

Location Analytics: A Key Ingredient in CARA's Growth Strategy

CARA Operations is Canada's largest and fastest-growing full-service restaurant company, with over 700 locations across the country and sales in excess of \$1.3 billion. A true Canadian icon, CARA operates five brands that represent some of the country's favorite restaurants: Swiss Chalet, Harvey's, Milestones, Montana's, and Kelsey's.

The privately held company has been transitioning to a franchise-focused business model and is actively pursuing growth with a goal to open 40 new locations annually. To support this growth, CARA invested in Esri Business Analyst Online (BAO)—a web-based

solution that combines GIS technology with extensive demographic, consumer spending, and business data to deliver on-demand analysis, reports, and maps. When seeking optimal sites for expansion, BAO makes it possible to effectively assess a wealth of variables such as market size, visibility, and proximity to high-traffic generators.

"CARA made a strategic decision to overinvest in both development professionals and efficient technology tools to enable fast and accurate decision making on new markets and sites," said Chris Ward, market planning manager, CARA. "BAO was a good fit because it

aligns with this objective, serving as a low-cost, easy-to-use system that makes it possible to run customer reports quickly and efficiently."

Taking the Guesswork out of Site Selection

To identify optimal sites for restaurant development, analysts within the company use BAO to evaluate areas that are successfully served by existing restaurants and then uncover new areas with similar characteristics. The comparison-reporting feature within the tool makes it easy to evaluate existing versus potential sales and print out a variety of reports.

"BAO allows everyone to focus on trade areas that are most promising before venturing out to visit the prospective site," said Ward. "This significantly decreases the time required to narrow down our options and quickly weeds out the markets that don't fit our criteria."

The tool is used to dive into a wealth of demographic variables so that CARA can analyze the most profitable customers in a geographic context and find more like them. For example, each of CARA's five brands targets customers from various age groups and income levels. Harvey's serves a much younger crowd, while Swiss Chalet is a popular choice for baby boomers and young families.

Using BAO, analysts can locate pockets of the population that fit such a description

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↑ Swiss Chalet, Harvey's, Milestones, Montana's, and Kelsey's all benefit from location analytics to ensure that these popular restaurants are in the right place for their target clientele.

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and reside in areas not currently served by an existing franchise. Territory design tools allow analysts to quickly identify market saturation or gaps and then make decisions that will balance their territories.

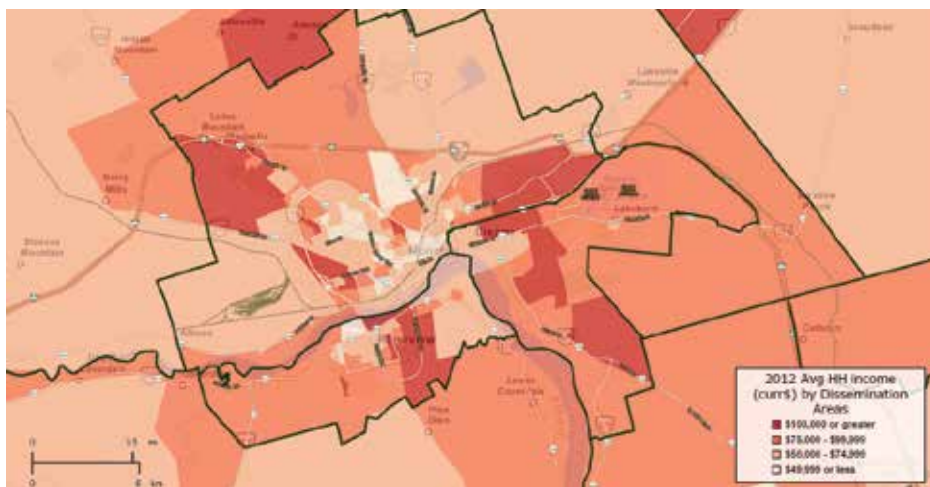
The Milestones brand targets a professional consumer with an above-average household income and restaurant spend. Largely concentrated in Ontario and British Columbia, CARA is currently using BAO to expand Milestones to other provinces including Manitoba, Newfoundland, and Saskatchewan, with a goal to open three to four new locations by the end of the year. BAO makes it easy for analysts to accurately measure markets in other provinces across the country.

"Nearly twice the market threshold is required to sustain a Milestones restaurant versus some of our other brands, due to the unique and upscale nature of the venue," said Ward. "Within minutes, we can now accurately measure markets across the country and locate high concentrations of potential customers."

Using intuitive wizards, analysts can answer questions such as, Where are the neighborhoods that tend to have higher

"BAO allows everyone to focus on trade areas that are most promising before venturing out to visit the prospective site. This significantly decreases the time required to narrow down our options and quickly weeds out the markets that don't fit our criteria."

Chris Ward, CARA



↑ Variables such as restaurant spend and average income per household are analyzed by dissemination area.

sales volumes? How can I reach these customers? How can I find other locations like this? BAO is also used to quickly uncover and analyze new commercial and residential developments. Large movie theaters are plotted on a map view, allowing CARA to identify potential strategic partnerships and to open locations in close proximity.

Fluctuations in the performance of existing sites are also closely monitored. For example, if there is a major store opening, such as a Walmart or Target, that drives increased traffic to an area, BAO is used to analyze the amount of spillover to nearby restaurants. If there appears to be a significant spike in restaurant performance, BAO will be leveraged to track other new store openings and assess the characteristics of the surrounding areas. Territory design tools enhance the ability to respond to market changes and increase or reduce the number of territories in a network when the need for change arises.

Expanding into New Markets

Historically, nearly two-thirds of CARA restaurants have been located within Ontario. In the next few years, the corporation will focus on expanding its presence across all 10 provinces. Mapping tools within BAO allow analysts to develop an in-depth understanding of underserved areas across the country

from the desktop. They can quickly pinpoint bustling commercial centers and high-performing retail plazas and populous residential neighborhoods.

"It's quick and easy to map variables on a large market scale," said Ward. "Once we drill down to a particular area, we can begin to have a look at who lives and works there, mapping out restaurant spend and average income per household. In fact, the number of variables that we can map at the touch of a button is enormous."

Optimal sites can be further narrowed down by factoring in characteristics such as high visibility, close proximity to strong traffic generators, and easy access. This information can then be communicated to real estate managers through intuitive maps, helping to inform decision making around site selection across the country.

"BAO eliminates a lot of the legwork that was typically involved with vetting potential sites," said Ward. "Real estate managers can now do their due diligence and rely on fact-based analysis, which saves us valuable time and money as we continue to expand both across the country and potentially outside Canada."

To learn more about location analytics, visit esri.com/locationanalytics.

PLRB Makes Collaboration Easier for Its Members

For more than 15 years, the Catastrophe Services division of the Property & Liability Resource Bureau (PLRB), a trade association for the insurance industry located in Downers Grove, Illinois, has provided its members, which are insurance companies, with access to educational and technical support resources that help improve productivity in the claims adjustment process.

PLRB staff answer critical questions about where policyholders are located; how loss might aggregate; and how

exposure is quantified for severe weather events such as tornadoes, high wind, and hail. Other natural and man-made sources of potential loss, including Hazmat releases, terrorism, floods, and wildfires, also are discovered and analyzed.

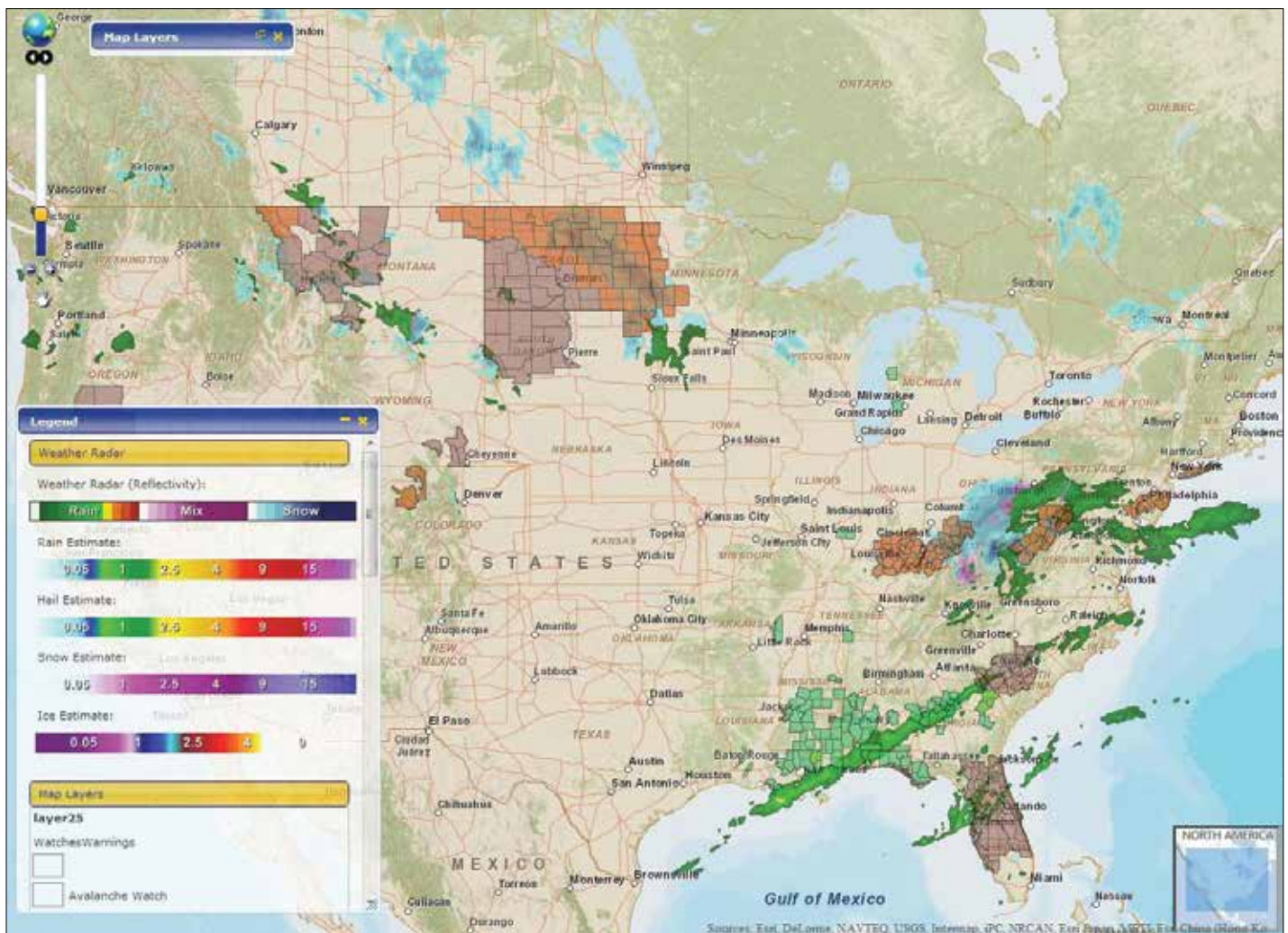
“Supporting our members’ needs is central to PLRB’s mission,” said Hugh Strawn, a vice president with PLRB.

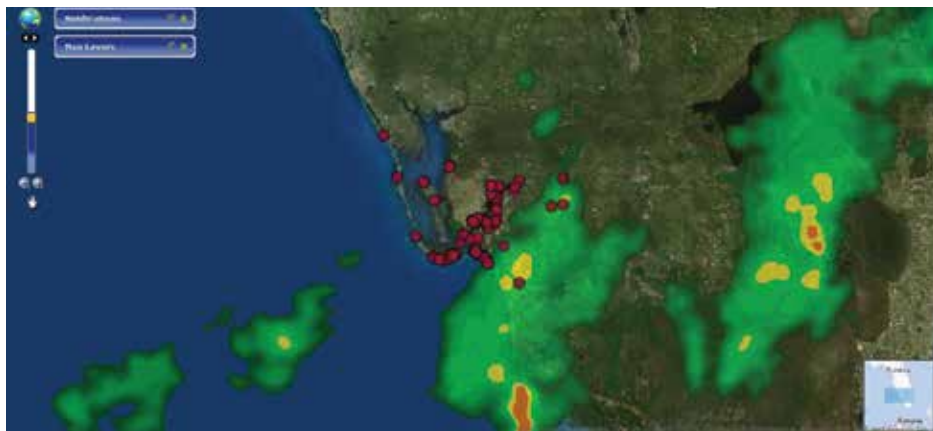
One of the most frequent and high-priority member requests was a comprehensive tool to visualize, analyze, and quantify portfolio risk and compare that risk to current, past, and future peril data. Members also identified how the latest imagery from impacted regions would allow them to instantly compare situations before and after an event. Finally,

members wanted an intuitive way to collaborate and share information with key stakeholders in their organization that enabled them to quickly and easily tell the stories they needed to convey.

Working with Esri partner GeoDecisions, PLRB considered several market solutions. Using Esri’s ArcGIS platform, PLRB created a solution called PLRB Map. From the beginning, PLRB Map was designed to be accessible via traditional desktop web browsers and mobile devices. This ensures that members get the information they need anywhere, whether in the office or in the field. It also simplified the needs for sharing and accessing information by requiring members to log in on approved

↓ Real-time weather information can be overlaid on a map for more accurate analysis, helping claims professionals more efficiently help their customers.





↑ The location of claims can be viewed along with live streamed weather patterns using PLRB Map.

devices that are connected to PLRB's secure servers.

Built on Esri's ArcGIS for Server platform, PLRB Map houses data securely and internally at the association's headquarters while still providing member access to external data sources and important real-time information. PLRB Map is easily customized and can expand to ensure future needs and scalability are fulfilled.

Gathering Data, Building Insight

"PLRB needs constant performance and data access, independent of the number of members using the application, even during the biggest event or when teams of adjusters are deployed in the field," said Strawn.

To support its visualization and analysis needs, the project team identified and gained access to a wealth of rich and varied event- and insurance-focused data. PLRB Map provides access to current and historic weather and cartographic data, sourced from both public and commercial domains.

Meteorological events play a large part in catastrophe modeling, so PLRB Map delivers real-time radar reflectivity including detailed patterns of precipitation falling at the present time, as well as future precipitation estimates for national-level forecasts of rain, hail, snow, and ice based on different time periods. The solution also tracks curated wind conditions, a highly specialized service that includes current wind conditions.

Should a severe event occur, such as a tornado or microcell, PLRB members can use PLRB Map to retrieve a geographic representation of the intense rotational and wind conditions.

Analysis in North America wouldn't be complete without detailed information on tropical weather, which drives many incidents in the Gulf and East Coast. Authoritative real-time and historic data from the National Hurricane Center includes areas that are under tropical storm watch or warning; hurricane track points, lines, and the "cone of uncertainty"; as well as storm surge projections.

"These can all be used to predict future extent and location, especially when used together with wind speeds and hurricane category overlaid with labels and the 72- and 120-hour forecast periods," said Strawn.

Members also can search for and analyze historical perils such as tornadoes, floods, and severe storms, some of which are contained in an archive stretching back to 1950. The historic overlay and insight allow users to gain perspective on long-term risks and trends. Any of these layers can be displayed against multiple base-maps, including streets, satellite imagery, topographic details, landscape, and hybrid maps. Premium DigitalGlobe satellite imagery is provided to members for post-event analysis. Available within 24 hours after a catastrophic event, users can log in and get an aerial overview of an affected area, which can be compared against their portfolio or any of the other PLRB datasets.

Answers—Anywhere, Anytime

In early 2013, PLRB realized the goal of providing member services on the go via smartphones and tablets. An adaptive, mobile-specific version of PLRB Map delivers simple, responsive access to the application for field operations, particularly in claims adjustment situations. Adjusters inspecting claim reports at specific locations can use their in-device GPS or address search to quickly access, summarize, and visualize any of the map data to help verify claims. For example, an adjuster dealing with hail damage can generate a list of all hail or any other peril reported nearby, which they can then overlay on the map or satellite imagery. Sharing the information and map views is built into the application, so colleagues receive valuable reports via e-mail without the need to use other plug-ins or installations.

Perhaps the most significant benefit provided by PLRB Map is the ability for member organizations to leverage analysis of their own policyholder data and combine this with visualization of other member portfolios relative to catastrophe data or events. By providing secure, temporary access to commonly held data, PLRB members can visualize and analyze risk specific to each member's portfolio. Catastrophe managers are able to make strategic decisions about the risk and impact on their portfolio days in advance of upcoming events using forecasts and other data services.

Other member-recognized advantages associated with PLRB Map include the ability to identify areas with high rotational wind probability, often a precursor to tornado events, within minutes of an occurrence.

"Typically there is a 24- to 48-hour period between the event and ground-verified damage assessment," said Strawn. "With PLRB Map, members can quickly assess potential paths and impact against

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PLRB Makes Collaboration Easier for Its Members

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different portfolios and make plans to respond to potential and actual damage.”

Assessing lightning strike probability for any location and date also is an advantage. PLRB Map users can generate indicative statistics on the probability that a cloud-to-ground lightning strike occurred.

“The ability to do this enables the claims departments to more easily assess the veracity of any claim,” said Strawn.

Investigating a particular claim or pattern of claims based on historical weather events is another advantage. By using a date range, the type of hazard(s), and a specific location, PLRB Map will map or list the events so that further investigation, exploration, or analysis can be performed.

PLRB Map provides tools that leverage the full depth and richness of policyholder address data. Rather than work on a single address or event region, the system lets users map, identify, and understand the patterns and probabilities

for each and every policy in the area.

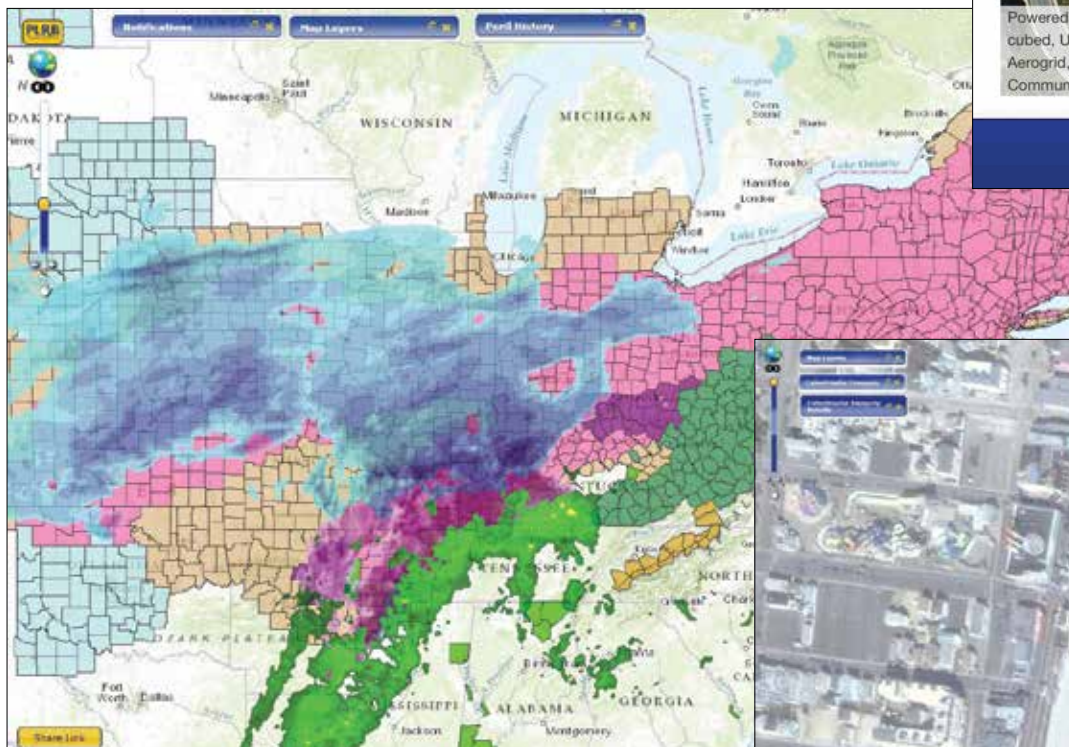
These probabilities can even be appended to the data for use outside PLRB Map in any popular spreadsheet format, which can later be used in other tasks.

As insurance industry members would expect, the software comes with rigorous security protocols and data use rights. PLRB ensures the privacy and security of its members’ policyholder records and has designed the application accordingly. Members enjoy the peace of mind knowing that their policy-level data is not uploaded to other servers.

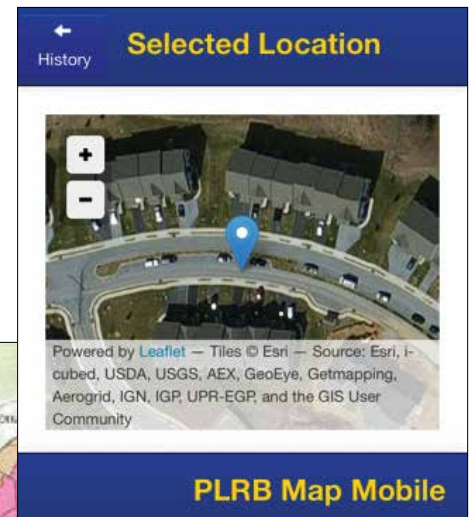
In touch with the unique needs of the member community, PLRB Map is a premier example of the organization’s ability to focus on and deliver the promise behind its mission statement. By paying attention to use-specific requirements, like data security or mobile access, PLRB continues to provide value throughout the insurance industry, improving both productivity and efficiency.

For more information, contact Hugh Strawn, vice president, Catastrophe Services, Property & Liability Resource Bureau, at hstrawn@plrb.org, or call 630-724-2230.

↓ PLRB Map helps member organizations understand claims information at the address level.



↑ Viewing information by location can bring together text, imagery, and other information for more informed decisions and customer service.



↓ Being able to view real-world imagery provides a quick understanding of events as they occur.



C. R. England Adopts Esri Location Analytics to Increase Business Efficiency

C. R. England, the world's largest refrigerated trucking company, has adopted Esri Location Analytics for incorporating geographic information, mapping, and spatial analytics into its business processes.

"Being able to analyze the transportation business from a geographic perspective is key to gaining intelligence about our network in terms of driver and customer density, as well as freight routes," said Tao Kong, C. R. England's director of Corporate Engineering Solutions. "This technology can be used to help many aspects of our business gain greater efficiency."

Located in Salt Lake City, Utah, C. R. England analysts will employ the Esri platform, which offers built-in quantitative analytical and modeling capabilities, such as location selection, to minimize total traveling distances. These capabilities will help C. R. England make smarter decisions, such as the use of targeted driver recruiting for improved driver retention, optimal location selection for maintenance, and driver terminals to minimize out-of-route miles. The company will be able to optimize routes by analyzing freight density, safety performance, highway congestion, fuel economy, and tolls.

"We are pleased to be working with C. R. England," said Wolfgang Hall, who oversees Esri's logistics and supply chain management industry. "Its adoption of Esri Location Analytics technology is a strategic move that will help the company continue to grow revenue and control cost."

All over the world, Esri GIS solutions are helping transportation organizations better manage, analyze, and leverage

their spatial data. These organizations are improving network planning, controlling costs, enhancing customer service, and expanding their business by making more strategic decisions with Esri technology.

A Better Solution for Logistics

The ArcGIS platform enables a more intelligent, integrated approach to planning network expansions, analyzing customer trends, and developing green initiatives.

Route Planning and Analysis

Optimized routing is more than just driving from point A to point B. Dispatchers need to consider every element that affects daily operations. ArcGIS helps maximize the use of assets to create optimum routes based on specific variables including vehicle capabilities, driver specialties, street network restrictions, and customer time windows.

The company more effectively plans and manages its fleet by increasing the number of deliveries per route while decreasing excess capacity. Route planning is a key element in reducing company expenses. Reducing fuel consumption, labor hours, and idle time are just a few of the ways to save money.

Asset Tracking

Visually track equipment, personnel, and events and be notified if there are problems during delivery. As assets are tracked, events

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Business Sense

Simon Thompson
Director of Commercial Industry, Esri

Hyperlocal Goes Indoors

Location-based applications and services available on smart devices are creating a new generation of location-specific sales offers. Check in to your favorite coffee shop using an online app, and you may be provided with a variety of special offers, like a buy-one-get-one drink or a coupon for a discount on a food purchase. It's true, today, we know not only where Waldo is but where he eats and his shoe size too.

A retailer's success is based on a more intimate and aligned understanding of consumers. Naturally, retailers want to understand as much about their customers as possible. This means identifying individuals to understand their behavior and translating that into selling more products and services.

For retailers, using location data to map indoors can highlight in-store hot spots, count the number of visits to different sections of a store, and compare the relative popularity of products. At a minimum, the movement of mobile devices via anonymous tracking can give richer insight into where people shop; their brand affinity; the popularity of products; and how long customers dwell at promotions, endcaps, and in-store displays.

Geolocation can be an important benefit because it connects in-store and online behaviors of individual consumers with their demographics and lifestyle. This delivers greater understanding of a consumer's psychographics and aspirations. If a retailer knows where a customer lives, it can make more insightful decisions about what services it offers to more closely match perceived and actual needs. This will grow as more information is shared through retailers' apps and the data collected is cross-referenced with other in-house data.

Understanding the detailed pattern of consumer habits and visits will enable retailers to survive and thrive in a world that's increasingly blurring the boundaries of online and offline shopping. Understanding consumer activities via indoor tracking allows retailers to discover what is really important and profitable.

C. R. England Adopts Esri Location Analytics to Increase Business Efficiency

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are visually analyzed over time so problem areas can be identified and corrected. In addition, deficiencies identified during inspection can generate new work orders for maintenance and repair. Applied to asset management, ArcGIS not only facilitates data collection but also integrates asset mapping with project management and budgeting tools, so operational and maintenance expenses can be centrally managed and accounted for.

Navigation

In-vehicle navigation helps drivers stay on route and on schedule. When in the field, drivers follow dispatched routes with turn-by-turn directions. Vehicles are automatically rerouted should they go off course and are directed to the originally scheduled route. This helps drivers follow the exact roads and streets needed to reach their destinations.

Executive Dashboards

Knowledge of the key performance indicators (KPI) in an organization is essential. Many of these KPIs are geographic in nature. Which routes generate the most revenue? Where are the most profitable customers based? Where are more trucks needed? Gather and visualize information from all areas of an organization into one simple dashboard offering an enterprise-wide overview.

Business Development and Location Analysis

Establishing the best location for logistics facilities relative to distribution networks and customers is critical. Now businesses have the capability to analyze street and demographic data, business reports, and retail store locations to provide first-class service to current clients while developing future customer opportunities. Information can be shared throughout departments, which reduces redundancy in marketing and sales efforts and increases employee efficiency.

Going Green with ArcGIS

Due to increasing government regulations calling for more environmentally friendly fleets, organizations are looking for ways to cut fuel use and reduce carbon footprints. Now businesses can reach greener goals using existing staff and vehicles through better planning; improved efficiency; and intelligent, precise routing.

For more information on how Esri helps logistics and supply chain organizations around the world, visit esri.com/logistics.

The Four Imperatives of Location Analytics

Location analytics combines geographic data on assets, infrastructure, transportation, and the environment with data on an organization's operations and customers to discover powerful answers to any business challenge and share those insights with the rest of the organization.

Esri Location Analytics lets you build complete information and analyses for reaching new customers, markets, and levels of success by bringing the power of ArcGIS tools and methodologies to traditional business analytics systems, like business intelligence (BI), customer relationship management (CRM), enterprise resource planning (ERP), and enterprise asset management (EAM), as well as productivity tools like Microsoft Office and collaboration tools like Microsoft SharePoint.

Organizations create, manage, and analyze vast quantities of data in business systems they use every day. Information about location is pervasive in this data. Customers and constituents have a location. Assets, whether fixed or mobile, have locations, as do staff members and suppliers. With the ubiquitous use of mobile devices and social media, location data is becoming even more pervasive.

By ignoring the location data in your business systems, your organization misses the opportunity to make the most informed decisions and create the best business outcomes. Typically, business analysts, marketing directors, operations managers, and other decision makers lack easy access to spatial tools that visualize and analyze data in a geographic context. Esri Location Analytics provides a transparent connection to GIS that works with the business systems they use every day.

Many business users are completely unaware of the value that location analytics can add even if they do use some form of mapping in these business systems. The common misconception is that mapping is just adding data as dots on a map.

While putting data on a map will help uncover patterns that graphs and charts won't reveal, the value of location analytics can be much greater. The four imperatives of location analytics outlined in this article will help those unfamiliar with GIS appreciate the full value of location analytics. For GIS professionals, these imperatives are a yardstick to measure the activities of your organization in terms of its level of sophistication and maturity in the use of location analytics.

Imperative #1 Go beyond Basic Mapping

Putting your data on a map is simple and easy with many available mapping products. However, the business user dealing with a significant volume of data—say, thousands, hundreds of thousands, or even millions of customers—will need the right tools to create value from location data, because simply putting lots of data points on a map can quickly obscure it.

Fortunately, there are better ways to extract information about this data from the map. Not only does Esri Maps for Office make it as easy to make a map as it is to make a chart, it also offers tools like automated clustering, heat mapping, data aggregation, and color coding. These strategies reveal more information from data, quickly surpassing the basic dots-on-a-map approach.

With automated clustering, the software automatically groups points that are close to each other. Each group of points is represented by a symbol, typically a circle. The size of the circle is determined by the number of clustered points it references. A number in the center of the circle represents the number of points clustered. Automated clustering is activated based on how far the user is zoomed in to or out of the

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↑ Location analytics goes far beyond just dots on a map. Without the right tools to interpret it, data can overwhelm a map.



↑ Clustering is one strategy for understanding your data by making proximate data points intelligible.



↑ Heat maps make it easy to perceive data density.

The Four Imperatives of Location Analytics

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↑ Spatial queries let you analyze areas that you define, such as areas that are a 10-minute drive from a collection of specific locations.



↑ Nearest-neighbor analysis finds the closest entities of a specific type near a given location.

map. The circles representing the clusters break apart when the map is zoomed in and coalesce as the map is zoomed out. This is a great way to make viewing large quantities of data manageable.

Heat maps, an increasingly common option, provide a surface that indicates how and where points are clustered. Point density is reflected by the colors used. An area of high density might be colored red, while an area of low density would be colored blue. Although good for showing the density of points, heat maps won't show what is statistically significant in the data.

Aggregating data based on regions and then mapping those regions can provide a much better picture of what's going on. Aggregation can be performed outside mapping software (in an Excel pivot table, for instance) or inside mapping software. For example, sales from individual stores aggregated by postal codes can be mapped by postal code areas, and those areas can be color coded by the mapping software. In addition to well-defined boundaries like postal codes, aggregated data can be mapped by organizationally specific boundaries such as sales territories.

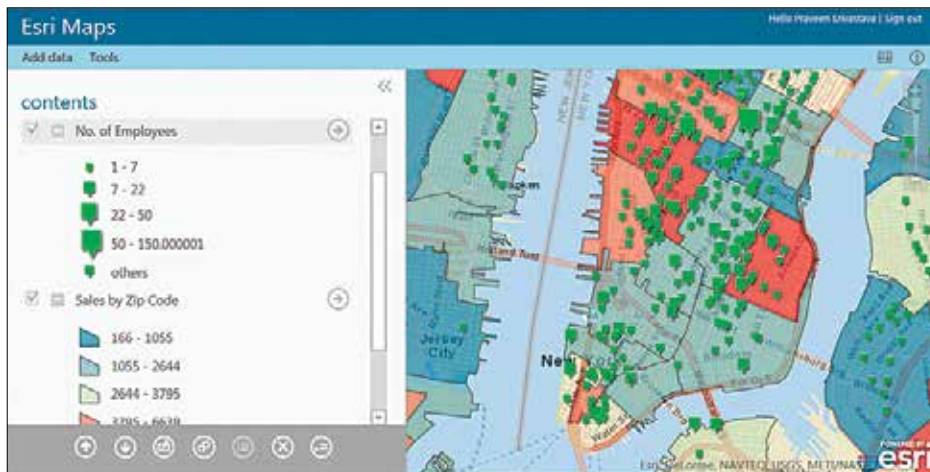
Imperative #2 Enrich Your View

When you're in the market to buy a house, you don't make your decision based entirely on the information the real estate agent gives you. Your decision is based on more than just the number of bedrooms or the price. Typically, you do some additional research. What is the neighborhood like? What shops are in the area? How long would your commute to work be? All this information helps you make a better, more informed decision.

It's the same situation when you're making decisions about your organization. You're not going to be able to make the most informed decision if you're only looking at your own data. You need to enrich your view by learning more about the geographic areas in which your organization operates. What are the demographics and lifestyles of the people that live in each area? How are they expected to change? Where are competitive or complementary businesses? Is it useful to know more about the surrounding terrain? The acquisition of this information is called *geoenrichment*. It can add value to your data in two fundamental ways: map enrichment and data enrichment.

Map enrichment means adding new layers of information to the maps you create. These map layers could represent demographics or the locations of certain types of businesses. This data could be administrative boundaries acquired from a third party or real-time data like the path of a storm. Using these map layers with maps of your data can provide a more complete picture.

Data enrichment means adding new columns of information to your own database records so you can slice, dice, and analyze that data in new ways. Although your CRM data might reveal a lot about what products your customers buy and how often they buy them, it won't tell you much (if anything) about the lifestyles or the life stages of those customers. If you



↑ Share maps across business systems. Employee locations mapped in Excel are added to MicroStrategy for further analysis.

can add these dimensions to your data, you can better determine the optimal products and services for your customers and how best to reach them.

Geoenrichment lets you do real research based on location. This is a key component of Esri Location Analytics and the ArcGIS platform. Using geoenrichment, you can get to know your customers better and engage with them more effectively.

Imperative #3 Perform Map-Driven Analysis

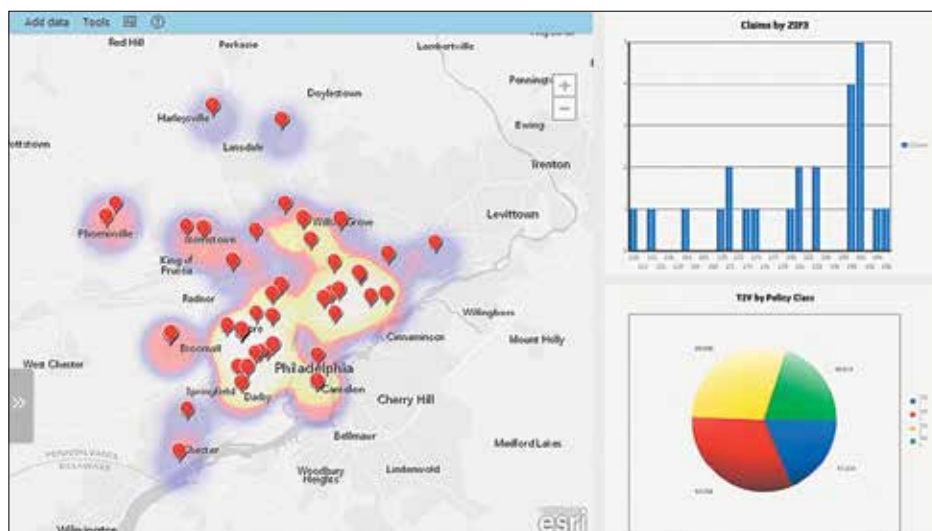
Mapping your data can uncover many patterns and insights that graphs, charts, and tables simply won't reveal. However, the true value of a map is realized when you can interrogate it. Then it becomes a new analytical tool. Map-driven analysis can range from simply connecting maps to your data to more complex operations using spatial queries with geoenrichment.

Connect your maps to your data so that as you drill into your charts and graphs, the map updates to reflect the changes in unison or, conversely, as you drill into your map, graphs and charts update to reflect the current geographic area.

Use the map to perform spatial queries by selecting areas on the map either by drawing an area of interest or defining a specific region (for example, the area that encompasses a 10-minute drive from a specific location).

Use spatial queries with geoenrichment to understand the effects more fully. For example, by determining the path of an approaching hurricane and identifying the types of customers or facilities that may be affected, you can estimate vulnerable populations or forecast losses.

Determine statistical anomalies in your data by using hot-spot analysis to identify statistical outliers to validate data quality. Use spatial modeling to predict performance for existing or new locations. It can answer questions such as, What effect will



↑ Not only does Esri Maps for Office make it as easy to make a map as it is to make a chart, it also offers tools like automated clustering, heat mapping, data aggregation, and color coding.

opening a new facility in this location have on sales in existing stores?

Imperative #4 Collaborate with Maps

An enterprise operates more efficiently when everyone is on the same page. Never an easy thing to do, collaboration gets more difficult as a business gets larger. Organizational structures seem to get in the way. Use Esri Location Analytics to create and easily share maps. These maps can become the new information vehicle for breaking down barriers across your organization. Here are five ways to share maps that maximize the value of collaborating with maps:

- Share dynamic maps rather than static maps. A dynamic map can be focused on the area that's important to the topic under discussion.
- Share maps across devices so that anyone can use them on tablets, smartphones, and desktops and they are available everywhere. For example, a map created in your CRM system and available on mobile devices could be valuable to the sales force in the field.
- Share maps in presentations as dynamic maps rather than static ones.

Maps created in your business systems can be used in your presentations to make data more comprehensible.

- Share maps across business systems and use them as maps or map layers. For example, a map of store locations generated in Excel can be used as a backdrop for maps of customers in your CRM system.
- Share maps securely by controlling who within the organization has access to maps and who can modify them.

Gain a Competitive Edge

Maximize the value of business data by following the four location analytics imperatives: go beyond basic mapping, enrich your view of the world, perform map-driven analysis, and collaborate with maps. Esri Location Analytics products and the ArcGIS platform will help you and your organization apply the four imperatives of location analytics.

Growth, Decline, Change, and Diversity

A Demographic Look at the United States in 2013

A word that could describe the current demographic state of the United States is *change*. Population and household types continue to change as a few categories grow and diversify, while others decline. Although a number of regional economies are showing positive signs of recovery, lingering effects of the Great Recession continue to hamper growth of the national economy. Job creation remains sluggish, and the growth of household income is negligible. There is concern that rapidly increasing home prices in some markets may trigger another housing bubble.

Population Growth and Decline

Characterized by growth and decline, the US population in 2013 is 314 million. Population in the South and West is growing nearly three times faster than in the Midwest and the Northeast. Reasons vary for the fastest-growing metro areas, such as The Villages, Florida (+13.6 percent)—retirees and seniors; Jacksonville, North Carolina (+7.6 percent)—military presence; Kennewick-Richland, Washington (+6.5 percent)—farming and nuclear production; Austin-Round Rock, Texas (+6.5 percent)—technology and education; and Myrtle Beach-Conway-North Myrtle Beach, South Carolina/North Carolina (+6.1 percent)—tourism. By number, Harris County, Texas; Maricopa County, Arizona; and Los Angeles County, California, have added more than 100,000 people to their populations since 2010.

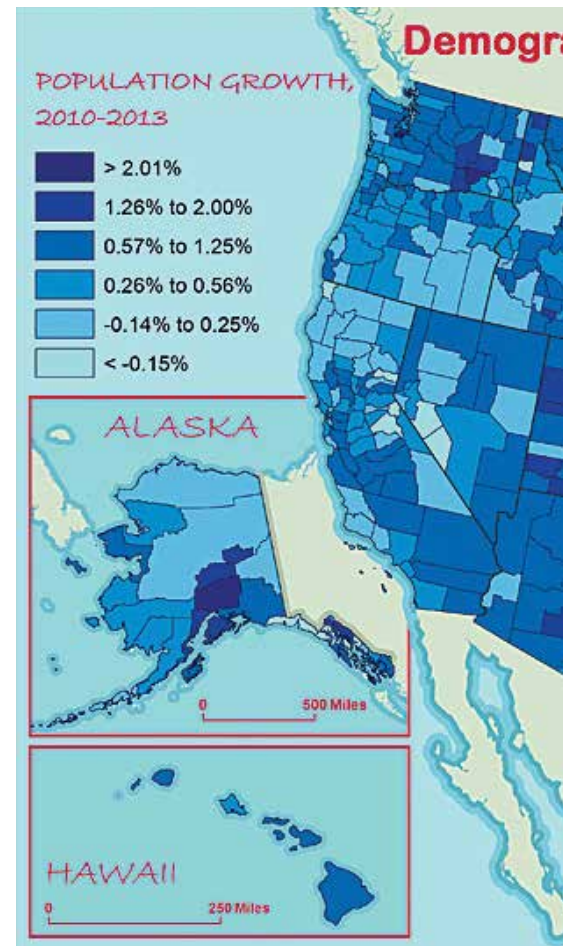
Traditionally slow growing, populations in North Dakota and Montana are exploding, due in large part to new innovations of extracting oil and natural gas from the Bakken Oil Shale. Employment opportunities in the mining industry have increased by more than 6.5 percent nationally since 2010.

Conversely, the slowest-growing or declining areas include Flint, Michigan (-2.2 percent); Binghamton, New York (-1.1 percent); Detroit-Dearborn-Warren, Michigan (-1.0 percent); Mansfield, Ohio (-1.0 percent); and Niles-Benton Harbor, Michigan (-0.9 percent). Counties with the largest declines are Wayne County, Michigan (Detroit); Cuyahoga County, Ohio (Cleveland); and Genesee County, Michigan (Flint). These Rust Belt areas suffer from high unemployment, as jobs were lost in manufacturing and other heavy industries when companies either moved away or closed.

Increasing Population Diversity

Diversity continues to increase and change the makeup of the population. Esri's proprietary Diversity Index accurately summarizes racial and ethnic diversity in an area. This measure shows the likelihood that two people, chosen at random from the same area, belong to different races or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity). Esri's Diversity Index for the United States has risen from 60.6 in 2010 to 62 in 2013, with a forecast of 64.8 in five years. At 82.1, Hawaii is the most diverse state in 2013; Maine has the lowest diversity at 12.5.

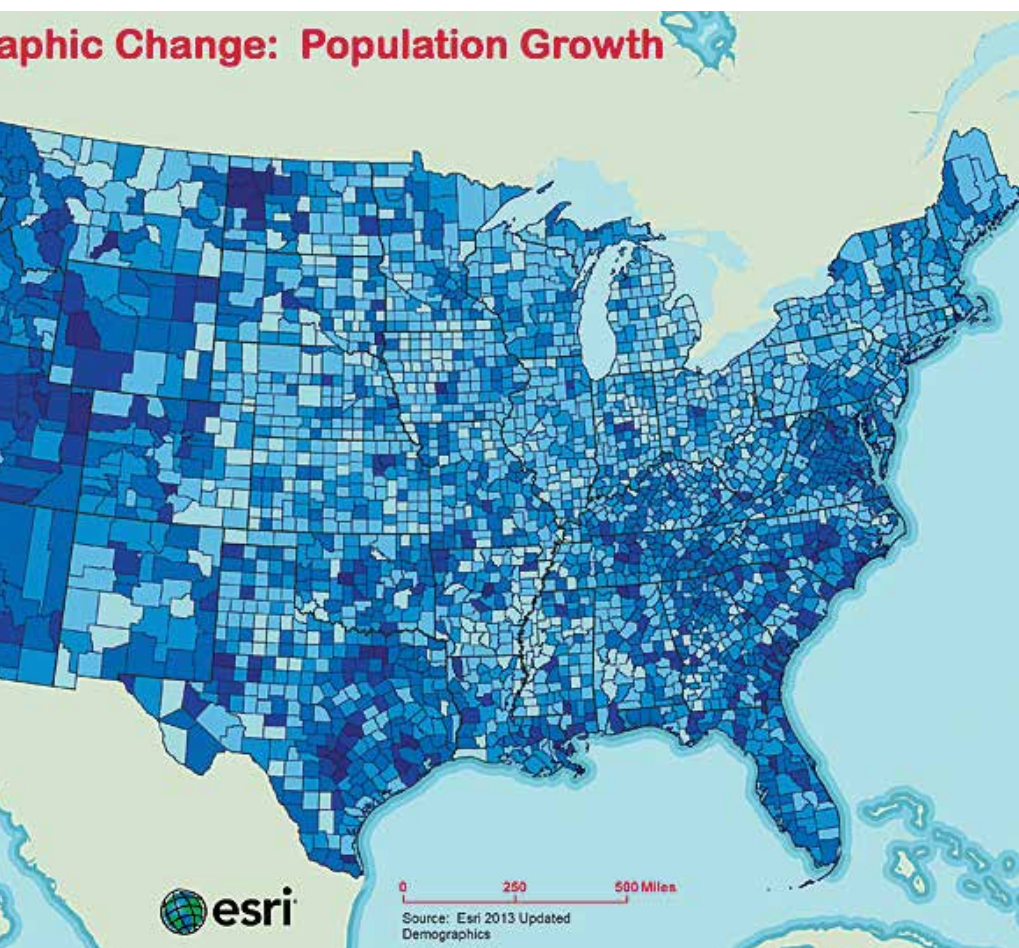
There are several reasons for the increase in population diversity. The non-Hispanic white population is shrinking by a process called natural decrease. The Census Bureau noted recently that for the first time in nearly 100 years, deaths exceeded births among non-Hispanic whites. Demographers had expected this natural decrease, but not until later in the decade. Another factor may be that whites are also either delaying parenthood or eschewing it altogether due to economic constraints, such as inadequate



employment or student loan debt. Most births in the United States are now to Hispanic, black, and Asian mothers, helping to account for the more dramatic changes in diversity. Based on the current growth rates by race and ethnicity, non-Hispanic whites will become the minority in approximately 30 years. This minority shift will occur more quickly in the younger population than in the total population.

Changing Household Types

The composition of America's 119 million households is also changing. Although husband-wife families remain the dominant household type, their share of all households continues to slip—from 52 percent in 2000 to 48 percent in 2010. From 2000 to 2010, the real increase in family households was in single-parent families, up by 22 percent, and multigenerational households, up by 30 percent. Husband-wife families increased by less than 4 percent in 10 years, and



← Population growth may be influenced by job opportunities and workers' ability to move to take a job. This map of the United States by county clearly illustrates areas of population growth and decline.

average household will grow only if steady employment with regular pay raises is available. Industry sectors that are hiring include mining, administration and support, and waste management.

About 2013/2018 Updated Demographics

How can you learn more about the demographics of the United States? Esri's 2013/2018 Updated Demographics data can provide answers. To perform actionable location analytics in these challenging times, you need the industry's most accurate, trusted data. Ranked number one for accuracy in a blind, independent study, Esri's demographic estimates and forecasts were produced with proven methodologies to provide the highest possible level of accuracy.

Esri's 2013/2018 Updated Demographics database includes a full roster of current-year estimates and five-year projections for categories such as population, income, race/ethnicity, home value, net worth, and disposable income.

Delivered in a variety of geographies and formats, Esri 2013/2018 Updated Demographics data can be accessed as a map service from ArcGIS Online and in products including Esri Business Analyst Online, Business Analyst for Desktop, Business Analyst for Server, and Community Analyst. The data is also available by table or database for seamless integration into GIS software.

For more information about Esri 2013/2018 Updated Demographics, visit esri.com/demographicdata.

husband-wife families with children declined. Growing segments of households include nontraditional family types, such as single person, single parent, multigenerational, and same-sex partners.

Housing

Although positive signs are noted in areas more affected by the housing boom/bust and employment decline, recovery of the overall housing market remains slow. The 2013 homeownership rate of 64 percent remains the same as in 2012. The 2013 median home value for owner-occupied households increased to \$177,247, up 5.7 percent since 2012. More people are renting, perhaps because homeownership is still out of reach due to tight credit and the difficulty of obtaining a mortgage, despite historically low rates. Although home prices are increasing (faster than the 2006 rates in many areas), particularly in areas hardest hit by the housing market crash, most of this growth is merely the

return of prices to prerecession levels. Fewer homes are "underwater." Vacancy rates are down in more than 44 percent of counties. Additional recovery setbacks occurred regionally in areas hit by natural disasters, such as Hurricane Sandy in New York and New Jersey and the Waldo Canyon Fire in Colorado.

Even though the housing market shows signs of recovery, depending on supply and mortgage rates, household income growth remains anemic.

Income

According to Esri's 2013/2018 Updated Demographics data, the median household income for 2013 is \$51,300, 2.3 percent higher than in 2012, but still lower than the 2010 figure of \$54,442. Disparity remains; income rose for only the top 20 percent of households. Unknown is the impact of the sequester, depending on the number of federal employees affected and the time they are furloughed. Income for the

Come Build a Platform for Business Success at the Esri Business Summit

If you're serious about taking your business to the next level, you just can't succeed without the right platform. And here's the secret—building a successful platform is not that complicated. But you need the right tools.

Attend the Esri Business Summit from July 12 to 15, 2014, in San Diego, California, and learn how to deliver better business data and decisions with a location platform. Whether you work in retail, real estate, manufacturing, or insurance, you'll learn why location is imperative to your bottom line.

Why Attend?

- **Expanded content**—Whether you have a technical or business mind, we want you to walk away more excited about the difference you make in your business.
- **Leaders from across industries**—Hear stories that apply to you. No matter what sector you are from, come share and learn from those that know how to do it best.
- **Hands-on sessions and demos**—You already use location technology, but the full potential is often hidden. We will give you what you need to do more. Surprise others within your organization with how easy it is, and put your skills to better use.
- **The networking event**—Some of the greatest feedback from previous events is that this is *the* event if you are interested in moving your business forward. Come and build your network of contacts and industry expertise. You'll meet people you can rely on for advice in the future who are here to help.
- **Jump start sessions**—Many of you are new to the Business Summit and are just now understanding the importance of location. We've built sessions to help you understand the business benefits of a location strategy. We'll introduce you to potential solutions, partners, and others, who will work best with your everyday needs.

Register at esri.com/bizsummit.

↓ The Esri Business Summit brings together the brightest minds in business to discuss innovations in location analytics and GIS.

Welcome to the Esri Business Summit

Commercial businesses around the world are turning to GIS and location analytics to help them achieve intimacy with their customers, optimize their assets, and lasso big data. Are you a retailer, financier, real estate company, insurer, health care specialist, manufacturer, or banker? Then explore this site to discover example of how location-based information and insight enable you to improve customer intimacy, deliver better services and increase operational performance.

Who Is Coming?

2014 Speakers



ASPCA

Greg Miller
GISP, AICP, GIS Analyst



Esri Australia Pty. Ltd.

Gary Johnson
Manager, Industry Solutions



Bank of America

Jonathan "Jon" Voorhees
Senior Vice President,
Retail Distribution
Execution Executive



General Growth Properties

Karan Singh
Director, Research & Strategy



BMS

Julie Serakos
Executive Vice President



Miele, Inc.

Matt Kueny
Senior Business Analyst



Chick-fil-A

Chan Lee
Senior Analyst



PLRB

Peter Balingit
Director of
Catastrophe Services



Cisco Systems, Inc.

Warner de Gooijer
Services Territory
Manager TS—Global
Service Supply Chain



PLRB

Andrew Louchios
Geologist/Information
Technology Specialist



Con-way Freight, Inc.

Jeffrey "Jeff" Rivera
Vice President
of Eastern Area
Operations



PromoJam

Matt MacNaughton
Chief Executive Officer



Datastory Consulting

Matt Felton
President



The Wendy's Company

John Crouse
Director, Real Estate
Services

The Agenda

Saturday, July 12, 2014

Technologists Are the Tomorrow Makers

Are you involved in creating the platform to take your organization to the next level? If so, then this day is for you: technical information, hands-on seminars, and the chance to meet some of Esri's development staff await you.

Sunday, July 13, 2014

Real Solutions, Real People

Join other business leaders for a day of interactive discussions about how GIS and location analytics have improved business.

Monday, July 14, 2014

Be Our Guest!

As a Business Summit attendee, you will receive complimentary access to the first two days of the Esri International User Conference. Join over 15,000 attendees from around the globe and learn how GIS is changing the world.

Tuesday, July 15, 2014

Sessions and Socials

Expand your professional network—join special interest group meetings for your industry and attend User Conference sessions and tech workshops. End your evening with the Business Summit Social and EXPO, where you will gain access to attendees and solution providers from multiple events.



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