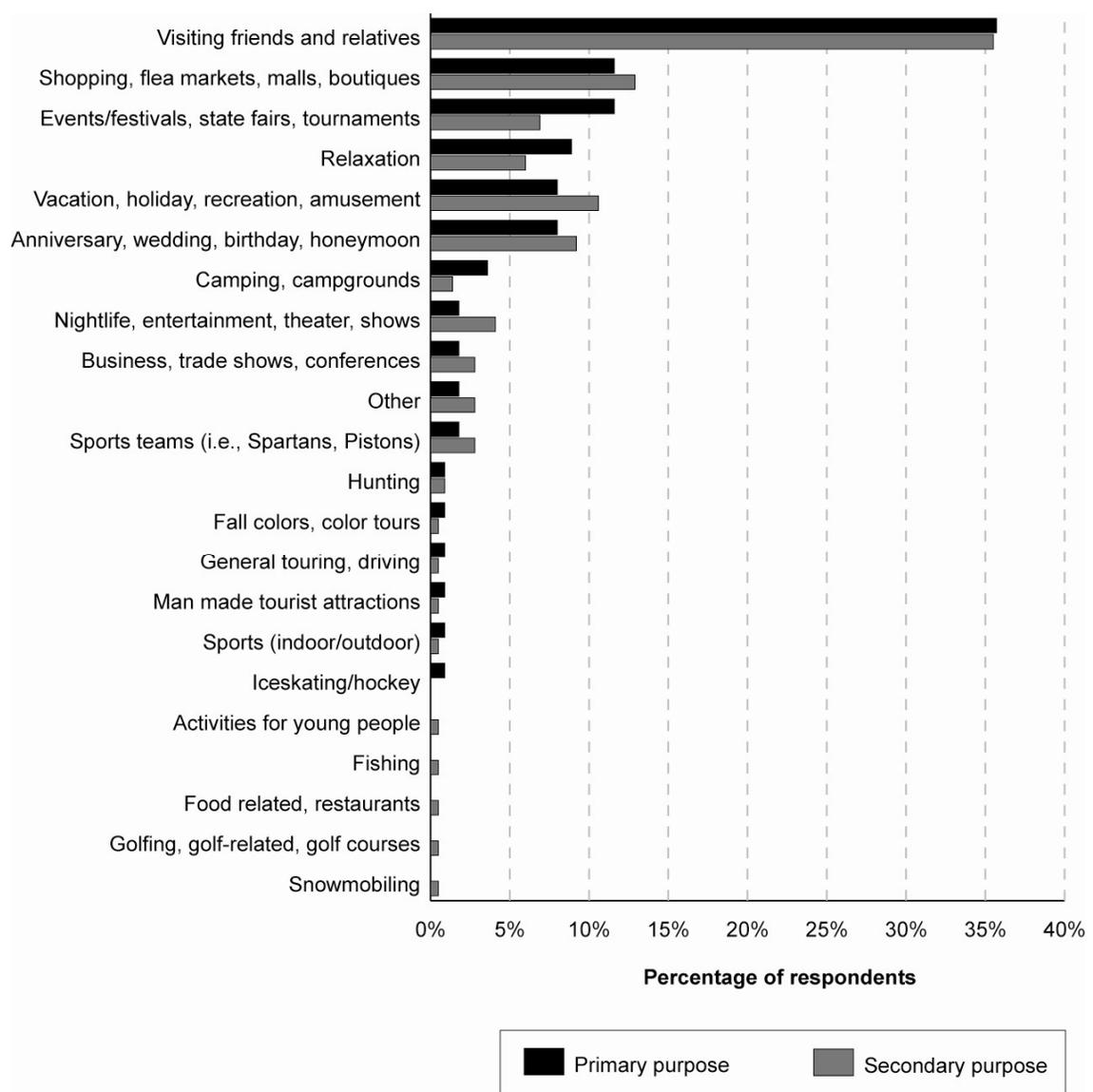
SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

PURPOSE OF VISITS

Water-based activities do not figure prominently among the primary reasons people visit Oakland County. In fact, nobody surveyed indicated that a water-based recreation activity was the primary reason for visiting Oakland County. One survey respondent cited fishing as a secondary purpose for a visit. This does not mean that Oakland County's water resources are unimportant to tourists taking a pleasure trip (i.e., overnight or trips farther than 50 miles from home). It means only that they are not a principal reason for visits to the county.

The survey data suggest that visiting friends and relatives is the single most important reason for pleasure travel to Oakland County. Almost 36 percent of respondents said this was their primary or secondary reason for visiting. Other important reasons include shopping; events (including fairs, festivals, and tournaments); relaxation; vacation; and personal events such as weddings, anniversaries, and honeymoons. Together these six reasons motivated over 80 percent of visits to the county. Exhibit 17 summarizes the primary and secondary reasons for respondents' visits to Oakland County.

EXHIBIT 17
Purpose of Visiting Oakland County

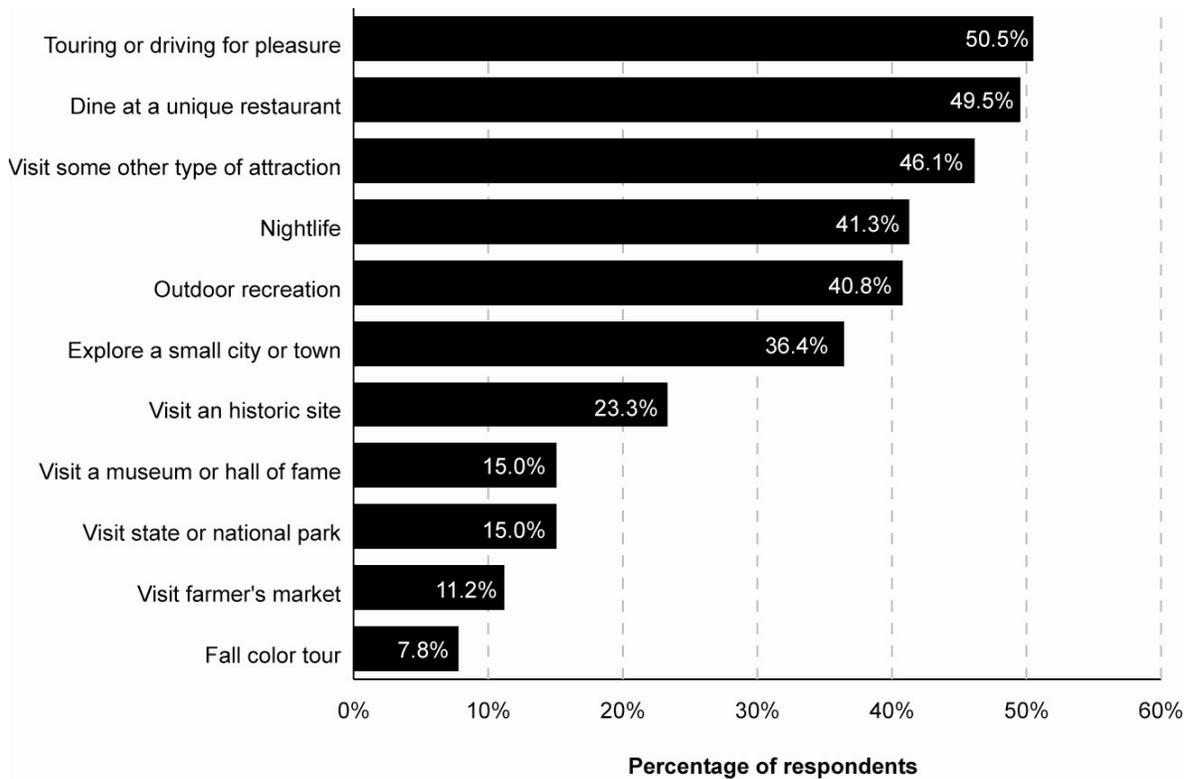


SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

TOURIST ACTIVITIES IN OAKLAND COUNTY

While most tourists do not visit Oakland County explicitly for the purpose of outdoor recreation, many use the county’s recreational resources during their visits. Over 40 percent of survey respondents who visited Oakland County reported engaging in some outdoor activity on their trip. Exhibit 18 summarizes respondents’ activities in Oakland County. Even though a larger proportion of people engage in general touring, dining, visiting attractions, and nightlife, many also engage in outdoor recreation. Among the estimated 394,514 pleasure trips to Oakland County in 2007, an estimated 161,000 involved outdoor recreation.

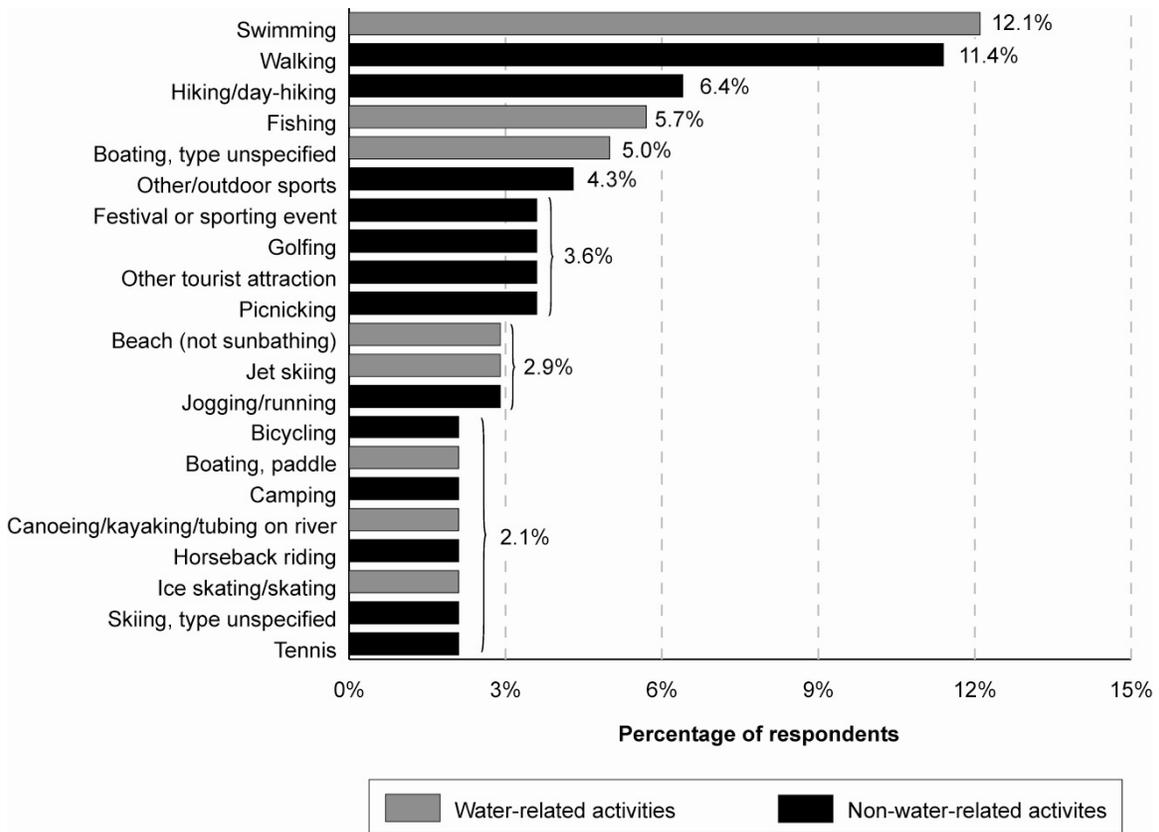
EXHIBIT 18
Activities of Visitors to Oakland County



SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

Water-based activities are among the most popular outdoor activities. Activities directly dependent on water (swimming, fishing, boating, etc.) account for 40 percent of outdoor recreation activities and 20 percent of pleasure trip visitors engage in such activities. Furthermore, many other activities may be enhanced by water. Exhibit 19 summarizes respondents' participation in specific outdoor recreation activities. The grey bars in the chart represent activities that depend directly on water (swimming, fishing, boating, beach use, jet skiing, paddle boating, ice skating, and canoeing). An estimated 78,000 visitor households engaged in water-based recreation in Oakland County in 2007.

EXHIBIT 19
Outdoor Activities of Visitors to Oakland County



SOURCE: Michigan State University, Travel, Tourism, and Recreation Resource Center (TTRRC), Michigan Travel Market Survey.

ECONOMIC IMPACT OF WATER-BASED TOURISM

The local economic impact of a specific tourist activity comprises the money tourists spend in the local area as they pursue the activity, the jobs that spending supports, and the secondary economic activity resulting from spending and employment (for example, income to businesses that support tourist-dependent businesses or local economic impacts associated with the spending of tourist-dependent wages).

Two problems emerge when trying to estimate the economic impact of water-based tourism in Oakland County from the Michigan Travel Market Survey data. First, virtually no survey respondents cited water-based recreation as either the primary or the secondary reason for their pleasure trip to Oakland County. This implies that even though many pleasure trip visitors engaged in water-based recreation while they were in the county, they would likely have made the trip whether or not they engaged in water-based recreation. Therefore, much of their spending on lodging, food, fuel, and other things cannot be attributed to water-based recreation. Second, spending directly attributable to water-based recreation activities (such as boat rentals, boat fuel, food, picnic supplies for a trip to the beach) can be counted as an economic impact of water-based recreation even

if the primary purpose of the trip was for something else. However, it is not possible to identify water-based recreation spending from the Michigan Travel Market Survey data because the survey did not collect spending data for individual activities. Original research to estimate spending by activity is beyond the scope of this study.

Even though it is not possible to estimate the economic impact of tourism attributable solely to visits conditioned on Oakland County's water resources, the survey data, as well as other sources, provide estimates of overall tourist spending in Oakland County. These estimates provide some evidence of the importance of tourism to Oakland County's economy.

First, the Michigan Travel Market Survey, which provided the data for the preceding analysis of pleasure trip activity, collected data on total trip expenditures incurred at the main trip destination. Respondents who listed Oakland County as their primary pleasure trip destination reported spending an average of \$448 per party per trip (in 2007 dollars). Summed over the estimated 394,514 pleasure trips to Oakland County during 2007, this amounts to an estimated \$177 million in annual spending. This figure almost certainly understates tourism spending because it includes only visits by residents of Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, and Ontario and excludes trips from within a 50-mile radius.

Michigan State University (CARRS 2002) estimated total tourism spending in Oakland County in 2000 at \$949 million (\$1,143 million in 2007 dollars). The estimate draws on data on airline passenger arrivals, lodging inventory data, hotel room tax assessments, hotel vacancy rates, and other secondary data. It includes air travel expenses to and from Michigan and also appears to include business travel. Thus, it almost certainly overstates tourism spending when tourism is limited to pleasure travel. It does, however, include visitors from all locations.

While these spending estimates provide some indication of the importance of tourism to Oakland County's economy, they do not provide the level of detail necessary to attribute any of the spending to water resources. Based on the 2001 Survey of Fishing, Hunting, and Wildlife-Associated Recreation, the U.S. Department of Interior estimated that sport anglers in Michigan spent an average of \$642 annually (\$752 in 2007 dollars) on fishing-related expenses in 2001 (USDOI 2003). Oakland County almost certainly captures some of this spending based on the estimated 23,670 annual pleasure trips that involve fishing. It would be a mistake, however, to attribute all of this expenditure to water resources in Oakland County because fishing is rarely the primary purpose of pleasure trips to the county.

Based on the 1996 Survey of Fishing, Hunting, and Wildlife-Associated Recreation, Michigan attracted an estimated 2,144,000 non-resident anglers in 1996, the eighth highest ranked fishing destination state in the country (Ditton et al. 2002). Given its concentration of lakes and proximity to major metropolitan areas, Oakland County almost certainly captures some of this visitation and the associated spending and economic impact.

CONCLUSIONS

The Michigan Travel Market Survey did not provide sufficient data to reliably estimate the economic impact of water-based tourist activity in Oakland County. A primary difficulty is that few pleasure trip tourists appear to visit Oakland County specifically to engage in water-based recreation. Although many engage in water-based recreation as part of their trip, because this is not the primary purpose, it is difficult to determine what portion of trip expenditures to attribute to the presence of water resources in Oakland County.

Despite the difficulty in estimating economic impact, about 40 percent of tourists to the county engage in outdoor recreation during their visit. In doing so, they undoubtedly spend some money within the county in pursuit of water-based recreation. The fact that an estimated 78,000 pleasure trip visits to Oakland County in 2007 involved water-based recreation implies that it likely had a non-trivial economic impact even if the data do not exist to estimate it.

For reference, annual tourism spending in Oakland County likely lies between \$177 million and \$1.1 billion. Given the level of water-based recreation among pleasure trip visitors, some of this spending is almost certainly attributable to the county's water resources. Anglers in Michigan spend an estimated \$752 annually to pursue their sport. Given the level of fishing effort among pleasure trip visitors (i.e., an estimated 23,670 annual pleasure trips that involve fishing in 2007), Oakland County almost certainly captures some of this spending and enjoys the associated economic impact.

The Value of Ecosystem Services Associated with Oakland County's Water Resources

INTRODUCTION

An oft-cited 1997 article (Costanza et al. 1997) estimated the economic value of the Earth's ecosystem services at about \$33 trillion annually.¹⁷ Water resources contribute a majority of the value, with marine ecosystems responsible for about 63 percent of the total value and freshwater ecosystems, i.e., wetlands, rivers, streams, and lakes, about 20 percent. Freshwater wetlands, in particular, produce ecosystem services worth an estimated \$6.9 trillion (in 2007 dollars) annually.

Ecosystem services are defined as “the wide range of conditions and processes through which natural ecosystems, and the species that are part of them, help sustain and fulfill human life” (Daily et al. 1997). Costanza et al. (1997) defined 17 categories of ecosystem services: gas regulation, climate regulation, disturbance regulation, water regulation, water supply, erosion control and sediment retention, soil formation, nutrient cycling, waste treatment, pollination, biological control, habitat, food production, raw materials, genetic resources, recreation, and cultural. These services maintain biodiversity; produce ecosystem goods like game, timber, and crops; and ultimately sustain human life.

Oakland County's water resources have value as part of the Earth's ecosystem. Because ecosystems generally function on a large scale and in interaction with other ecosystems, it is not always possible to assign meaningful ecosystem service values to portions of ecosystems that fall within arbitrary political boundaries. This report reviews sources of ecosystem services associated with freshwater resources; presents estimates of economic values associated with these services; and, when possible, estimates the values produced by Oakland County's water resources.

KEY FINDINGS

- Oakland County's substantial and varied freshwater resources likely produce substantial ecosystem services. Many of these services accrue primarily to Oakland County residents and other residents of the five watersheds of which Oakland County is the source.
- Oakland County's water resources produce an estimated \$806 million in ecosystem services annually, \$167 million attributable to 34,600 acres of lakes and ponds and \$639 million stemming from 56,400 acres of wetlands.
- Three services (disturbance regulation values associated with wetlands, water supply values of wetlands, and water regulation values of lakes and rivers) account for almost three-quarters of the total value of freshwater ecosystem services in the county.

¹⁷ In 1994 dollars. The current value (in 2007 dollars) is \$46 trillion (based on CPI of 444.0 in 1994 and 621.1 in 2007, 1967=100, U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index, <http://www.bls.gov/CPI/>).

FRESHWATER ECOSYSTEM SERVICES

Costanza et al. (1997) identify ten specific ecosystem services provided by or influenced by freshwater resources, i.e., wetlands, rivers, and lakes. Exhibit 20 summarizes these services and their functions and provides some examples.

EXHIBIT 20
Ecosystem Services Provided or Influenced by Freshwater Resources

Service	Function	Examples from water ecosystems
Gas regulation	Regulation of atmospheric chemical composition	Removal of atmospheric carbon dioxide, sulfur dioxide, and nitrogen oxide by wetlands
Disturbance regulation	Damping ecosystem response to environmental fluctuations	Flood control provided by wetlands
Water regulation	Regulation of hydrological flows	Maintaining sufficient flows of water for irrigation, industrial, or transportation use
Water supply	Storage and retention of water	Providing water for human use such as municipal water supply
Waste treatment	Recovery of nutrients and removal or breakdown of other wastes	Tertiary treatment of municipal wastewater by wetlands
Habitat/refugia	Habitat for resident or transient populations	Habitat for fish and migratory waterfowl
Food production	Production of animal or vegetable food for human consumption	Production of fish and water-dependent wildlife
Raw materials	Production of raw materials	Raw materials produced by freshwater ecosystems like lumber from wooded wetlands or peat
Recreation	Provision of recreational opportunities	Sport fishing, boating, swimming
Cultural	Provision of opportunities for non-commercial uses	Aesthetic, educational, or quality-of-life values of water

SOURCE: Costanza et al., 1997.

The remainder of this section briefly reviews the mechanisms by which freshwater ecosystems provide these services. The boundaries between different ecosystems and between different ecosystem services are not particularly distinct. For instance, water regulation services depend not only on freshwater resources (i.e., lakes, rivers, and wetlands) but also on the vegetation and soils within a watershed. Therefore, although the following discussion of ecosystem services focuses primarily on those associated with freshwater ecosystems, it necessarily covers other ecosystems as well.

Several studies comprehensively review the ecosystem services provided by freshwater resources.¹⁸ The following summaries, organized by ecosystem services, draw largely from these previous studies.

¹⁸ Brauman et al. (2007); Daily et al. (1997); Postel and Carpenter (1997); Ewel (1997); Farber and Costanza (1987); and Wilson and Carpenter (1999).

Climate regulation—Costanza, et al. (1997) do not include climate regulation among the ecosystem services to which lakes, rivers, and wetlands contribute. However, water bodies do help moderate temperature extremes within a local region or microclimate. Michigan’s fruit industry is an example of an economic benefit associated with the moderating effect of the Great Lakes on local climates. Large water bodies also have moderating effects on urban microclimates, thereby reducing heating and cooling costs relative to what they would be without the presence of water (Bolund and Hunhammar 1999; Hawkins 2003). Microclimate regulation is a local, rather than global, ecosystem service. Oakland County is thus likely to capture most of the microclimate regulation benefits associated with its lakes and wetlands.

Gas regulation—Wetlands contribute to atmospheric gas regulation by removing carbon dioxide, sulfur dioxide, and nitrous oxide from the atmosphere (Hawkins 2003). The benefits of gas regulation services are largely global in nature although there may also be localized impacts within an airshed.

Disturbance regulation—Wetlands retain water from heavy rainfall events and release it slowly to rivers and streams. Functioning floodplain wetlands are particularly effective at retaining water, slowing its flow, and ameliorating downstream flooding. In fact, one study concluded that a relatively small area of wetland could have largely prevented the flooding along the Mississippi River in 1993 and the associated property damage (Daily et al. 1997). By slowing the flow of water, floodplain wetlands also allow sediments to settle out of the water in the floodplain rather than being washed into reservoirs, bays, or oceans where the resulting siltation can reduce reservoir volumes, clog shipping channels, and cover habitats. In an urban setting, wetlands and lakes provide a buffer to the increased runoff of rainwater associated with a greater area of impervious surfaces (Bolund and Hunhammar 1999). Disturbance regulation benefits are largely specific to a watershed. Disturbance regulation is likely a particularly valuable ecosystem service provided in Oakland County because it contains the headwaters of five major rivers.

Water regulation—Water regulation services regulate hydrological flows. Lakes and rivers contribute to maintaining water flows. Wetlands also help regulate flows by recharging streams and aquifers (Hawkins 2003). Maintenance of adequate flows is important for providing reliable supplies of water to maintain habitats and for industrial and agricultural uses. Downstream water users throughout the five watersheds that originate in Oakland County share in the benefits of the water regulation services provided by Oakland County’s lakes, rivers, and wetlands (Brauman et al. 2007).

Water supply—Water supply services are perhaps one of the most obvious freshwater ecosystem services. Freshwater ecosystems (i.e., lakes, rivers, wetlands, and groundwater aquifers which, in many cases, depend on surface waters) provide water for consumptive use. These uses include municipal water supply, industrial use, and irrigation. Lakes, rivers, and wetlands contribute to water supply by storing water. Wetlands also contribute to the water supply by removing contaminants such as heavy metals, pesticides, nitrogen, and phosphorus, thus making water more suitable for human use (Hawkins 2003). Ecosystems that provide clean municipal water prevent the cost of municipal water treatment. Water supply services are largely regional in nature and Oakland County

shares these values associated with its water resources with other communities with which it shares its watersheds.

Waste treatment—Waste treatment services refer to the ability of freshwater ecosystems to dilute, assimilate, capture, or break down waste products such as excess nutrients and other contaminants. Freshwater bodies can serve to dilute pollutants to levels that do not pose a risk to humans and wildlife (Postel and Carpenter 1997; Hawkins 2003). In urban settings, wetlands can help absorb some of the pollutants associated with urban runoff as well as the increased amount of nutrient waste from urban landscapes (Bolund and Hunhammar 1999). Wetlands can also provide a final level of tertiary treatment for municipal wastewater, thus avoiding the substantial cost of providing such treatment within a treatment plant. In a long-term experiment in Michigan, a large wetland has retained almost all of the dissolved inorganic nitrogen and phosphorus discharged to it from the municipal waste of a community of about 5,000 (Ewel 1997). One measure of the economic value of such services is the difference in the cost of treating the wastewater in a wetland (including any costs associated with changing the wetland ecosystem) versus the costs of treatment in a treatment plant. Waste treatment services are local or regional in nature, accruing largely to local communities but also to those downstream.

Habitat—Freshwater resources provide habitat for fish and aquatic organisms and, indirectly, for waterfowl and many other animals that depend on water. Wetlands and the littoral vegetation zones of lakes are particularly valuable as nurseries for young fish (Hawkins 2003). Habitat values are likely particularly important in light of the popularity of wildlife watching and fishing in conjunction with Oakland County's water resources. The Household Recreation Survey conducted by PSC estimates that 47 percent of county households visit a water resource at least once per year to view wildlife and 24 percent report fishing. Furthermore, the PSC study concludes that each year, 23,220 pleasure trip visitors to Oakland County fish during their visit. Except for those associated with migratory waterfowl, the habitat benefits of Oakland County's freshwater ecosystems are captured largely by Oakland County residents and visitors.

Food production—Lakes, rivers, and wetlands produce marketable goods that directly benefit people. Examples include fish, waterfowl, and crops (Daily et al. 1997). Oakland County's water resources probably do not contribute greatly to commercial production of fish or waterfowl. Similarly, they probably contribute little to crop production, both because Oakland County has little farmland and because much of that farmland is not irrigated.

Raw material—Wetlands produce some raw materials to production processes. Examples from freshwater swamps in Michigan include peat and timber. Michigan was the largest peat producer in 1974 and Oakland County had two peat operations (Walden 1976).

Recreation—A study from Stockholm, Sweden, suggests that recreational services associated with natural ecosystems are perhaps the most highly valued ecosystem services in urban areas (Bolund and Hunhammar 1999). The authors state that “the recreational aspects of all urban ecosystems, with possibilities to play and rest, are

perhaps the highest valued ecosystem service in cities.” They also claim that the recreational and cultural benefits of natural ecosystems in urban environments contribute substantially to quality of life and the ability to attract a high-quality workforce.¹⁹ Water-based recreation is certainly valuable in Michigan, which ranks fourth among all states in registered boats (U.S. Department of Homeland Security 2007), fifth in licensed anglers (American Sportfishing Association 2008), eighth in its ability to attract out-of-state anglers (Ditton, Holland, and Anderson, 2002), and fifth in fishing-related expenditures (American Sportfishing Association 2008). The Household Recreation Survey conducted by PSC in Oakland County concludes that 85 percent of households engage in water-based recreation sometime during a typical year. Specific water-based recreational activities included swimming, fishing, boating, and wildlife viewing.

Cultural—The Household Recreation Survey conducted by PSC in Oakland County reveals that many county residents value the county’s water resources because of their contribution to the aesthetics of the landscape, the serenity of the area, and general quality of life. Many survey respondents also cited the environmental benefits of water resources. These characteristics of freshwater ecosystems may be particularly important in urban areas where people value the opportunity to slow down, relax, and relieve stress (Hawkins 2003).

ECONOMIC VALUE OF THE ECOSYSTEM SERVICES PROVIDED BY OAKLAND COUNTY’S WATER RESOURCES

Costanza et al. (1997) estimated economic values for 17 ecosystem services produced by 16 different ecosystems. At a per acre value of \$11,325, freshwater wetlands are the second most valuable ecosystem behind coastal estuaries, which have a value of \$12,927 per acre.²⁰ Summed over their entire area on the Earth, freshwater wetlands account for 9.7 percent of an estimated \$46 trillion total annual value of all ecosystem services. Lakes and rivers, the other major freshwater ecosystem, account for 5.1 percent. Exhibit 21 summarizes estimates of the average per acre value for the ten services to which freshwater ecosystems (i.e., lakes/rivers and swamps/floodplains) contribute worldwide.

¹⁹ This is addressed for Oakland County in the Business Attraction and Retention section.

²⁰ Original values converted from 1994 dollars per hectare to 2007 dollars per acre using a conversion factor of 1 hectare=2.471 acres and the CPI as reported by the U.S. Department of Labor, Bureau of Labor Statistics, all urban consumers, city average, <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>.

EXHIBIT 21
Ecosystem Service Values, Worldwide

Ecosystem service	Ecosystem function	Value (2007 dollars/acre/year)	
		Wetlands	Lakes/ivers
Gas regulation	Regulation of atmospheric chemical composition	\$161	—
Disturbance regulation	Damping ecosystem response to environmental fluctuations	4,099	—
Water regulation	Regulating hydrological flows	17	\$3,083
Water supply	Storage and retention of water	4,416	1,199
Waste treatment	Removing or breaking down waste products	1,053	388
Habitat/refugia	Providing habitat for resident and transient populations	249	—
Food production	Production of plant and animal food	27	23
Raw materials	Provision of extractable raw materials	28	
Recreation	Providing opportunities for recreation	278	130
Cultural	Providing opportunities for non-commercial uses	997	—
Total		\$11,325	\$4,823

SOURCE: Costanza et al., 1997.

Estimates of ecosystem service values are rough for a number of reasons including the following (Daily et al. 2000; Hawkins 2003):

- Few ecosystem services have observable market values, so non-market techniques must often be used to obtain estimates and there are still professional debates about the validity of the techniques used.²¹ Even when market prices are available, they may not accurately reflect the true value of an ecosystem service because they do not include subsidies or externalities, there may be many market prices for the same service, and market prices do not reflect ethical issues of the equitable distribution of services across different populations.
- Knowledge of the services provided by ecosystems is incomplete. Accurate estimates of value are not possible if the full range of services is unknown. Furthermore, individuals may not be aware of ecosystem services, or they may take them for granted. When individuals are unaware of ecosystem services, market prices or values derived from non-market techniques will not fully reflect ecosystem service values.
- Different individuals, or groups of individuals, may place different values on an ecosystem. Aggregating individual values to a total value requires value judgments about how to weight individual values. Many ecosystem services are essential to

²¹ Non-market valuation techniques include travel cost, hedonic price (i.e., separating the price of an amenity from observed market prices for a good that accesses the amenity, for example, estimating the value of lake frontage from the market price of lakefront homes), and contingent valuation. See Freeman (1993) and Mitchell and Carson (1989) for descriptions of these methods.

human existence and thus have immense value to future generations. There are questions about how to appropriately weight future values for such services.

- Many ecosystem services are interdependent. It is therefore not always possible to simply add service values to obtain a total value. Furthermore, exploiting one service of an ecosystem may limit the provision of other services.
- Values often depend on location and time. For example, a wetland may have a different value in a different location or at a different time. Thus, values estimated for one wetland may not necessarily apply to another.
- Ecosystem services apply to very different scales. Some (such as climate regulation) are global in nature while others (for example, water supply) may have more localized impacts and benefits.

Despite these deficiencies, the value estimates displayed in Exhibit 21 provide useful estimates of the relative magnitudes of ecosystem service values associated with different ecosystems.

Based on the values shown in Exhibit 21, Oakland County's water resources produce \$806 million in ecosystem services annually, with \$167 million attributable to 34,600 acres of lakes and ponds and \$639 million stemming from 56,400 acres of wetlands. Exhibit 22 computes estimates of the ecosystem service values associated with Oakland County's wetlands, lakes, and rivers. Disturbance regulation values associated with wetlands (primarily from flood control benefits), water supply values of wetlands, and water regulation values of lakes and rivers account for almost three-quarters of the total value of freshwater ecosystem services in the county.

Given that recreational and cultural values may be higher in urban areas than for the average over all water resources, the estimates of Exhibit 22 may understate these values to Oakland County. All of the values in Exhibit 22 assume that the freshwater ecosystems of Oakland County are still in a state to perform these functions; this is not necessarily a valid assumption in a largely urban area. For instance, the water regulation values associated with wetlands likely reflect primarily the flood control values associated with floodplains. If the floodplains have been separated from adjacent rivers by development, they may no longer perform water regulation functions.

EXHIBIT 22
**Aggregate Ecosystem Service Values Associated with
Oakland County's Water Resources**

Ecosystem service	Aggregate values (2007 dollars, millions)			
	Wetlands		Lakes/rivers	
	Value	% of total	Value	% of total
Gas regulation	\$9.1	1.1%	—	—
Disturbance regulation	231.2	28.7	—	—
Water regulation	1.0	0.1	\$106.7	13.2%
Water supply	249.1	30.9	41.5	5.2
Waste treatment	59.4	7.4	13.4	1.7
Habitat/refugia	14.0	1.7	—	—
Food production	1.5	0.2	0.8	0.1
Raw materials	1.6	0.2	—	—
Recreation	15.7	1.9	4.5	0.6
Cultural	56.2	7.0	—	—
Total	\$638.8	79.2%	\$166.9	20.8%

SOURCE: Values derived from Costanza, et al., 1997.

CONCLUSIONS

Oakland County's substantial freshwater resources produce, or have the potential to produce, an estimated \$806 million in annual ecosystem services. Based on crude global per acre average values, the most valuable of these services appear to be disturbance regulation, water regulation, and water supply. The estimates may, however, understate recreational and cultural values. Many of these values accrue primarily to Oakland County residents and those living downstream in the five major watersheds to which Oakland County's wetlands, lakes, and rivers contribute. The value estimates are also conditioned on Oakland County's freshwater ecosystems still being able to perform their ecosystem service functions, which is not necessarily a safe assumption in a largely urban area.

Oakland County Business Location and Employee Attraction/Retention Survey

INTRODUCTION

The New Economy and Quality of Life Amenity

The “New Economy” refers to the innovation- and knowledge-based, global, entrepreneurial economy that has steadily replaced the old, labor-based, manufacturing economy in the United States over the past decade. Sectors within the New Economy include knowledge-based industries such as information technology, health care, biotechnology, robotics, advanced manufacturing, and alternative energy development. These industries are more technology driven than the old, resource- and infrastructure-driven manufacturing economy, so companies and workers have more freedom to choose their location. To attract and retain highly educated, skilled, and mobile New Economy workers, communities must pursue an “innovation-based” economic development strategy that targets resources to attract high-skill job sectors (such as R&D abatements) and emphasizes a good quality of life to attract and retain knowledge workers (Kaufmann Foundation 2008).

Economist Richard Florida further emphasizes this point. He found that the traditional lens of job creation no longer applies universally—jobs do not necessarily attract workers to a state (NGA 2005). Rather, people chose the region where they would like to live and then look for jobs in those regions. Quality-of-life factors have been shown to be as important as traditional economic factors, such as jobs and career opportunity, in attracting highly mobile knowledge workers who are willing to relocate for social, cultural, and economic amenities. Perhaps Richard Karlgaard, publisher of *Forbes*, summed it up best in his article, “Where to get rich”: “The most valuable natural resource in the 21st century is brains. Smart people tend to be mobile. Watch where they go, because where they go, robust economic activity will follow (Karlgaard 2003).”

Traditional economic development strategies place less emphasis on quality-of-life amenities and more on intergovernmental competition for low-skill manufacturing jobs, which usually require local tax abatement. Such efforts were highly successful in building a robust manufacturing-based economy in southeast Michigan. As the national and global economy has shifted, however, Michigan’s residents and communities have found themselves challenged to respond. Manufacturing still comprises a much larger share of Michigan’s economy than the national average (Ballard 2006). Thus, during this transition Michigan can be expected to suffer more pain, proportionally, than the nation as a whole. The 2008 crisis surrounding the Big Three domestic automakers emphasizes this vulnerability.

According to Michigan Future, the data show that Michigan is lagging in the transition to a knowledge-based economy. In 2006 Michigan ranked 26th in per capita income, an unprecedented drop of 10 places in a relatively short six year period. It ranked 37th in the share of wages from knowledge-based industries and 34th in proportion of adults with a bachelor’s or higher degree. In 2005 (latest data available) metro Detroit still ranked 15th

in per capita income. Of 53 metropolitan areas with populations of one million or more, the Detroit region ranked 38th in concentration of knowledge-based industries and 37th in college attainment (Michigan Future 2006).

To meet the challenge of the New Economy, southeast Michigan must be a place that is attractive to knowledge workers. Fortunately, southeast Michigan is rich in the quality-of-life amenities these workers desire. Oakland County boasts an extensive green infrastructure network combined with historic towns, vibrant communities and educational institutions. The underlying fabric is in place; sound planning and savvy marketing can leverage these resources into an integral component of an economic development strategy targeting the New Economy.

Existing Literature Review

A large body of literature dating back to the early 1980s documents the importance of quality-of-life factors to firm location decisions, particularly for firms for which employees are more important than location-specific factors. In general, the literature concludes that business-oriented factors such as proximity to customers, labor and costs, and transportation are more important than quality-of-life factors in location decisions. However, some types of firms (those that are less location-dependent and for whom attracting and retaining a high-quality work force are important) tend to place more importance on quality-of-life factors than do other types of firms. These firms are often entrepreneurial in nature and within the New Economy sectors.

Business Location and Employee Attraction/Retention Survey

Public Sector Consultants (PSC) designed and administered the Oakland County Business Location and Employee Attraction/Retention Survey to assess the importance of quality-of-life factors in firms' decisions to locate in the county. The survey also explored the perceived impact of these factors on firms' ability to attract employees to Oakland County.

METHODOLOGY

Oakland County personnel selected a sample of 719 businesses to participate in the survey—507 members of Automation Alley, a technology business association, and 212 businesses referred by the county's Planning & Economic Development Services (PEDS) office. The PEDS office reports 36,759 firms as of the third quarter of 2006 (Oakland County PEDS 2007). Survey recipients thus represent a non-random sample of about 2.0 percent of the county's businesses.

PSC developed the Web-based survey questionnaire from a review of relevant literature and with feedback from the PEDS office. Potential respondents received an e-mail invitation to participate in the survey on June 3, 2008, followed by reminders on June 23 and June 30. The survey closed on July 4, 2008. All communications about the survey were addressed from Oakland County PEDS personnel. Appendix B contains the complete text of the questionnaire, survey responses, the invitation, and the reminders.

As of the closing date, 217 respondents had completed the survey yielding a response rate of 29 percent. The two sub-samples—Automation Alley and others—had virtually identical response rates.

KEY FINDINGS

- A substantial proportion of firms felt that access to parks, trails, and paths (34 percent); access to water-based recreation (23 percent); and proximity to natural areas (18 percent) were at least of moderate importance in their decision to locate in Oakland County.
- Similarly, green infrastructure affected many firms' perceived ability to attract and retain a high-quality workforce. More than half (59 percent) said that access to parks, trails, and paths influenced recruiting and retention; 54 percent said that access to water-based recreation was at least moderately important in recruiting; and 49 percent said the same of proximity to natural areas.
- Although green infrastructure factors were important to many firms, even more firms ranked business-oriented factors (proximity to customers, labor and costs, access to transportation, and government support) and community factors (quality of schools, safety, housing costs) as important factors for business location decision-making.
- While New Economy firms (such as financial, health, information, and professional services) and smaller firms (fewer than 20 employees) also ranked business-oriented and community factors as more important than green infrastructure to location decisions and recruiting, they placed a greater importance on many green infrastructure factors than did other types of firms.

CHARACTERISTICS OF RESPONDENTS

As might be expected of a non-random sample, respondents do not appear to represent the mix of businesses in Oakland County. Survey respondents overrepresent some sectors and underrepresent others relative to the number of businesses in the separate sectors. The greatest differences between respondents and all businesses are that respondents overrepresent the “information” sector (15.6 percent of respondents versus 2.6 percent of businesses), underrepresent “leisure and hospitality” (0.5 percent of respondents versus 8.3 percent of businesses), and underrepresent “education and health services” (1.4 percent of respondents versus 12.8 percent of businesses).²²

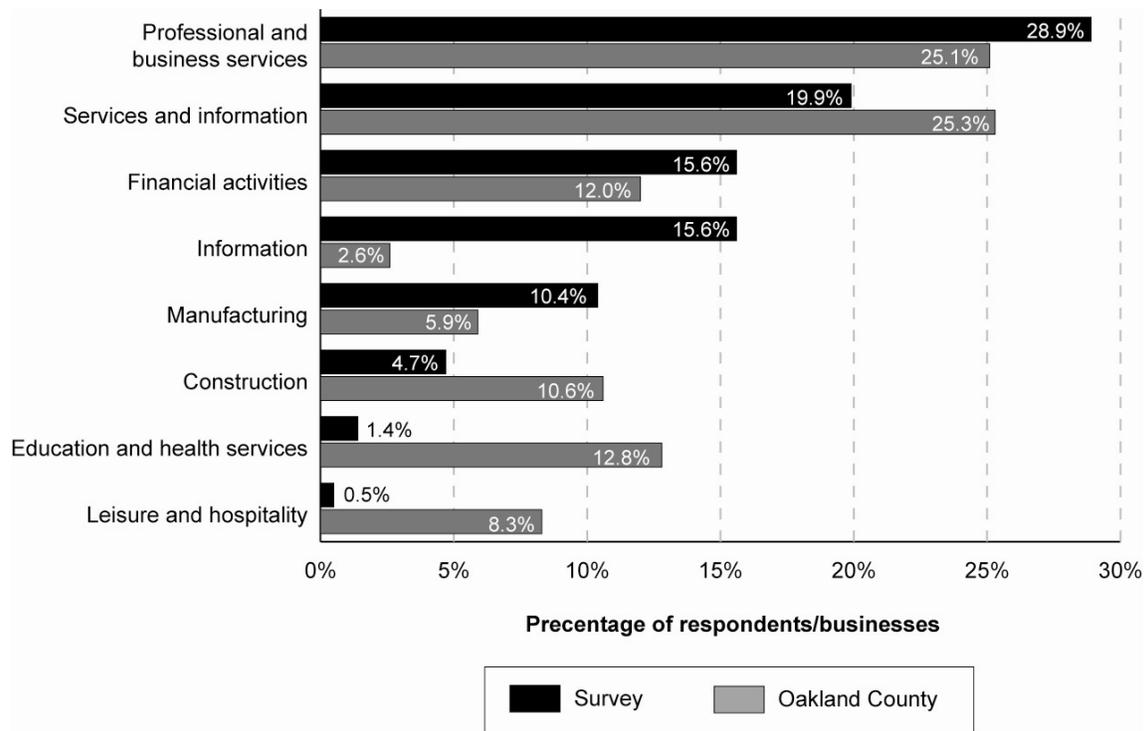
Exhibit 23 summarizes the sector composition of respondents relative to all county businesses. All differences are significant at not less than the 90 percent confidence level and most are significant at 99 percent.²³ Overrepresented sectors include professional and business services, financial activities, manufacturing, and information. Sectors that are

²² Sector definitions for both data sources are from the Bureau of Labor Statistics' (BLS) North American Industry Classification System (NAICS). The questionnaire contained in the Appendix B includes a more complete description of the sectors. Oakland County's data combined the information and services sectors. Exhibit 23 uses BLS data from the 2002 Economic Census (http://www.census.gov/econ/census02/guide/02EC_MI.HTM) as an estimate of the number of information sector businesses in Oakland County.

²³ A 90, 95, or 99 percent confidence level means that we can be 90, 95, or 99 percent sure, respectively, that the composition of the sample is different from the composition of the population of all businesses. This is not unexpected in a non-random sample and it does not affect the analysis.

underrepresented in survey responses include construction, services²⁴, education and health services, and leisure and hospitality. This is not surprising given that 70 percent of the sample consisted of members of Automation Alley, a technology business association.

EXHIBIT 23
Sector Composition of Respondents Relative to All County Businesses



SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

On average, survey respondents had 115 employees while the average over all businesses in the county is 17. It is clear that respondents greatly overrepresent large firms relative to small firms.

The lack of a representative random sample means that survey results cannot be reliably projected onto the population as a whole. Nevertheless, the survey does provide some useful information about the factors that contribute to firms’ decisions to locate in Oakland County and how those factors affect recruitment and retention of employees.

²⁴ The data provided by Oakland County aggregates the “services” and “information” sectors. Data from the BLS suggests that survey data greatly overrepresent the information sector, which implies that although the exact extent of the underrepresentation is unknown, the data greatly underrepresent the services sector.

FACTORS AFFECTING LOCATION DECISIONS AND EMPLOYEE ATTRACTION AND RETENTION

Many studies dating back to the early 1980s view of quality of life as a “would-like” factor that takes a back seat to “must-have” features of a location (Salvesen and Renski 2003). However, for firms whose financial performance depends more on their employees and the quality of those employees (e.g., highly educated, creative) than on proximity to markets, inputs, or customers, quality-of-life factors may be closer to “must-haves” if these firms wish to attract and retain the high-quality employees who are critical to their success.

Key findings from the literature include the following:

- A survey of 174 firms in Colorado that had relocated within the past five years examined the impact of quality-of-life elements on the location decision (Love and Crompton 1999). Quality-of-life factors (e.g., recreation opportunities, cultural and entertainment opportunities, ambiance, proximity to natural areas, proximity to colleges/universities, quality of primary/secondary education) ranked consistently behind labor and cost issues (e.g., availability, skills, and cost of labor) and behind daily living concerns (e.g., crime rate, personal safety, housing costs, access to transportation). In general, smaller firms, firms that identified themselves as relatively footloose (i.e., firms whose performance depends more on employees than on location), and those that employed more professionals ranked quality-of-life factors higher than did other firms.
- Florida (2002b) contends that regions that can attract the “creative class” do better economically (i.e., have higher levels of high-tech industries, innovation, human capital, and employment growth) than do regions dominated by the working class. The author empirically tests his hypotheses (Florida 2002a) and finds that quality-of-life factors (i.e., diversity, climate, and recreational opportunities) are not consistently associated with where the creative class chooses to locate. Focus group discussions, however, suggest that creative people are drawn to vibrant music scenes or outdoor recreation amenities not well associated with the specific empirical measures employed in the study. Diversity (locations where people from any background, race, ethnicity, gender, or sexual orientation can find a community) was the only quality-of-life indicator that was consistently important in location decisions of the creative class.
- A review of many empirical studies on business location (Gottlieb 1994) concludes that a location’s recreational amenities often rank in the top half of a list of factors that influence location choice. Proximity of housing (commuting time/cost), cultural amenities, and quality of primary/secondary education typically ranked higher than recreational amenities. An empirical study by the same author (Gottlieb 1995) found that business and crime variables were more important determinants of the density of employees of engineering and management establishments (a proxy for elite workers) than were recreational amenities.
- A largely qualitative investigation of the location decision processes of 40 companies (O'Mara 1999) found evidence that the quality-of-life factors that most influenced a firm’s location decision were those that had a direct effect on employees’ daily lives.

These included housing quality, ease of commuting, and the area’s scenic amenities. The quality of public schools, proximity to colleges/universities, and access to public institutions such as libraries, parks, and sports venues were also important.

The Oakland County Business Location and Employee Attraction/Retention Survey focused on identifying the influence of quality-of-life factors, and particularly recreational and water resources, on firms’ decisions to locate in Oakland County and on their perceived ability to attract and retain employees. The literature suggests that these factors are more important to some types of firms than to others. In particular, it suggests that firms whose performance depends more on employees than on location place a higher value on quality-of-life factors.

The following analysis of the survey data examines whether different types of firms place a higher value on quality-of-life factors when making location decisions and whether they believe these factors affect their ability to attract and retain employees. The analysis identifies two groups of firms that might be expected to value quality-of-life factors more highly than other firms. These include New Economy firms (i.e., the services and information, education and health services, professional and business services, and financial sectors) and small firms (fewer than 20 employees).

Exhibit 24 summarizes the size of each of the two sub-samples.

EXHIBIT 24
Size of Sub-samples

	New Economy firms		Small firms	
	Number	Percentage	Number	Percentage
No	50	23.9%	108	52.2%
Yes	159	76.1	99	47.8
Total	209	100.0%	207	100.0%

SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

The survey asked respondents to indicate how important each of a number of factors was to (a) their decision about where to locate their firm and (b) their ability to attract and retain employees. Exhibit 25 shows the way the factors were described in the questionnaire and the abbreviations used in the following analysis.

EXHIBIT 25
Factors Affecting Firm Location and Recruiting

Abbreviation	Description
Natural areas	Proximity to natural areas (undeveloped parks and forests, wildlife sanctuaries)
Quality of schools	Quality of primary/secondary education
Outdoor recreation	Availability of outdoor land-based recreational opportunities (local parks, trails, and pathways)
Culture and entertainment	Variety of cultural and entertainment opportunities

Abbreviation	Description
Colleges and universities	Proximity to colleges or universities
Water recreation	Water-based recreational opportunities (boating, swimming, fishing)
Community	Community characteristics (housing costs, crime rate, public services, public safety, diversity of residential environments)
Transportation	Access to transportation (e.g., roads, airports, railways)
Recreational infrastructure	Community recreational infrastructure (e.g., water parks, golf courses, swimming pools, etc.)
Healthy downtowns	Healthy and vibrant downtowns and historic town centers
Proximity to customers	Proximity to customers, competitors, or suppliers
Labor and costs	Labor and costs (wage rates, labor quality and availability, costs of land and buildings, operating costs)
Government support	Government support for business location

SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

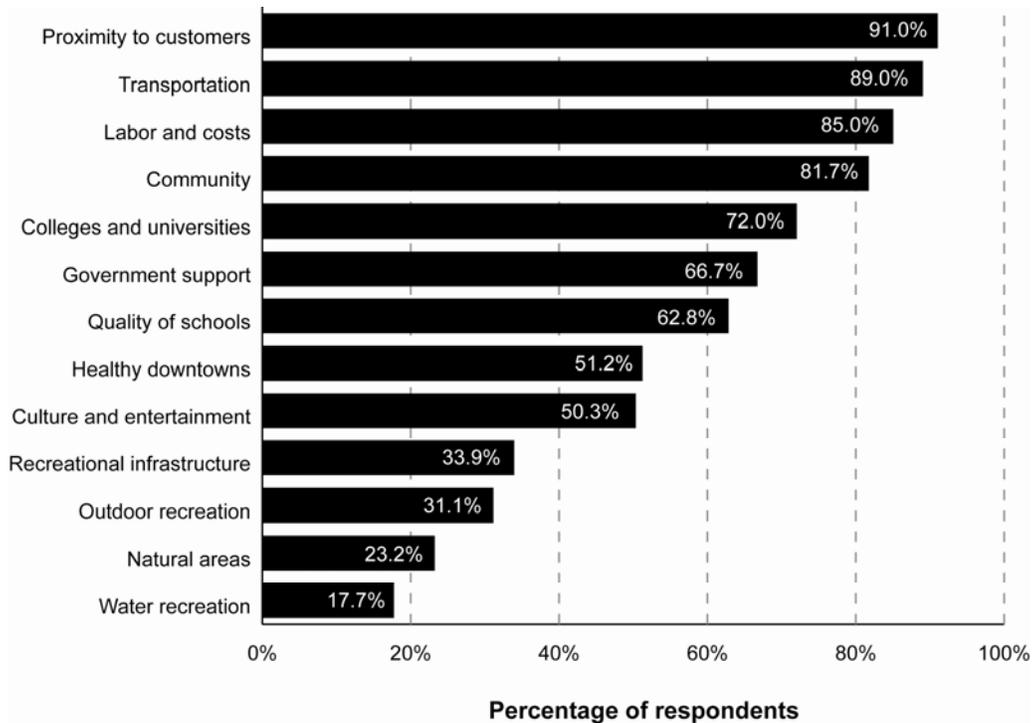
NOTE: The question used to assess recruiting did not include the final three factors.

Importance of Quality-of-Life Factors in Firms' Location Decisions

Exhibit 26 illustrates the relative importance of various factors hypothesized to influence decisions about where firms choose to locate. The percentages represent the proportion of respondents who indicated that a particular factor was at least moderately important to their location decisions.

EXHIBIT 26

Relative Importance of Selected Factors on Firm Location Decisions



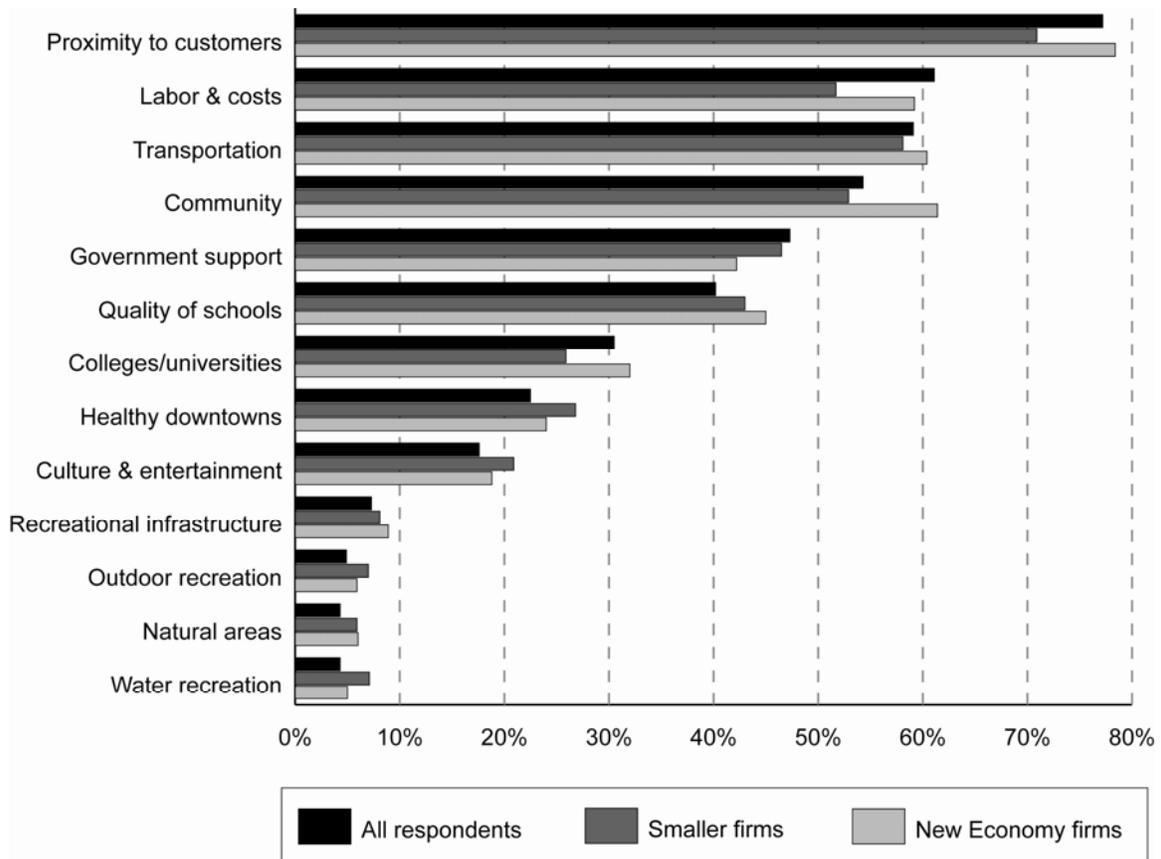
SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

Exhibit 26 gives rise to several conclusions generally consistent with the previous literature that concluded that firms place more emphasis on business-oriented factors than on quality-of-life factors and, among quality-of-life factors, less emphasis on recreational amenities than on community and cultural factors. Specific conclusions from the Oakland County Business Location and Employee Attraction/Retention Survey include the following:

- Most respondents rank business-oriented factors (proximity to customers, labor and costs, transportation, and government support) above quality-of-life factors (community, quality of schools, colleges/universities, healthy downtowns, culture and entertainment, recreational infrastructure, outdoor recreation, water recreation, and natural areas) in their location decisions.
- Among quality-of-life factors, respondents generally rank recreational amenities below community, education, and lifestyle factors.

The interesting question, however, is not how all respondents rank the factors but whether New Economy and smaller firms consider quality-of-life factors to be more important than do other types of firms. Exhibit 27 illustrates that the ranking remains generally consistent across two types of firms: (1) New Economy firms and (2) smaller firms.

EXHIBIT 27
Ranking of Factors across Different Types of Firms



SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

In spite of the generally consistent ranking, there are some significant differences between the firm types. Exhibit 28 compares the relative importance of location decision factors for (a) New Economy compared to other firms and (b) smaller versus larger firms.²⁵

²⁵ To emphasize the differences between types of firms, the percentages in Exhibit 28 reflect only those firms for which a factor was “extremely” or “very” important. In contrast to the rest of the exhibits, it does not include “moderately important” responses.

EXHIBIT 28
Factor Importance in Location Decisions

	All responses	Size of firm		New Economy	
		Less than 20 employees	20 or more employees	Yes	No
Proximity to customers	77.2%	70.9%**	84.0%	78.4%	75.4%
Labor & costs	61.1	51.7***	71.2	59.2	64.1
Transportation	59.1	58.1	60.3	60.4	57.1
Community	54.3	52.9	55.7	61.4***	42.9
Government support	47.3	46.5	48.1	42.2**	55.6
Quality of schools	40.2	43.0	37.2	45.0**	32.8
Colleges/universities	30.5	25.9*	35.4	32.0	28.1
Healthy downtowns	22.5	26.8*	17.9	24.0	20.0
Culture & entertainment	17.6	20.9	13.9	18.8	15.6
Recreational infrastructure	7.3	8.1	6.3	8.9	4.7
Outdoor recreation	4.9	7.0*	2.6	5.9	3.2
Natural areas	4.3	5.9	2.5	6.0*	1.6
Water recreation	4.3	7.1**	1.3	5.0	3.2

SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

* Differences are significant at not less than the 90 percent confidence level.

** Differences are significant at not less than the 95 percent confidence level.

*** Differences are significant at not less than the 99 percent confidence level.

NOTE: New Economy firms include information, financial services, professional and business services, and education and health services.

Key conclusions include the following:

- A significantly greater proportion of New Economy firms than other firms ranked quality of schools, community, and natural areas as “extremely” or “very” important in their location decisions. A significantly lower proportion ranked government support as an important factor.
- Smaller firms placed a significantly greater emphasis on water recreation, outdoor recreation, and healthy downtowns in their location decisions than did other firms. They placed a significantly lower emphasis on proximity to customers, labor and costs, and colleges/universities.

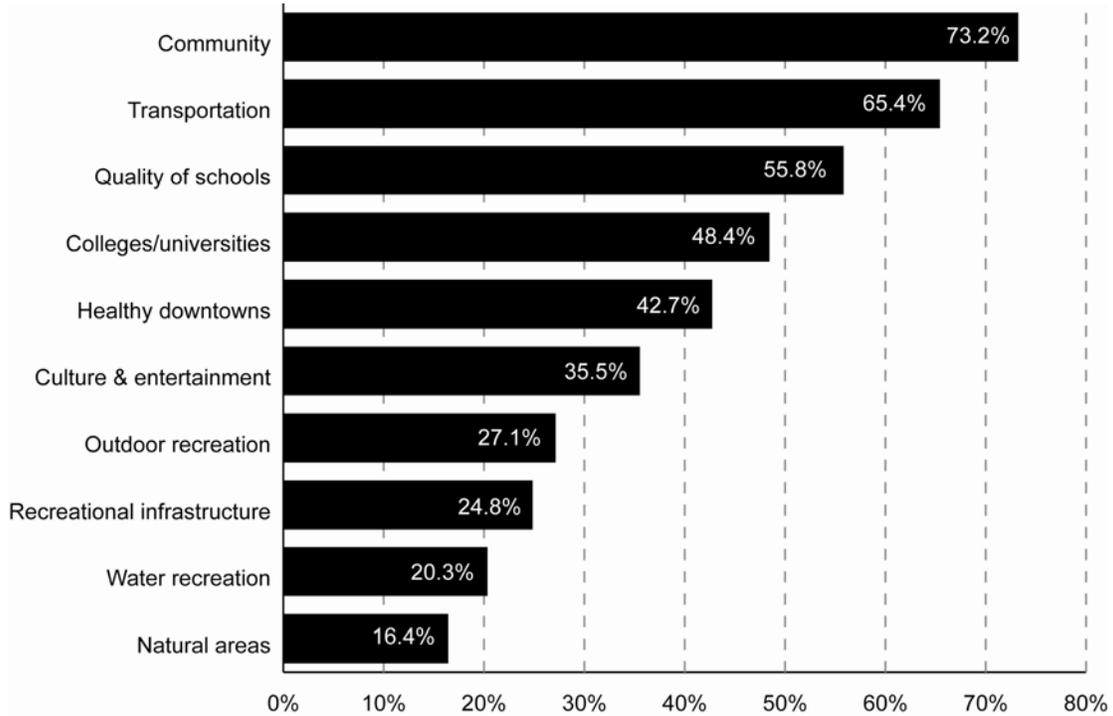
Importance of Quality-of-Life Factors in Attraction and Retention of Employees

Respondents perceived Oakland County to compete well with other locations in southeast Michigan as a desirable location for employees, but not particularly well against similar metropolitan areas elsewhere in the United States. Just over half (56 percent) said that it was “somewhat less difficult” or “much less difficult” to recruit workers to Oakland County than to other areas of southwest Michigan. When compared with similar metropolitan areas elsewhere in the United States, however, only 20 percent believed it was either somewhat less or much less difficult to recruit workers to Oakland County.

As with the analysis of location decisions, the survey also asked respondents to indicate the importance of quality-of-life factors in their ability to attract and retain employees.

Exhibit 29 shows the percentage of all respondents who reported that each quality-of-life factor was at least moderately important to their ability to attract and retain employees.

EXHIBIT 29
Relative Importance of Selected Factors on
Employee Recruitment and Retention



SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

Respondents generally ranked community factors (i.e., community, transportation, quality of schools, colleges/universities, healthy downtowns, culture and entertainment) above recreational factors (i.e., outdoor recreation, recreational infrastructure, water recreation, and natural areas).

Exhibit 30 compares the relative importance of quality-of-life factors on a firm's ability to recruit employees between (a) New Economy and other firms and (b) smaller and larger firms.

EXHIBIT 30
Factor Importance to Recruiting

	All responses	Size of firm		New Economy	
		Less than 20 employees	20 or more employees	Yes	No
Community	73.2%	67.5%**	79.2%	70.6%	81.6%*
Transportation	65.4	62.5	68.4	65.3	65.8
Quality of schools	55.8	53.8	57.9	54.2	60.5
Colleges/universities	48.4	47.5	49.3	49.6	44.7
Healthy downtowns	42.7	49.4**	35.5	46.2	31.6*
Culture & entertainment	35.5	40.5*	30.3	36.8	31.6
Outdoor recreation	27.1	25.3	28.9	26.5	28.9
Recreational infrastructure	24.8	20.5*	29.3	26.1	21.1
Water recreation	20.3	21.8	18.7	20.9	18.4
Natural areas	16.4	17.5	15.3	17.2	13.9

SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

* Differences are significant at not less than the 90 percent confidence level.

** Differences are significant at not less than the 95 percent confidence level.

*** Differences are significant at not less than the 99 percent confidence level.

NOTE: New Economy firms include information, financial services, professional and business services, and education and health services.

Key conclusions include the following:

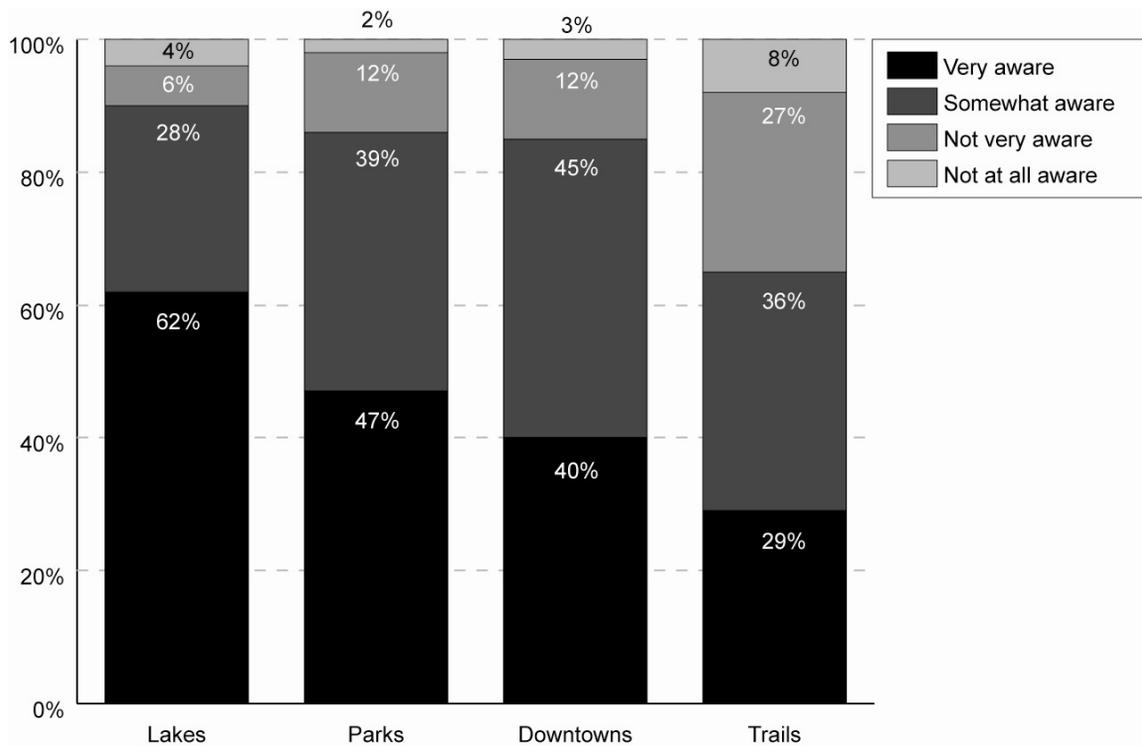
- Smaller firms are significantly less likely than other firms to believe that Oakland County’s community and recreational infrastructure are important in helping them recruit employees. They are significantly more likely than other firms to believe that healthy downtowns and culture and entertainment are important to recruiting and retention.
- New Economy firms are also significantly more likely than other firms to rank healthy downtowns as important factors in helping them recruit. They are significantly less likely to believe that community characteristics are important to recruiting and retention.²⁶

Awareness of Oakland County Amenities

As shown in Exhibit 31, the survey also asked respondents how aware they were of different amenities in Oakland County. These amenities included (a) the abundance of lakes, (b) parks and conservation lands, (c) the trail system, and (d) downtowns and historic town centers.

²⁶ As in Exhibit 28, to emphasize differences between firm types, the percentages in Exhibit 30 reflect only those firms for which a factor was “extremely” or “very” important. In contrast to the rest of the exhibits, it does not include “moderately important” responses.

EXHIBIT 31
Awareness of Oakland County Amenities



SOURCE: Public Sector Consultants Inc., Oakland County Business Location and Employee Attraction/Retention Survey, June 2008.

Respondents were generally quite aware of the county’s amenities. Even for trails, the amenity of which respondents were least aware, 65 percent were at least “somewhat” aware. Respondents were generally most aware of lakes, with 62 percent saying they were “very” aware and 28 percent claiming to be “somewhat” aware. They were less aware of parks, with 47 percent and 39 percent, respectively, being “very” aware and “somewhat” aware. A total of 85 percent of respondents were either “very” or “somewhat” aware of downtowns.

CONCLUSIONS

This study largely confirms the findings reported in the literature regarding the importance of quality-of-life factors in firms’ location decisions. In particular, firms generally rank business-oriented factors more highly than quality-of-life factors. Among the quality-of-life factors, firms consider those that have a direct impact on daily life (such as community, education, or commuting) as more important than those that do not (for example, recreational opportunities).

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Appendix A:

*Household Recreation Survey Instrument and Results**

[INSTRUCTIONS TO INTERVIEWERS IN ALL CAPS]

INTRODUCTION

Hello, I'm calling from Public Sector Consultants in Lansing, Michigan. We are conducting a survey for Oakland County.

The county has asked us to survey residents about what features and characteristics of Oakland County they value most.

[RANDOM SELECTION OF RESPONDENT AT HOUSEHOLD LEVEL]

Are you 18 years of age or older and a resident of Michigan?

Yes..... **Continue**
No Terminate

Are you an employee of Oakland County government?

Yes..... Terminate
No **Continue**

Before we begin, let me tell you that this interview is completely voluntary. If we come to any question that you don't want to answer, just let me know and we'll go on to the next question. Let me also assure you that all your responses will remain confidential. Only aggregate information will be shared with Oakland County when all of the surveys are complete.

[IF THE RESPONDENTS ASKS FOR MORE INFORMATION ABOUT THE SURVEY SPONSOR: "The survey is being conducted by Oakland County in order to better understand county resident's opinions and preferences about their quality of life]

QUESTIONNAIRE

First, I'd like to ask about where you live in Oakland County.

1. In which city, village, or township in Oakland County do you live? [USE OAKLAND COUNTY POLITICAL SUBDIVISIONS CODE SHEET AT END OF SURVEY INSTRUMENT FOR VALID RESPONSES; CODE DON'T KNOW 88888; CODE REFUSED/OTHER 99999.]

* Percentages in tables may not = 100% due to rounding.

Now, I'd like to read you a list of characteristics of Oakland County, and ask you how much each of these features affects your quality of life right now. For each one, I'd like you to tell me whether it has a very large effect, a large effect, a moderate effect, a small effect, or no effect at all. Don't think about how important these characteristics are to you. Think instead about how much effect they have on your quality of life.

2. How much effect does _____ have on your quality of life? [ROTATE; REPEAT ANSWER CHOICES AS NECESSARY]

	Very large effect	Large effect	Moderate effect	Small effect	No effect at all	Don't know [VOL.]	Refused/other [VOL.]
a. the variety of living choices available (urban, suburban, or rural) (N=581)	12.5%	28.7%	34.5%	7.8%	13.3%	2.8%	0.3%
b. the quality of the schools (N=577)	37.0	26.7	10.7	4.2	17.7	3.7	0.2
c. the sense of community (N=583)	16.7	31.7	33.7	7.7	7.5	2.7	0.2
d. the diversity of activities available nearby, such as shopping, dining, outdoor recreation, etc. (N=590)	26.5	39.5	23.5	4.3	4.5	1.5	0.2
e. the safety of communities (N=591)	47.2	37.7	11.2	1.0	1.5	1.5	0.0
f. the availability of many lakes, rivers, and streams (N=589)	33.7	35.2	18.0	5.5	5.8	1.8	0.0
g. easy access to parks, trails, and pathways (N=590)	21.2	31.7	27.7	7.2	10.7	1.5	0.2
h. the diversity of the landscape (blending of natural lands and built areas) (N=583)	19.2	32.8	30.3	7.0	7.8	2.8	0.0
i. the quality of the natural environment (forested areas, wetlands, open space) (N=586)	28.2	41.0	19.7	4.2	4.7	2.0	0.3
j. the scenic beauty (N=591)	27.8	44.0	19.7	3.7	3.3	1.5	0.0
k. the variety and number of employment opportunities (N=572)	21.2	24.7	20.0	9.8	19.7	4.0	0.7

I also want to ask about how often you visit Oakland County's recreational resources and natural environment. I will now read you a list of recreational or natural areas in Oakland County.

3. Over the past 12 months, about how often would you say that have you visited [item name] on roughly a daily, weekly, once every two weeks, monthly, or occasional basis—or not at all? [ROTATE; REPEAT ANSWER CHOICES AS NECESSARY.]

[IF RESPONDENT NEEDS ASSISTANCE IN DECIDING ON ANSWER, PROBE FOR FREQUENCY AND CODE USING GUIDELINES BELOW FOR AVERAGE USAGE.

- DAILY
 - MINIMUM OF THREE OR MORE DAYS PER WEEK
 - NO MAXIMUM
- WEEKLY
 - MINIMUM OF AT LEAST FOUR TIMES PER MONTH
 - MAXIMUM OF TWO DAYS PER WEEK
- ONCE EVERY TWO WEEKS
 - MINIMUM OF TWO VISITS PER MONTH (24 VISITS PER YEAR)
 - MAXIMUM OF THREE VISITS PER MONTH (36 VISITS PER YEAR)
- MONTHLY
 - MINIMUM OF 9 VISITS PER YEAR
 - MAXIMUM OF 23 VISITS PER YEAR)
- OCCASIONAL
 - NO MINIMUM
 - MAXIMUM OF 8 VISITS PER YEAR]

		Daily	Weekly	Once every two weeks	Monthly	Occasional	Never	Don't know [VOL.]	Refused/ other [VOL.]
a.	a park (state, county, township, municipal) (N=594)	3.5%	13.2%	6.7%	20.2%	37.7%	17.8%	0.8%	0.2%
b.	a public trail or pathway (N=595)	4.2	10.3	4.3	15.3	31.0	34.0	0.8	0.0
c.	a publicly accessible lake (N=591)	17.3	6.7	3.2	10.2	28.7	32.5	1.3	0.2
d.	a private lake (N=589)	27.0	5.8	1.5	5.7	18.8	39.3	1.5	0.3
e.	undeveloped fields or woods (N=591)	4.8	8.5	2.8	12.0	29.8	40.5	1.5	0.0
f.	A wetland, marsh, or swamp (N=590)	11.8	5.3	2.2	7.0	21.7	50.3	1.7	0.0
g.	a river or stream (N=592)	11.5	4.5	3.7	9.5	34.8	34.7	1.2	0.2

4. Thinking again about the past 12 months, about how many times—during that time—did you go to a lake, pond, river, stream, or wetland in Oakland County primarily to _____? [PROBE TO MAKE SURE RESPONDENTS ARE RECORDING VISITS BASED ON THEIR PRIMARY PURPOSE. FOR EXAMPLE A FISHING TRIP IN A BOAT WOULD COUNT AS A FISHING TRIP IF THE PRIMARY PURPOSE WAS FISHING AND AS A BOATING TRIP IF THE PRIMARY PURPOSE WAS BOATING.]

Primary activity	Approximate number of times in past 12 months [RECORD RAW NUMBER; CODE DON'T KNOW AS 888, REFUSED/ OTHER AS 999]
a. fish (N=578)	5.8 (mean)
b. hunt ducks or geese (N=579)	0.9 (mean)
c. go power boating, water skiing, or jet skiing (N=569)	14.2 (mean)
d. go canoeing, kayaking, or sailing (N=575)	6.5 (mean)

Primary activity	Approximate number of times in past 12 months [RECORD RAW NUMBER; CODE DON'T KNOW AS 888, REFUSED/ OTHER AS 999]
e. go swimming or use the beach (N=569)	16.6 (mean)
f. engage in general recreation (walking, running, biking, picnicking, relaxing, etc.) (N=532)	27.0 (mean)
g. watch or photograph wildlife (N=554)	16.1 (mean)

5. Are Oakland County's lakes, ponds, rivers, streams, and wetlands important to you for any other reasons besides the kinds of activities we just mentioned? (N=600)

Yes	49.3%
No	49.2 [SKIP TO Q7]
Don't know [VOLUNTEERED]	1.2 [SKIP TO Q7]
Refused [VOLUNTEERED]	0.3 [SKIP TO Q7]

6. [IF Q5 = "YES"] What are those reasons? [RECORD FREE RESPONSE]
7. How important are Oakland County's water resources to your overall quality of life? (N=600)

Extremely important	44.3%
Very important	33.5
Somewhat important	14.0
Not very important	3.8
Not at all important	3.0
Don't know [VOLUNTEERED]	0.8
Refused [VOLUNTEERED]	0.5

DEMOGRAPHICS

To conclude the survey, I have a few more questions to ask you. This information is used just to make sure the sample of people we talk with is representative of all Oakland County residents.

8. Does the property on which you live have frontage on a lake, river, or stream? (N=595)

Yes	54.2%
No	45.0
Don't know [VOLUNTEERED]	0.2
Refused [VOLUNTEERED]	0.7

9. In what year were you born? [FREE RESPONSE, RECORD AS FOUR-DIGIT YEAR, CODE REFUSED/OTHER AS 9999] (N=563)

Mean = 58.6 years of age

10. Which of the following best describes your level of education? (N=600)

Less than high school	0.2%
High school graduate or equivalent	12.8
Some college or an associate's degree	29.0
Bachelor's degree or higher	55.3
Don't know [VOLUNTEERED]	0.5
Refused [VOLUNTEERED]	2.2

11. Which of the following income groups includes your total family income in 2007? (N=600)

Less than \$45,000	12.3%
\$45,000 to \$74,999	12.5
\$75,000 to \$99,999	13.0
\$100,000 to \$149,999	14.5
\$150,000 to 199,999	5.8
\$200,000 or more	10.7
Don't know [VOLUNTEERED]	2.0
Refused [VOLUNTEERED]	29.2

12. Gender [BY OBSERVATION ONLY] (N=600)

Male	50.0%
Female	50.0

That concludes the survey; thank you for participating.

OAKLAND COUNTY POLITICAL SUBDIVISIONS CODE SHEET

Code	Name
00400	Addison
04105	Auburn Hills
07660	Berkley
08160	Beverly Hills
08460	Bingham Farms
08640	Birmingham
09110	Bloomfield
09180	Bloomfield Hills
10040	Brandon
16160	Clawson
17640	Commerce
27380	Farmington
27440	Farmington Hills
27760	Fenton
27880	Ferndale
30340	Franklin
35640	Groveland
37420	Hazel Park
38080	Highland
38700	Holly
38720	Holly
40000	Huntington Woods
40400	Independence
42460	Keego Harbor
44440	Lake Angelus
44940	Lake Orion
46320	Lathrup Village
46940	Leonard
49820	Lyon
50560	Madison Heights
53960	Milford
53980	Milford
58980	Northville
59440	Novi
59460	Novi
59820	Oakland
59920	Oak Park
61020	Orchard Lake Village

Code	Name
61100	Orion
61220	Ortonville
62020	Oxford
62040	Oxford
64900	Pleasant Ridge
65440	Pontiac
69020	Rochester
69035	Rochester Hills
69580	Rose
70040	Royal Oak
70060	Royal Oak
74900	Southfield
74920	Southfield

QUESTION 6, FREE RESPONSES

Question 6: What are the reasons Oakland County's lakes, ponds, rivers, streams, and wetlands are important to you?

- All natural resources should be highly protected. My husband and I are strong advocates for all natural resources of Michigan. We want to keep and protect what is natural in Michigan. We need to use these natural resources with precaution.
- Balancing is important.
- Basically, it is to keep a better environment and to maintain the wildlife and the life that we want. We want natural beauty. It's good to have greenery around, but we don't have that much control over the amount of development that we already have.
- Building a house is important. I love building a house near a lake.
- Different bodies of water are there. They are not concrete and part of the environment.
- Environment is important for wildlife. Being in the wetlands make the animals happy.
- Environmental reasons are important. It is for natural habitat and oxygen.
- Every community should have a land for birds and animals to live in.
- For retail because I own one and it answers the value of my property. That's it.
- Fresh water here is important for the future. Everybody is running out of fresh water. I want to keep the peacefulness of the area.
- How much tax are we going to pay and what are the restrictions imposed on people for the sake of the animals and wetlands.
- I can paint or take pictures of the wild life.
- I can't say.
- I do not know what to say.
- I do not want to live a completely urbanized life.
- I do skiing and boating.
- I don't like to see them destroyed or damaged. They are important.
- I don't want them to be done away with the wetlands. I hate disrupting the nature. They provide food for the wildlife, and the wildlife is what I hunt. I don't hunt for ducks, though.
- I enjoy seeing the good views and sights.
- I enjoy the scenery.
- I get to go to a place that is good for me. I like going to places like that.
- I go hunting with my friends a few times a year. I walk and enjoy the parks. The family goes there as well. Sometimes, I scout for mushrooms and walk around in the natural habitat.
- I go to the park or the wetland with my kids. There are times when we ride bicycles or go fishing on the lake.
- I have a lot of resources around me, but I don't have any occasions to go to.
- I have a pond here. I also visit other locations near the lake.

- I have aesthetic reasons. It balances nature.
- I have ecological reasons.
- I have lived here for 50 years. I love it here.
- I have no reasons.
- I have water here.
- I just enjoy the view. Cleanliness is important.
- I just like to go there and read.
- I just want to have open space.
- I just want to look at it or enjoy the scene.
- I like an area with a lot of lakes and streams. It is beautiful.
- I like fish and take pictures.
- I like its beauty and tranquility.
- I like its beauty.
- I like its natural beauty and its serenity.
- I like jogging and running.
- I like living here because of the beauty of the lakes and rivers.
- I like looking at them. It is peaceful.
- I like the beauty and the quality of the lakes.
- I like the beauty of having clean water.
- I like the beauty of it.
- I like the beauty of staying there. It makes me feel good.
- I like the beauty of the nature that surrounds the lake. I do horseback riding and follow the trails.
- I like the ecological environment and the beauty of the natural resources.
- I like the large dog park for walking around.
- I like the natural beauty of the ecosystem.
- I like the natural beauty.
- I like the outdoors and the beauty of it. I like the type of living with the environment as opposed to living in the city. I have lived in Oakland County for most of my life. I lived in Hawaii for seven years, but I would rather be here. I prefer living in Michigan, specifically in Oakland.
- I like the scene and would like to see them. I would like to teach my grandchildren about wildlife. I can't run, but I can definitely walk with them.
- I like the scenery.
- I like the scenic beauty. The beautiful lakes are very important to the county.
- I like the scenic beauty. They help improve the environment and raise the standard of living.
- I like the views and the scenic beauty.
- I like to fly kites there and hunt.

- I like watching the wildlife.
- I live and enjoy the lake. We also have a pond.
- I live in the outdoors. I am a fisherman. There is togetherness with the lake and me.
- I live near a lake.
- I live near a lake. It is fun and much better here than the city.
- I live near the lake and enjoy the view.
- I live near the lake.
- I live near the waters.
- I live on the waterway. I take my family out on boat rides. I like the outdoors.
- I live the lake and want clean water.
- I occasionally go there to take photographs.
- I pass on them when I am driving. There are rivers, and I drive around the lake at least once a week.
- I see a lot of wetlands being filled in for building of commercial properties.
- I use it for boating.
- I want my lake to be clean for health reasons.
- I want them to be an important part of the place.
- I want to appreciate art.
- I want to be able to connect with nature in my spiritual path.
- I want to be able to enjoy its beauty.
- I want to be able to view natural woods and streams.
- I want to enjoy natural beauty and wildlife. I also enjoy fishing and hunting privileges. They have great camping facilities and easy access for boats.
- I want to get away from the urban environment.
- I want to have a balanced ecology and to maintain the balance in nature.
- I want to have the fresh water available. Another reason is their beauty.
- I want to increase the property value.
- I want to keep it for its beauty.
- I want to preserve the environment.
- I want to preserve the wildlife.
- I want to preserve them, not to destroy them.
- I want to preserve water.
- I want to protect the animals and the wildlife.
- I want to support the environment and the animals that live here.
- I want to watch the birds.
- I want woods and green environment. Another reason is the water that is available.
- I would like to enjoy the activities.
- I would like to go there and sit on my tire. I would like to take my grandchild over there. I like to go in the ponds and catch fishes. It's very educational for my kids. I do

a lot of sketching and drawing. I also do watercolor paintings at the park. There are a lot of wildlife and places that have been turned into parks. Domestic plants have survived at the beach.

- I would like to see private lakes with fresh water. They should protect the wetlands and don't keep it too crowded.
- I would rather see a lake than wildlife.
- I'm interested about the pollution on those lakes.
- It adds diversity for the people to use the facility.
- It affects the value of my property and for recreation.
- It contributes to the overall image of the community.
- It has a large impact economically for the county. It provides water resources for the county.
- It has a property value.
- It has an environmental impact. We should be taking care of them to have clean water.
- It helps the cycle of life.
- It helps the kids because it's not crowded.
- It is for the quality of the environment.
- It increases the value of the property. It could be also be used for health and recreation.
- It is a business opportunity.
- It is a free form.
- It is a natural beauty and water resource.
- It is a natural beauty. It is for the quality of living and recreational opportunity.
- It is a natural habitat. I go to the nature center national park and take my kids there.
- It is beautiful.
- It is beauty and serenity.
- It is because of its beauty, serenity and the calmness.
- It is because of its property value. It provides educational opportunities for the children and has natural areas for activities.
- It is because of the beauty of nature.
- It is because of the beauty.
- It is because of the visibility of the landscape.
- It is better to sell our property, and I like the scenic beauty.
- It is desirable for the county.
- It is environmental reasons and for the future generations. It is nature's way of cleaning the land for the future generations.
- It is for beautification and to help the environment.
- It is for beautification.
- It is for beauty and relaxation.

- It is for beauty and variety.
- It is for biking.
- It is for conservation or to save the beauty of wildlife.
- It is for ecology and clean air.
- It is for environmental reasons and for the wildlife. The wetlands will help the lake.
- It is for environmental reasons. I like a clean environment and water.
- It is for family outings and meetings. I like the trees.
- It is for good health, serenity and exercise.
- It is for healthy living, to feel beautiful and is good for picnics. I take my grandchildren there.
- It is for hiking.
- It is for its real estate value.
- It is for natural beauty. It is beautiful to see something soothing to the eyes.
- It is for our well being. When you are connected to nature, you can enjoy its beauty.
- It is for preservation.
- It is for preservation.
- It is for recreation and [to] see the natural beauty of our land and the preservation of wildlife.
- It is for recreation and help.
- It is for recreational activities with my family and friends. It is also for relaxation and spiritual renewal.
- It is for scenic reasons.
- It is for sporting wildlife.
- It is for the atmosphere. When you drive by, you could see the scenic beauty of nature.
- It is for the community.
- It is for the ecology. We should be careful of foreign predators to maintain the good balance of the community and do away from pollution for the survival of the wildlife.
- It is for the environment and wildlife.
- It is for the environment, clean water and air, and wildlife, and animal shelter.
- It is for the future of our children and grandchildren.
- It is for the general beauty of the environment.
- It is for the general environment. Even though I may not use them myself, it is an important asset of the community.
- It is for the general quality of life, value of properties and to enjoy the environment.
- It is for the habitat and all the trees. We should keep things natural.
- It is for the people, so that they can use the lake.
- It is for the preservation of natural beauty.
- It is for the protection of the environment.

- It is for the real estate value.
- It is for the scenery, recreation, boating, swimming, kayaking and occasional fishing.
- It is for the scenic beauty.
- It is for the value of keeping them clean for future generations.
- It is for the wildlife. (3)
- It is for their beauty and support of wildlife.
- It is for those who enjoy having one.
- It is for us to know that they are very important.
- It is for wildlife habitat and ecology in general.
- It is good to have them there. I want to keep them for our children and for our children's children. We want to have areas for animals.
- It is important for me because I live near the lake.
- It is important for me to live at.
- It is important for my children and grandchildren to enjoy it.
- It is important for our property's value. We live near the lake and it is very pleasant to look at it.
- It is important for the environment to have water, lakes, and streams. It is also for the state and the earth.
- It is important to have clean air. It is beautiful to watch the wildlife. The department of environmental quality and township needs to work together and do their job, but they are not. There is an unbelievable disconnection. It is a mess.
- It is important to look at them.
- It is important to me because of the property value.
- It is important to protect the environment. We need to take care of it for the next generation.
- It is just the view of the area.
- It is nice to look at.
- It is our environment. We need to take care of it.
- It is peaceful and serene.
- It is preserve the wildlife and for us to enjoy it.
- It is pretty to look at.
- It is relaxing just to look at them.
- It is safe for the environment.
- It is [to] see the beauty of it.
- It is the beauty.
- It is the beauty of nature and it draws visitors and possible new residents.
- It is the beauty of Oakland lakes and parks.
- It is the beauty of the landscape and habitat for animals.
- It is the beauty within it. I like nature, so we need to give it more value.

- It is the breeding ground for wildlife and other habitats.
- It is the diversity of our lifestyles. It gives you a chance to do a lot of different things.
- It is the ecological impact it has on earth. My other reasons are the scenic and natural beauty that it has.
- It is the home of the chipmunks.
- It is the perfect view.
- It is the scenery.
- It is the value of natural resources.
- It is to balance the environment and provide habitat to animals, even though I am not visiting them. I would prefer Oakland state to development.
- It is to conserve nature.
- It is to make the whole area more valuable. Oakland County will be more desirable to live in. Most people enjoy the lakes and parks, so they need to make the property more valuable.
- It is to relax.
- It is to see nature and wildlife. It is also a place of relaxation, entertainment, and exercise.
- It is to see the beauty of nature and its availability.
- It is to see the wildlife. You name it and it is there.
- It is very important. I love this lake. It is everything to me.
- It makes me relaxed when I go out on the water on my boat.
- It means for the health of our state. We have to keep track of these things to keep everything the way it is. It is not to be polluted.
- It must be preserved and protected from damage, pollution, and harm. The water must be clean enough.
- It protects the residents. I like the beauty and calmness of them. We need to have access in our lake.
- It will be a preservation of water wildlife.
- It's important because it's our environment. I could not stand not being with nature.
- It's important to the wildlife. Another reason is the basic sense of tranquility. I can take my grandson out for fishing. The launch sites in Oakland County and parks around the area are charging \$24 a year.
- Its natural beauty is my only reason.
- Its scenic beauty is my only reason.
- Keep the natural resources available, healthy, and unpolluted for future generations.
- My home is near the lakes.
- My only reason is beauty.
- My only reason is the scenery.
- My only reason is the scenery. I like walking and watching the scenery.
- My reason is habitat preservation.

- My reason is it's the beauty. I love watching the lake, the tides, and the different colors.
- My reason is its beauty.
- My reason is the environment.
- My reason is the fresh water resources.
- My reason is the property value.
- My reason is to keep us healthy.
- My reasons are clean water, air and wildlife.
- My reasons are cleanliness and nature.
- My reasons are the common effects.
- My reasons are the environment and respect for the environment.
- My reasons are the environment, beauty and wildlife.
- My reasons are the habitat of animals and the scenery in the area which improves the quality of life.
- My reasons are the quality of life and environmental conditions.
- My reasons are the scenic beauty and I just enjoy being by the water.
- My reasons are the scenic beauty, watching the wildlife, and just relaxing outdoors. I also take a hike regularly.
- Natural resources are my only reason.
- Nature is important.
- Once it is gone, everything else will also be gone. It has an impact on the environment, but then they are slowly developing on it. It is also for ecological reasons as well.
- People want to build businesses that destroy wetlands. If we have no more wetlands, it could lead to the extinction of animals.
- Protecting the environment is pleasing.
- Scenic beauty and population density are my reasons.
- The beauty of the community is awesome.
- The comfort of driving outside the city to this peaceful place is relaxing.
- The diversity of life is nice to look at.
- The ecosystem should continue to be as it is.
- The environment is very important to me in general.
- The groundwater renewal has an economic value in our tourism. They are the pieces of quality that we can survive on.
- The preservation is for my children.
- The quality of plant and animal life is important. I want to make sure that it is alive and thriving.
- The quality of water and headwaters conservancy are important to me. There should be water wildlife.

- The scenic beauty and the things we have attract more people. We should take care of it to improve the value. These things make other people kind hopeful. It is for the good of the community.
- The stream that goes into my property provides scenic beauty and water supply.
- The value of the property is important. It gives my grandchildren a reason to visit me.
- The water level and the quality affects our lakes.
- The wetlands shelter the water, so it keeps the lakes cold.
- The wildlife is my main reason. It is important that we don't dump anything; otherwise we won't have animals anymore.
- There are a lot of things I like to do, but I don't make time for it like walking with my dog.
- There are wildlife creatures that are now entering at my backyard. Deer eat my apples and the raccoons go inside the garbage bin. They broke the subdivision. The animals are now in the neighborhood. These were not a problem before.
- These are valuable environmental resources. They are important to the people as it's part of the earth.
- They are beautiful to look at. I love the water, the recreation and the look of everything.
- They are beautiful, relaxing and relieving.
- They are electric boating and we like clean water.
- They are for tracking and providing habitat.
- They are helping the environment. It is good to know that they are there. It is also good that neighbors and other people can enjoy them. It is important.
- They are important for the habitat. They provide for all the birds, mammals, and amphibians. I would rather look at trees than houses.
- They are natural resources.
- They are pleasing.
- They are property value, quality of life and water.
- They are relaxing.
- They create a positive feeling of the area.
- They have real estate values.
- They help our environment. When we talk about beauty, it is nice to look at it. I am sure that in some way, they are as important as our drinking water.
- They help the community.
- They keep our environment safe and great for the kids.
- They keep some clean and natural habitat for wildlife.
- They teach the proper value of assistance to natural life.
- They would be ecological reasons.
- They would educational reasons for my children, and they are part of our history.
- They're important to me, my neighbors and other people living in my community.

- Those things are necessary out here.
- We can visit and watch.
- We have natural resources and they really help. They are our natural properties. It is better to be able to go once in awhile to those places just to relax, like having a family outing instead of going to the malls and shop.
- We have to live with a water supply. I love the moment of life in this place.
- We have to maintain the wildlife and keep our history.
- We live near the lake. I want to have more privacy. I like the activities, the view and how quiet it is. I like listening to the birds chirping.
- We live on a lake.
- We need them.
- We need to have places to enjoy ourselves and think about nature. We need to enjoy the beauty of the park and see the wildlife. We need enjoy nature centered education where we don't hear motors.
- We need to maintain a habitat for the wildlife.
- We need wildlife around us.
- We should protect them.
- We support each other. We need the wildlife. There are a lot of people in our area. We take care of the water.
- We value natural beauty and for preservation.

Appendix B:

*Oakland County Businesses Location and Employee Attraction/Retention Survey Instrument and Results**

E-MAIL INVITATION TEXT

Initial E-mail Invitation

Subject: Oakland County Business Survey

Oakland County Planning & Economic Development Services (PEDS) would greatly appreciate your input on a survey of Oakland County businesses. The survey is an effort to better understand the factors that influence firms' decisions to locate in Oakland County. The County is also interested in understanding the factors that contribute to firms' abilities to attract and retain employees.

Ideally, the person or persons most responsible for making location decisions and for recruiting employees should answer the questions. If you think it more appropriate that someone other than you take this survey, please forward this e-mail to that person.

Even though the information from the survey is not particularly sensitive, please be assured that your responses will be completely confidential. The survey should take about 10-15 minutes to complete.

Thank you in advance for taking a few minutes to participate. Your responses will help the PEDS create a better business environment in Oakland County.

To begin the survey, click here: [LINK TO SURVEY]

Sincerely,
(Contact Name)

Please note: If you do not wish to participate in the survey or receive further emails from us, please click the link below and you will be automatically removed from our mailing list. [LINK TO BE REMOVED FROM MAILING LIST]

First Reminder E-mail

Subject: Oakland County Business Survey Reminder

You recently received an e-mail invitation to participate in an online survey of Oakland County Businesses. If you have already submitted a response, thank you.

If you have not yet participated in the survey and would like to, please use the following link [LINK TO SURVEY].

Your input is very valuable to us. Thank you!

* Percentages in tables may not = 100% due to rounding.

Sincerely,
(Contact Name)

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list. [LINK TO BE REMOVED FROM MAILING LIST]

Second Reminder E-mail

Subject: Survey of Oakland County Businesses Reminder (Survey Ends 7/4/08)

You recently received an e-mail invitation to participate in an online survey of Oakland County Businesses. If you have already submitted a response, thank you!

The survey collection period will end this Friday, July 4th at 5pm. If you have not yet participated in the survey and would like to, please use the following link [LINK TO SURVEY].

Your input is very valuable to us. Thank you!

Sincerely,
(Contact Name)

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list. [LINK TO BE REMOVED FROM MAILING LIST]

QUESTIONNAIRE

1. Has the firm moved to this location within the past five years? (N=219)

Yes	37.4%
No	62.6

2. If yes, how involved were you in the decision to locate the firm at its current location? (N=81)

Very involved	65.4%
Somewhat involved	12.4
Not involved	22.2

3. If no, is the firm currently in the process of considering relocating or expanding to a new location? (N=137)

Yes	26.3%
No	73.7

4. If yes, how involved are you in the location decision? (N=36)

Very involved	61.1%
Somewhat involved	19.4
Not involved	19.4

5. To which of the following broadly defined sectors does your firm belong? (N=211)

Natural resources and mining (agriculture, forestry, fishing and hunting, mining)	0.0%
Construction (building construction, renovation, or repair; engineering projects; real estate development)	4.7
Manufacturing (plants, factories, mills, etc., that transform raw materials into new products)	10.4
Services (wholesale or retail trade, transportation, warehousing, utilities)	4.3
Information (publishing, software, broadcasting, telecommunications, data processing, information services)	15.6
Financial activities (finance and insurance, real estate and rental and leasing)	15.6
Professional and business services (professional, scientific, and technical services; management of companies and enterprises; administrative and support; waste management and remediation services)	28.9
Education and health services (education services, health care, social assistance)	1.4
Leisure and hospitality (arts, entertainment, recreation, accommodation, food services)	0.5
Other (specify)	18.5

6. About how many people does your firm employ in Oakland County? (N=208)

1 to 4 employees	21.1%
5 to 9 employees	15.9
10 to 19 employees	11.1
20 to 49 employees	21.6
50 to 99 employees	7.7
100 to 249 employees	12.5
250 to 499 employees	2.9
500 to 999 employees	2.9
1,000 or more employees	4.3

7. How well does the following statement describe this firm? “The firm’s financial performance is relatively independent of its location. Employees are the firm’s most important resource and the firm is not tied to raw materials, natural resources, energy supplies, or location-specific markets.” (N=195)

Extremely well	40.0%
Very well	25.6
Moderately well	22.6
Not very well	9.7
Not at all well	2.0

8. Please rank the three factors below in terms of their relative importance to your firm. Place a “1” next to the most important, “2” next to the second most important, “3” next to the third most important, and “4” next to the least important.

	1	2	3	4
a. The existence of a well-established local labor force (labor costs, fringe benefits, worker skills, and work attitudes in the community) (N=186)	13.0%	18.8%	34.4%	31.7%
b. The cost of doing business (acquiring raw materials, utilities, transportation, and taxes) (N=191)	16.8	24.6	29.3	29.3
c. Proximity to customers (N=187)	35.3	21.9	15.0	27.8
d. The ability to attract and retain skilled or professional personnel (the factors that influence attraction and retention of employees) (N=190)	33.7	35.8	20.5	10.0

9. How did the firm come to this location in Oakland County?

- a. The firm was originally established at this location in: _____ year
- b. The firm moved to this location from: _____ city _____ state _____ country _____ year
- c. The firm expanded and established an additional site at this location in: _____ year

Responses to questions 9 (a, b, and c) were too inconsistent to permit meaningful analysis. The questions were more important for describing firms than for the statistical analysis. Therefore, and the absence of consistent responses did not unduly limit the analysis.

10. How important were each of the following factors in the firm’s decision to locate in Oakland County?

	Extremely	Very	Moderate	Not very	Not at all	NA/DK
a. Proximity to natural areas (undeveloped parks and forests, wildlife sanctuaries) (N=164)	1.2%	3.0%	13.4%	27.4%	40.8%	14.0%
b. Quality of primary/secondary education (N=164)	7.9	32.3	22.6	12.8	17.7	6.7
c. Availability of outdoor land-based recreational opportunities (local parks, trails, and pathways) (N=164)	0.6	4.3	26.2	25.6	32.9	10.4
d. Variety of cultural and entertainment opportunities (N=165)	1.8	15.8	32.7	20.6	21.8	7.3
e. Proximity to colleges or universities (N=164)	7.3	23.2	41.5	9.2	14.0	4.9

	Extremely	Very	Moderate	Not very	Not at all	NA/DK
f. Water-based recreational opportunities (boating, swimming, fishing) (N=164)	2.4%	1.8%	18.9%	31.7%	34.2%	11.0%
g. Community characteristics (housing costs, crime rate, public services, public safety, diversity of residential environments) (N=164)	12.2	42.1	27.4	6.1	7.3	4.9
h. Access to transportation (e.g., roads, airports, railways) (N=164)	22.0	37.2	29.9	4.9	3.0	3.0
i. Community recreational infrastructure (e.g., water parks, golf courses, swimming pools, etc.) (N=165)	1.2	6.1	26.7	29.7	27.3	9.1
j. Healthy and vibrant downtowns and historic town centers (N=160)	6.2	16.2	28.8	24.4	18.1	6.2
k. Proximity to customers, competitors, or suppliers (N=167)	49.7	27.5	13.8	3.6	4.2	1.2
l. Labor and costs (wage rates, labor quality and availability, costs of land and buildings, operating costs) (N=167)	20.4	40.7	24.0	7.8	4.2	3.0
m. Government support for business location (N=165)	15.8	31.5	19.4	12.7	12.7	7.9

11. What are the most important reasons for the location of this business in Oakland County?

Open-ended responses

12. In your experience, is it more or less difficult to recruit workers to your location in Oakland County than it would be in other locations in southeast Michigan? (N=169)

Much more difficult	0.6%
Somewhat more difficult	5.3
About the same	24.3
Somewhat less difficult	24.9
Much less difficult	31.4
Don't know	13.6

13. In your experience, is it more or less difficult to recruit workers to your location in Oakland County than in similar metropolitan areas in the United States?

Much more difficult	10.8%
Somewhat more difficult	30.5
About the same	13.8
Somewhat less difficult	12.0
Much less difficult	8.4
Don't know	24.6

14. In your experience, how important are each of the following features of Oakland County to your ability to attract and retain employees?

	Extremely	Very	Moderate	Not very	Not at all	NA/DK
a. Proximity to natural areas (undeveloped parks and forests, wildlife sanctuaries) (N=152)	2.6%	13.8%	32.2%	19.7%	17.1%	14.5%
b. Quality of primary/secondary education (N=156)	18.6	37.2	22.4	7.1	5.8	9.0
c. Availability of outdoor land-based recreational opportunities (local parks, trails, and pathways) (N=155)	2.6	24.5	33.6	16.8	9.7	12.9
d. Variety of cultural and entertainment opportunities (N=155)	8.4	27.1	35.5	11.6	6.5	11.0
e. Proximity to colleges or universities (N=155)	12.9	35.5	31.6	6.5	5.2	8.4
f. Water-based recreational opportunities (boating, swimming, fishing) (N=153)	2.0	18.3	33.3	22.2	9.8	14.4
g. Community characteristics (housing costs, crime rate, public services, public safety, diversity of residential environments) (N=157)	27.4	45.9	14.0	3.8	1.9	7.0
h. Access to transportation (e.g., roads, airports, railways) (N=156)	23.1%	42.3	22.4	3.2	2.6	6.4
i. Community recreational infrastructure (e.g., water parks, golf courses, swimming pools, etc.) (N=153)	2.0	22.9	34.0	20.9	6.5	13.7
j. Healthy and vibrant downtowns and historic town centers (N=157)	8.9	33.8	26.8	14.7	6.4	9.6
k. Other (N=51)	15.7	11.8	0.0	7.8	7.8	56.9

If "other," please specify:

15. In your experience, what features of Oakland County are most attractive to existing and potential employees?

Open-ended responses

16. In your opinion, how does the retention rate of employees in this firm compare to the retention rate in similar firms throughout the country? (N=160)

Much better	19.4%
Somewhat better	30.6
About the same	25.0
Somewhat worse	3.8
Much worse	1.3
Don't know	20.0

17. *Oakland County has more lakes than any other county in Michigan.* How aware are you of Oakland County's lakes?

Very aware	62.0%
Somewhat aware	27.6
Not very aware	6.1
Not at all aware	4.3

18. *Oakland County has over 80,000 acres of park, recreation, and conservation lands.* How aware are you of Oakland County's parks and conservation lands?

Very aware	62.0%
Somewhat aware	27.6
Not very aware	6.1
Not at all aware	4.3

19. *Oakland County has completed 95 miles of a 270-mile major trail system.* How aware are you of Oakland County's trail system?

Very aware	29.1%
Somewhat aware	35.8
Not very aware	26.7
Not at all aware	8.5

20. *Oakland County has 30 traditional downtowns and historic town centers.* How aware are you of Oakland County's downtowns and historic town centers?

Very aware	40.2%
Somewhat aware	45.1
Not very aware	11.6
Not at all aware	3.1

QUESTION 5, FREE RESPONSES TO "OTHER" SECTOR

- 50% research and dev. with 50% tooling and fixtures
- Aerospace/defense
- All of the above
- Automotive headquarters with multiple functions
- Business law

- Consulting for international trade banking services
- Creative services; communications
- Crisis intervention human services
- Design & engineering resources
- Digital marketing and advertising
- Electric and gas utility
- Engineering
- Engineering / software / staffing
- Engineering services to automotive and military illumination
- Engineering/automotive product design and develop.
- Event marketing
- Generator equipment sales, service and rental
- I don't have a business
- Industrial identification products & services
- International business development
- Internet Web services
- IT advisory services
- Law
- Law firm
- Legal
- Manufacturing and engineering services
- Marketing, advertising and public relations
- Not involved in any business
- Simulation testing
- Software & services
- Software and computer aided tools in education and industry
- Staffing
- Technical sales office
- Technology startup
- Test equipment sales & calibration services
- Training and performance improvement
- Training for industrial/quality engineers
- Translating, interpreting & consulting in the US/Japan interface
- Transportation services - specifically freight arranging

QUESTION 11, FREE RESPONSES TO “OTHER” SECTOR

Question 11: What are the most important reasons for the location of this business in Oakland County?

- 1) Easy access to highways. 2) Good schools, graduate & undergraduate. 3) Reliable technology infrastructure
- 1. Was already living here. Had already conducted three major corporate sells and turnarounds in Oakland County, then decided to form my own company. 2. First clients were from this area, but rapidly increased client base outside of Michigan and the U.S. 3. There currently are few reasons to remain in Oakland County other than convenience because my wife and I already live here. The State government is making me consider a move. The lack of turnaround in Detroit is making me consider a move. The new tax laws are making me consider a move.
- 3 miles from home
- Access to customers and being at this location gave us the image that we want to project.
- Access to local stable customer base.
- Access to southeast Michigan markets
- A lot of customers in Oakland County
- Area is centralized in Metro area for recruiting and retention purposes of employees. Tax incentives. Proximity to some customers
- Automation Alley catalyst function for finding customers
- Automotive connections and central location to all three, but with down turn of American Automotive Manufacturing Plants, location is no longer as important as it once was.
- Availability of skilled workforce
- Born and live here. Established here
- Central location and easy commute
- Central location for employee commute and distance to clients and prospects
- Central location to 4 counties and high end housing and schools
- Central location, near to transportation, general aesthetics and business character of the area.
- Central to auto industry
- Central, safe location
- Centrally located for associates working here. Access to excellent medical care and educational facilities.
- Client base and wealth
- Close proximity to home, quality of life in area, high disposable incomes
- Close to customers
- Close to owner's home, close knit business community
- Close to owner's residence and clients.
- Community characteristics
- Community leadership... specifically L. Brooks Patterson and his team.
- Contact with companies involved in international export/import business.
- Corporate headquarters

- Cost, proximity to customers, qualified labor pool
- Costs
- Costs of doing business with our customers. Proximity to customers. Proximity to employee homes.
- Customer base
- Customers' proximity
- Customers, cost of doing business and employee talent
- Customers, suppliers and transportation
- Excellent labor pool, proximity to Metro Airport, availability of "empty" buildings (unfortunately)
- Exceptional business-friendly environment. Let's hope it stays that way and we can get Brooks re-elected!
- Founder already resided in Oakland County prior to starting the company
- From the DTW airport all major cities on the East coast and Chicago are within 1-2 hours reachable. Oakland is a great location for our consulting business.
- Government funding for the project!!!
- Government support for hiring resources in Oakland County.
- Great access to highways and proximity to clients. Historic building site, ability to attract clients, guests to visit our office, close to great restaurants & entertainment venues.
- History
- Hughes does not have a physical presence in Oakland County - in the form of an office. We have 3 employees who reside in Oakland County and work from their homes. We are considering a larger presence in the greater Detroit area to support the auto manufacturers.
- I grew up and live in Oakland County--inertia
- I live here
- I live in Oakland County
- I lived in Southfield and then moved to Farmington Hills and moved the business both times.
- Ideas, customers, chances and educated stuff around. As well as support by the daily needs and surprises in the start up phase.
- Interstate 75
- It is located in the center of our business region.
- It is where we do business and is in close proximity to the owners' place of residence.
- It is who we serve - Oakland County residents
- It's where we live
- Joe Knollenberg, our Congressman. L. Brooks Patterson, our County Executive, Senator Carl Levin, U.S. Senator and Chairman of the Armed Services Committee
- Large enough site for consolidation of facilities, with highway access and green space.

- Lived here all my life and wanted to grow a business in the community I live in.
- Location and cost of real estate
- Location close to major customers & employee base
- Location of customers
- Location, housing, schools
- Location, opportunities, employees
- Majority of employees live in N. Oakland County. Lease is up in 1 year. We will be considering other locations based on any tax incentives available at the time and realization of combining recent acquisitions into facility.
- Many of our existing customers are located here and many potential customers are located within the region.
- Most of our founders were born and raised in Oakland County and want to raise our families here too.
- Our firm provides professional services to successful people who live in the area. It is important that they have easy access to us. Also, Birmingham is a vibrant community and projects our firm's image positively.
- Our major customers are located in S E Michigan, the quality of employees and their supporting efforts are critical to the growth and success of our business.
- Population shift from Detroit to suburbs following Detroit's civil unrest in the late 1960's.
- Professional buildings and proximity to customers
- Professional work environment, proximity to customers, security and access to highways
- Proximity in southeast Michigan in a pro business climate
- Proximity to automotive customer base
- Proximity to clients
- Proximity to customers and easy access roadways
- Proximity to customers and Oakland Counties pro business attitude
- Proximity to customers and supply base.
- Proximity to customers and workforce
- Proximity to customers, access to resources at a reasonable labor rate.
- Proximity to customers.
- Proximity to customers. Expertise in local area and business environment.
- Proximity to customers. Owner resident of Oakland County
- Proximity to customers. Public safety
- Proximity to employees, access to expressways, lack of traffic congestion, attractiveness of site
- Proximity to employees' homes
- Proximity to family 2. Established relationships. 3. Enjoyment of overall quality of life and people in region 4. Abundant opportunities. 5. Perfect leverage location of the

"Perfect Storm" - worst economics in country breeds best opportunity for growth-opportunity for innovation and massive change. 6. Believe will be the future global location for "Center of Human Potential."

- Proximity to highly desirable customers and prospects and the ability to attract and retain top professionals
- Proximity to home business location and availability of appropriate space.
- Proximity to our clients and the ability to attract qualified applicants.
- Proximity to our customers.
- Proximity to our employees' homes. L. Brooks Patterson, safety, security, educated voters.
- Proximity to prospective clients (Public Employee Retirement Systems) in the most progressive and advance thinking county in Michigan!
- Proximity to residence of owner
- Proximity to SE Michigan communities
- Proximity to the homes of our two founding partners, who live in Royal Oak and Bloomfield Twp and don't really want to relocate.
- Resources, customers
- Since we have been here for almost 40 years, our location in Oakland County is critical because of our proximity to our employees.
- Skilled labor (although few speak Japanese fluently). Great quality of life. (Now) reasonable costs of living.
- Strong business growth culture balanced with family
- Talent pool. Affluent nature of the area. High tech suppliers
- The emergence of high technology (e.g., biotechnology, nanotechnology, wireless-my professional expertise) in the universities and global awareness in the middle and secondary schools, e.g., Oakland Schools Global Trade Mission in which I participated for 4 consecutive years.
- The LLC member(s) live in Oakland County. State/county pride.
- The owner of this company grew up and went to school and college in this area and wanted to remain in the community.
- They're listed above
- This is where I grew up and my elderly parents live here.
- This location helps us take advantage of the Southeast Michigan area. Our employees also live in or close to Oakland County.
- Vibrant business community and desirable location to live and entertain.
- We all live here or nearby.
- We are a home office based organization. The current local infrastructure in the State of Michigan does not afford many cost effective public transportation options, like commuter trains. Everyone comes from so many different locations and MDOT is always conducting construction (NOT WELL PLANNED AT ALL!) it makes for a

long difficult commute. This combined with gas prices reinforces our decision to continue working from our homes.

- Wealth of the county

QUESTION 15, FREE RESPONSES TO “OTHER” SECTOR

Question 15: In your experience, what features of Oakland County are most attractive to existing and potential employees?

- 1. Its vision for the long term future and the potential for jobs that creates. 2. Investment in Transportation 3. Mixed Income Housing 4. Good Schools and Shopping 5. Diversity 6. Water
- 1. Location 2. Transportation 3. Air Travel
- A vast majority of our personnel drive from Genesee County. We have been fortunate enough to maintain our team and encourage carpooling.
- Access to expressways and ease of travel to and from work. Safe environment.
- Accessibility to many things
- Affordable housing with good schools
- Affordable housing, mature infrastructure, municipal and county services.
- Attractive area, colleges and universities nearby
- Availability of freeways for quick access to region and the local headquarters of major corporations. As they close or leave the region becomes less attractive.
- Broad base of employers
- Business networking opportunities and related organizations
- Busy work life and the easy going home life with recreational and family activities
- Career growth opportunities
- Central working location. Restaurants & entertainment venues (quality of work environment).
- Centrally located for quick access to educational facilities, excellent medical care, and recreational activities.
- Centrally located to the automotive industry!
- Clean, well maintained, upscale, businesslike.
- Community, resources, low crime
- Crime / public safety issues good in OC schools, healthy communities good in OC
- Diversity and culture of the county
- Diversity,
- Do not know
- Don't know
- Don't know
- Easy access, low crime, moderate costs
- Economic and educational demographics.
- Educated work force, excellent county econ dev. and county exec.

- Education, housing
- Excellent business climate and community based features.
- Good communities, good highway access, good educational opportunities.
- Good school systems and comfortable neighborhoods.
- Good schools and excellent employment opportunities
- Good schools, area housing, congregation of other businesses, clients, customers, suppliers
- Great downtowns!
- Great place to raise a family
- Great schools, reasonable cost of housing compared to the rest of the USA, fun "downtown" areas in B'ham, Royal Oak and Rochester, outstanding high end shopping at Somerset Mall, outstanding restaurants.
- Growth, # of business entities located in Oakland Cty.
- High-quality universities, multicultural organizations
- Home prices are low
- Home values, public safety.
- Housing options & cost. Access from "rural" neighborhoods. Great school systems - K12 & Universities. Vibrant communities
- I would have said the automotive industry, but, now I believe that the automotive industry will implode completely in the next twelve months. For me, there is a very strong political leadership locally. However, it is threatened by a State leadership that leans to excessive taxation. Were it not for the location of our prime customer, we would have moved to one of two states that have offered very significant incentives.
- Interstate access for those coming from all parts of metro area. Close proximity to homes of employees
- It is where my home is!! :)
- Its location. Safety of the community. Access to freeways.
- Jobs availability, centrally located.
- Location
- LOCATION
- Location to customers and employees' homes, proximity to other high tech companies. Infrastructure, convenience to shopping, freeways, etc.
- Location to major businesses, water, parks, education system
- Low cost of living, high quality of life
- Low crime, parks/trails
- Low food and housing costs compared to other states. Beautiful landscape
- Lower crime, upper middle class neighborhoods, Northern Oakland County area, school systems.
- MI is a beautiful state, typically with abundant, well-paying jobs - Oakland County leads the state in this regard

- Mostly -- they already live here. There are, unfortunately, few attractions to anyone outside of Michigan. Low crime rate, nice neighborhoods are pluses. Over-priced housing (although that is now where it should be) was a real negative. Schools are good, but not great. Southeast Michigan has an over-inflated view of the quality of their primary and secondary school system. Every other community we have lived in (four other states) have blown away the quality of even Oakland County's best school districts.
- Neighborhoods and schools
- Nice community, good services, great location, safe
- Not applicable, people just need a job in today's State economic condition
- Oakland County is more "Upscale" than the surrounding counties which makes it easier to attract employees
- Oakland County's competition like Wayne County for example, suck.
- OK for educated workforce. Midwest values of employees. Typically loyal workforce.
- Outdoor recreational opportunities; primary schools
- Positive business development programs, companies involved in international business, cultural opportunities.
- Professional, positive, infrastructure and security
- Property values, proximity to retail businesses, proximity to restaurants, good school systems
- Proximity and access to roadways home and to clients, thus minimizing the commute.
- Proximity and security
- Proximity to customers and suppliers
- Proximity to their homes
- Quality of area
- Quality of life due to earnings to cost of living.
- Quality of life, good schools, low crime, historically an availability of good jobs
- Quality of life, safety
- Quality of life, schools, taxes, cost of living, public transportation
- Quality of life, transportation network and diverse housing market
- Quality of life.
- Quality of primary schools. Decent traffic infrastructure. Controlled and planned growth when it happens. Core jobs are technology based. Though continuously diminishing at a rapid pace OC has more opportunities than surrounding areas.
- Quality of schools, recreational opportunities, safety and overall location in relation to the Detroit Metropolitan Area.
- Quality schools and prestigious homes at affordable prices Parks, entertainment & dining
- Reasonable commute; close to recreation opportunities, schools.

- Safe, comfortable place to raise a family (including availability of excellent public education)
- Safety and education.
- Safety of my employees is important to me and the ability to get to work easily from area freeways and roads
- Schools and parks
- Schools, lifestyle
- Strong safe community characteristics, very strong educational systems, easy access to all
- Support of County Executive and organizations like Automation Alley
- The ability to offer many different living styles from living on the lake, country side, suburbs, city, high tech and hip areas.
- The education level of the residents, the wealth of the community, and the possible activities that are available.
- The fact that our major customers and competitors are located in Oakland County
- The infrastructure that has been developed for business.
- The quality of life including vibrant towns and villages
- Transportation infrastructure, growth potential and quality of life
- Very good schools/universities nearby, safe area, affordable housing costs, life besides works in various ways.
- Vibrant business community. Pro-active county (but not always pro-active cities). High quality residential for relatively short driving distance from work to home. Good freeways. Good supportive businesses.
- We are dropping the ball altogether on this. Oakland County is a beautiful wonderful place. However it has traditionally been the only county in Southeast Michigan rich enough to keep picking up the slack when other communities cannot pay. We also need Opportunity. We need to attract and retain Technology, Pharmaceutical and Financial companies here to the State. Not just satellites, but Headquarters locations. In addition we need these companies to feel profitable in doing so and not that they are picking up the slack in taxes for other organizations that have moved out of Michigan. We need to make Michigan a beneficial affordable solution for Companies. We also need to clean up the corrupt neighboring government issues we currently have. Every dollar they spend on the wrong things (themselves) gives Michigan a bad name and prevents us from attracting legitimate organizations. Finally we need to reskill the labor force here. We have a lot of smart out of work auto employees who should be given two year Associate degrees so they can pay for the second two years towards bachelor's degrees. This would ensure that we evolve our workforce to meet the demands of more sophisticated global organizations. We need to transform ourselves into thinkers and away from the Mfg. mindset. Innovation and stability is what we have going for us as a country. Michigan can lead the way in this.
- We like our proximity to downtown Auburn Hills but wish the development was a little more stable. Our employees regularly go to sporting events both downtown and

in AH. Crime has not been an issue in and around our building. Housing is scaring most of our employees. Most feel stuck or afraid to upgrade their current situation. Gas prices are stretching some of our employees who travel from Southern Oakland or Macomb.

- Well educated workforce.