

METRO TRENDS

Economic Review and Outlook

December 2016

**CYBER
SECURITY**



- Central Arkansas in Slow Growth Mode
- Global Cyber-Security and the Central Arkansas Connection
- Cyber-Security: A New Way of Thinking
- Retailing in 2016 and Beyond
- Manufacturing
- New Housing Stays in Slow Growth Mode
- Construction Values
- Economic Outlook 2017



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About Metroplan

Metroplan is a voluntary association of local governments that has operated by interlocal agreement since 1955. Originally formed as the Metropolitan Area Planning Commission of Pulaski County, Metroplan now has members in five counties of the six-county metro area (see below). Metroplan is the designated metropolitan planning organization (MPO) under Title 23 of the United States Code.

Metroplan serves as the regional voice on issues affecting Central Arkansas, develops transportation plans required by federal law, convenes stakeholders to deal with common environmental issues, and provides information and staff resources to our member local governments, the business community and the public. As part of that mission, Metroplan publishes *Metrotrends* twice yearly. The spring edition is the *Demographic Review and Outlook*; the fall edition is the *Economic Review and Outlook*.

About CARTS

The Central Arkansas Regional Transportation Study, or CARTS, is the cooperative effort by the participating communities, transportation providers and many other interested parties to develop a long-range transportation plan for the metropolitan area.

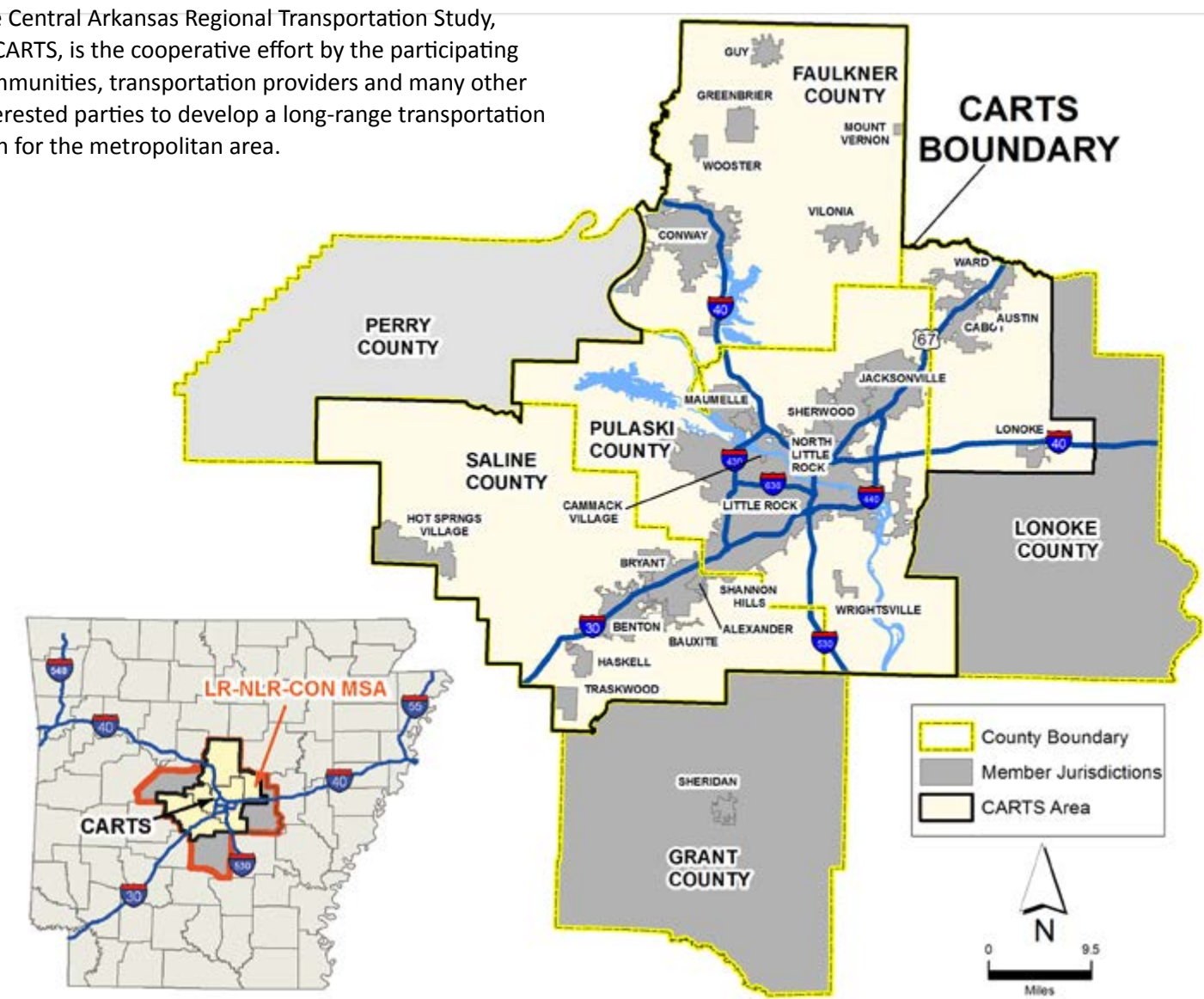


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Metroplan’s *Economic Review and Outlook* is an annual chronicle providing economic data and insight for the Little Rock-North Little Rock-Conway MSA.

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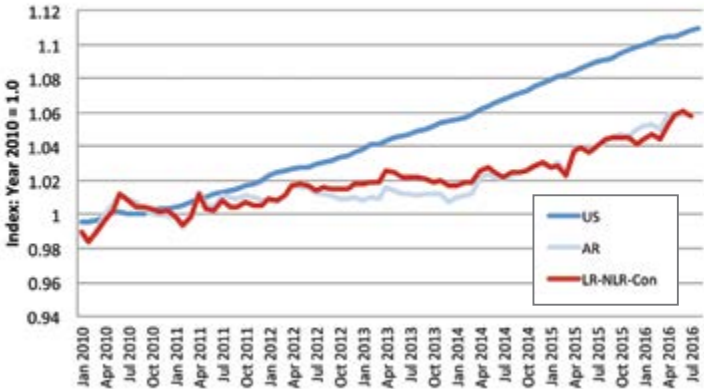
Central Arkansas in Slow Growth Mode

Regional economic growth remains slow but steady in late 2016. Job growth has picked up compared with a nearly flat trend 2013–2014, and from July 2015 to July 2016 matched the U.S. average of 1.7 percent.¹ Over the past year growth in the local business and professional services sector handily outpaced the U.S. average. Other areas of local strength have included retail trade, transportation, utilities, education and health services. The region saw no significant change in manufacturing, while U.S. manufacturing saw a minor 0.3 percent loss. The area saw major job losses in the mining and construction sector (mostly construction). Completion of the bulk of construction funded under a North Little Rock School District bond issue may help explain the decline. Another weakness was the information sector, with a 6.1 percent local job loss contrasted by slow growth at the U.S. level.

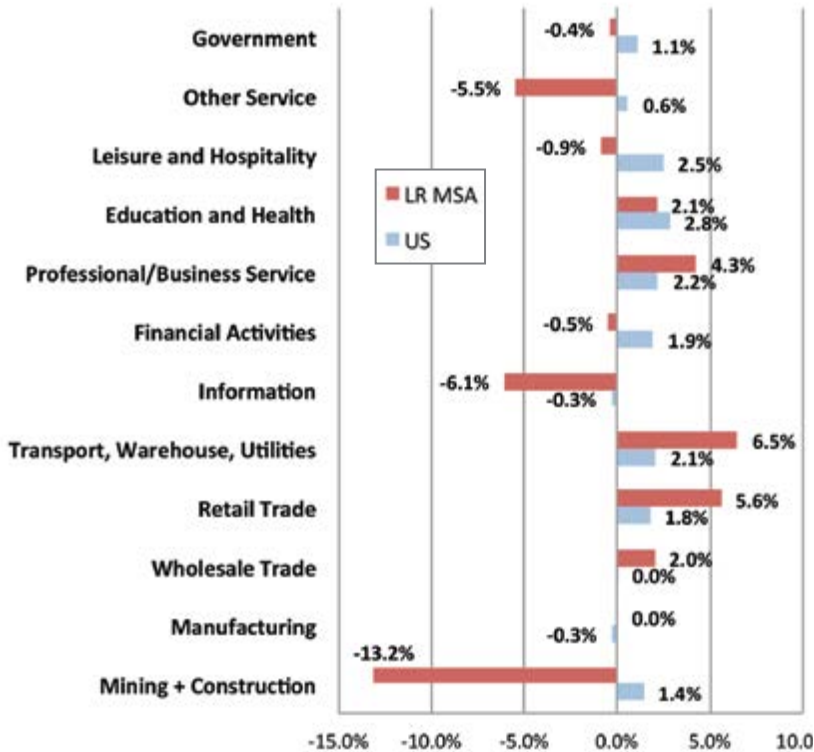
While job growth has been modest, unemployment has fallen to historic lows. In April of 2016, unemployment in the Little Rock-North Little Rock-

Conway MSA fell to 3.0 percent (3.1 percent seasonally adjusted), its lowest level since Metroplan began tracking this figure in the early 1990s. By August it had climbed to 3.4 percent (3.5 percent seasonally adjusted), still abnormally low.² In fact, the Little Rock metro area ranked 32nd lowest for its unemployment rate, among 388 U.S. metros, or the top 8 percent for

Employment Change January 2010–August 2016
Monthly, Seasonally Adjusted



Job Change by Industry 2015–2016



Multiple economic development efforts in Central Arkansas are moving toward a culture of training, collaborative teamwork and entrepreneurship, with an informal style and an emphasis on creativity. Photo courtesy of Downtown Little Rock Partnership.

¹ Data from Arkansas Department of Workforce Services representing July 2015 to July 2016, without seasonal adjustment.
² Arkansas Department of Workforce Services labor force statistics. Seasonal adjustments by Metroplan.

low unemployment. This may correlate with employers reporting wage pressures in a survey conducted in the Federal Reserve’s St. Louis Region,³ and it is likely these pressures will continue in Central Arkansas so long as unemployment remains near or under 4 percent.

The region’s low unemployment rate has been accompanied by rising labor force participation, which the chart at bottom shows has risen for two straight years. Abnormally low unemployment is enticing some non-workers back into the workforce, after years of staying out.

While growing competition for workers may be helping local incomes to grow again, regional income growth has lagged. U.S. per capita income grew about 4.9 percent from 2010-2014, while local growth amounted to just 2.2 percent.⁴ U.S. productivity growth has slowed in recent years, putting a brake on income growth.

This issue of the *Metrotrends Economic Review and Outlook* looks at areas of promise in the local economy. First among these is cyber-security, where new data shows the region holds an outsized presence. This issue emphasizes entrepreneurship, exemplified by the Venture Center and a sampling of successful local

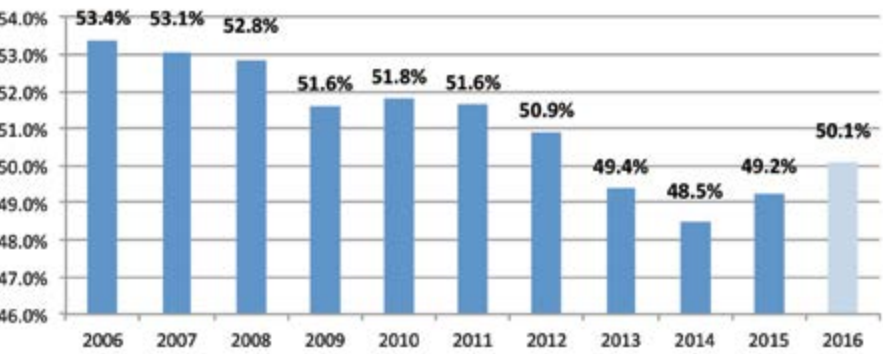
firms in cyber-security, retailing, and manufacturing. The Central Arkansas region has customarily depended on its stable base in government, education and health care. Economic demands are changing, though, and traditional “eds and meds” sectors will probably generate less growth going forward. Greater entrepreneurship in private and non-profit sectors can raise local living standards and quality of life in a time of continuing economic transformations. **M**

Monthly Unemployment Rate, Seasonally Adjusted
January 2010–August 2016



Source: Arkansas Department of Workforce Services.

LR-NLR-Conway MSA Labor Force
Share of Population 2006–2016



Sources:
Labor force data from Arkansas Dept. of Workforce Services; Census population figures for 2010; Revised Metroplan population estimates for all other years; Metroplan extrapolations for 2016 labor force based on Jan-July, 2015 labor force data and previous annual averages for Jan-Jul as predictor of annual labor force.

Per Capita Income Growth
2010–2014



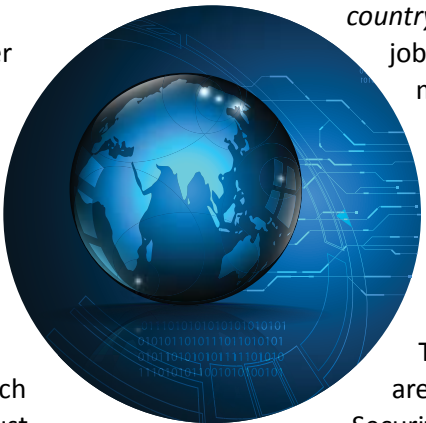
Global Cyber-Security and the Central Arkansas Connection

For several hours on Friday, October 21, 2016 millions of computer and mobile-device users couldn’t access Twitter, Amazon, PayPal, Netflix, Etsy, Reddit, and numerous other web sites. It was a DDoS (Distributed Denial of Service) attack, which hides in the devices of innocent users, then launches an avalanche of simultaneous requests to saturate targeted sites. Typically such an attack is challenging, because it must subvert millions of devices to generate enough “hits” to take down a site. In this case, however, just 100,000 internet devices were enslaved into a “botnet” to make a virulent “amplification attack.”

A week later it was still unclear whether the attack had been made by a hostile government, terrorists, or private hackers.¹ There is no real line between national security and domestic crime with the internet, which spans the globe yet also reaches into homes and offices. The Internet of Things (IoT) is expanding exponentially, and many inter-connected devices have little or no protection against cyber-attack. As the IoT expands, so does the risk to cyber-security. Attacks are growing in both frequency and severity.

Cyber-security is one of the fastest-growing businesses in the U.S. (and world) economy. A recent article in *Forbes* pointed out the cyber-security market is likely to more than double in the five years from 2015 to 2020, from \$75 billion to \$170 billion.² The U.S. Bureau of Labor Statistics projects job growth for Information Security Analysts will be among the fastest of all occupational sectors.

What does all this have to do with Central Arkansas? Way more than you probably suspected, because the Little Rock-North Little Rock-Conway MSA has the *highest* share of cyber-security jobs of *any metro area in the*



country. You can see this in the table. The share of jobs is shown by the Location Quotient, which measures each region’s share of jobs against its total workforce. As you can see, Central Arkansas scores 8.53, meaning it has nearly nine times as many jobs in this sector as the national average, in comparison to total jobs. Even security-centric Washington DC ranks lower, with a score of 6.38. The table compares the fifteen U.S. metro areas with the largest number of Information Security jobs. Even in total jobs, Central Arkansas comes out ninth in the USA, outranking larger metros like Minneapolis, Houston, and San Francisco. Nationally, the average Information Security Analyst job pays an annual wage of \$93,250. In Central Arkansas, the typical wage for this sector in Central Arkansas is a more modest \$53,570, or \$58,804 when adjusted for local purchasing power.³

The articles following give further background on how and why the Little Rock metro area is a national leader in this critical field. Local business leaders, government officials, educators and others need to know that Central Arkansas holds expertise in an activity that’s becoming a vital fulcrum of national security and global economic stability. **M**

Information Security Analyst Jobs 2015

Rank by Jobs	Jobs	Metro Area	Location Quotient
1	9,930	Washington-Arlington-Alexandria, DC-VA-MD-WV	6.38
2	4,460	New York-Jersey City-White Plains, NY-NJ	1.07
3	3,110	Dallas-Plano-Irving, TX	2.07
4	2,660	Chicago-Naperville-Arlington Heights, IL	1.15
5	2,330	Phoenix-Mesa-Scottsdale, AZ	1.92
6	2,320	Boston-Cambridge-Newton, MA	2.05
7	2,010	Los Angeles-Long Beach-Glendale, CA	0.76
8	1,900	Atlanta-Sandy Springs-Roswell, GA	1.19
9	1,850	Little Rock-North Little Rock-Conway, AR	8.53
10	1,760	Charlotte-Concord-Gastonia, NC-SC	2.45
11	1,730	Baltimore-Columbia-Towson, MD	2.04
12	1,680	Houston-The Woodlands-Sugar Land, TX	0.89
13	1,640	Minneapolis-St. Paul-Bloomington, MN-WI	1.35
14	1,470	St. Louis, MO-IL	1.72
15	1,320	San Francisco-Redwood City-South San Francisco, CA	2.01

Source: U.S. Bureau of Labor Statistics, occupation data for sector 15-1122.

³ Federal Reserve Bank, *The Beige Book*, September 7, 2016.

⁴ U.S. Bureau of Economic Analysis, with inflation adjustment by Metroplan.

¹ Swati Khandelwal, “Friday’s Massive DDoS Attack Came from Just 100,000 Hacked IoT Devices,” *The Hacker News* October 26, 2016. Online at thehackernews.com.

² Steve Morgan, “One Million Cybersecurity Job Openings in 2016,” *Forbes* January 2, 2016.

³ U.S. Bureau of Labor Statistics, occupational data at <http://www.bls.gov>. Globe illustration on this page by iStock.

Cyber-Security: A New Way of Thinking

The Internet got its start as the ARPANET, a system for transferring data used primarily by universities and the U.S. military.¹ While there were security measures from the early days, the revolutionary technology has grown exponentially through its history, and the cyber-security industry continues racing to catch up. The talent shortage in cyber-security is so severe that automated systems are being developed. Malicious programs are often well-hidden in computer code, so sometimes the best answer is to diagnose programs from how they act: if it's trying to eat sheep, it's probably a wolf.

Since wrong-doers often use neutral sites for “side door” entry that helps conceal their origin, there's little separation between local, national and international security issues. At present China, Russia, Iran and North Korea are the most notorious for cyber-spying, but new threats are emerging in South Asia and Latin America.² One of the most dangerous threats involves attacks on Industrial Control Systems (ICS). An attack of this nature temporarily knocked out Ukraine's power grid in late 2015. The list at right gives a brief introduction to some of the terms and issues you may need to know as cyber-security grows in importance.

Zero Day—a form of software vulnerability. The term refers to a software vendor's lack of awareness of the problem, hence having zero time in which to provide a fix or patch.

DDoS—Distributed Denial of Service. This is an attack via saturation, often using computers and devices temporarily “enslaved” by a malicious program to do harm.

Botnet—a collection of computers or devices that have been enslaved and robotized to conduct a DDoS attack (the “bot” refers to “robot”).

Year Zero—the year 2012, when the U.S. and Israel allegedly used the Stuxnet virus to disable Iranian uranium-enrichment devices.

Spear-phishing—generating highly targeted (but fraudulent) emails that look authentic to a user, which contain malicious content. Such messages are crafted to seem to be coming from a friend, boss or organization familiar to the intended victim.³ **M**

The View from First 72 Cyber

We visited First 72 Cyber to get some perspective on the cyber-security industry and its role in Central Arkansas. It's a startup firm based in Little Rock that focuses on corporate cyber-security. Its primary investor is the Circumference Group, also locally based. We talked with Greg Schaeffer, CEO and founder and also a veteran of the U.S. Department of Homeland Security, Fidelity Information Services, Alltel and the U.S. Department of Justice.



Greg Schaeffer, CEO of First 72 Cyber, contends that while cyber-security is a technology issue, the answer lies not in machines but with creative, experienced, and well-trained people.

cyber-security comes with the package. Firms that employ cyber-security experts aren't automatically “tech” firms. Retailers, utilities, banking and finance businesses and health institutions also have major demands for cyber-security.

The cyber-security field has huge growth potential, Greg says, because “the trendlines are really terrible.” Here are a few reasons why. “Defenders must succeed in fending off attacks 100 percent of the time across all of an institution's infrastructure to win,” Greg points out, “attackers need only find one tiny crack in the defenses anywhere to rack up a ‘win’ for the bad guys.” Attackers can almost always find a way in, if not by attacking an

institution, then by attacking a vendor, client or partner and moving laterally from there to the intended victim.⁴ Attackers are innately creative, and can work their way past mere software. Corporations will invest in cyber-security, but they want a one-time fix. In reality, constant vigilance is mandatory.

What's most needed in the field is not more software, but people—well-trained, creative, talented, and dedicated. Many “good guys” need to be hackers themselves, who strive to break a system to identify weaknesses. The best cyber-security experts are creative people with eccentric personalities who don't fit easily into layered, hierarchical corporate structures. Corporations want to relegate cyber-security to their IT departments when, in reality, the security staff needs a direct link to management.

All of this represents both a challenge and opportunity for Central Arkansas. The demand for cyber-security experts is huge, and we have a large talent pool already. Education is only part of the solution, because the best security analysts learn from experience, and the best teams are seeded with veterans. The region needs better broad-band Internet coverage, often a vital factor in the “talent game” because many “techie” types won't live in places lacking decent high-speed Internet. A weird state law prevents local jurisdictions from hosting ISPs.⁵ We're competing with Google Fiber regions like Austin, Atlanta, Kansas City and Charlotte. The region's prominent role in cyber-security represents a window of opportunity that won't stay open for long. **M**



Getting to Know the IoT

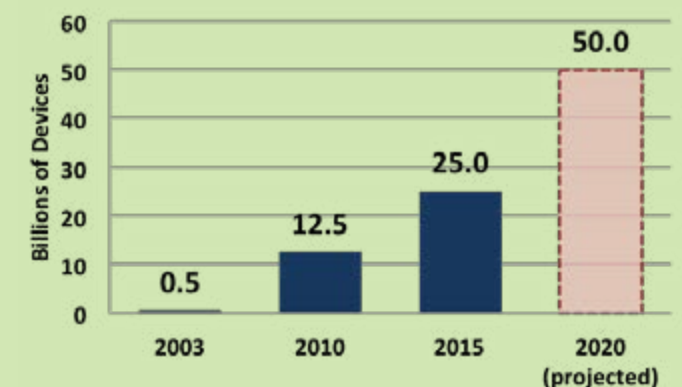
IoT stands for the Internet of Things, a web of gadgets networked together. Each item contains an embedded computer system that communicates with the Internet. Cars, trucks, traffic signals, home utilities, power stations, weather monitors, health devices and other items are becoming woven together in a web of information exchange and automation. The chart shows data from Cisco about the growth in connected devices, from half a billion in 2003 to about 25 billion today, and forecast to hit 50 billion by 2020.



Photo by iStock.

The IoT will give us more efficient HVAC systems, better health monitoring, smarter traffic signals, and other improvements too numerous to count. Yet many IoT devices have fewer protections than PCs, tablets or smart phones (and even these devices can be hacked). Cyber-terrorists could use the IoT to attack the economy, or even human lives. For now, growth in IoT means a growing security risk.

Internet of Things—Connected Devices



Source: Cisco

¹The first ARPANET message was sent between computers on October 29, 1969.

²“Questions and Answers: The Security Landscape 2017.” Available as a PDF for download from Fire Eye at <https://www.fireeye.com>.

³Many thanks to Greg Schaeffer for advice and information in this article on terminology, concepts, and vital details.

⁴The famous Target hack was done by stealing the credentials of an HVAC vendor. The hacker then used access to Target's billing system to move laterally to its point-of-sale system.

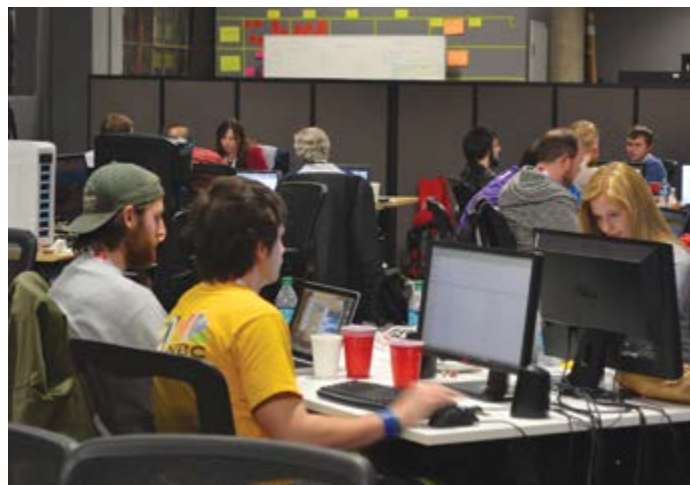
⁵The law allows cities that already had it, like Conway, to be grandfathered in. This explains some of Conway's success in the tech sector.

The Venture Center

In 2013, local business leaders foresaw a need for greater entrepreneurship in Central Arkansas, and banded together to provide the mentorship and teamwork to make it happen. Arkansas had performed poorly in some national rankings for innovation and entrepreneurship. These leaders formed a nonprofit organization to change this game, aided by support from pro-entrepreneurship groups like the Kauffman Foundation, Startup America, IBM and Startup Federation.

The Venture Center is sometimes confused with the Innovation Hub, a program just across the river in Argenta, North Little Rock (described in previous editions of this newsletter, and still thriving),¹ but they serve different roles. Whereas the Innovation Hub provides “maker space,” and includes outreach programs for K-12 and STEAM education programs,² The Venture Center aims to incubate new firms, help them develop business models, and assist them with scaling their business and finding funding as they prepare to launch into the corporate world.

If you visit The Venture Center in its downtown Little Rock office, the atmosphere feels informal and relaxed. If you stay long, however, you will realize that people here take their mission seriously, work long hours, and put a premium on creativity. Already occupying space in downtown Little Rock, The Venture Center will move into the Tech Park on Main Street soon.



Local talent hard at work at a Venture Center tech event. Photo credit: The Venture Center.



The Venture Center's pre-Accelerator program can take prospective entrepreneurs from idea to business in fourteen weeks. Photo credit: The Venture Center.

Anyone with startup aspirations can come here to try out a business idea. Would-be entrepreneurs can attend the Pre-Accelerator program on Monday nights, from 6 to 9, in a fourteen-week program. By the end of the period, The Venture Center will help them determine if the aspiring “good idea” is a business or not. If not, it’s useful to know. If yes, the next goal is to accelerate the business, positioning a company to reach \$1 million or more in annual revenue. Aspiring entrepreneurs can work and share in the collaborative and creative culture. Every enterprise The Venture Center has referred to investors so far has attained funding. Venture Center-supported startups have raised a combined total of \$19 million in seed capital.



In early 2017 Little Rock will formally dedicate the Tech Park, several years in the making. The Venture Center will be one of its first tenants.

¹See *Metrotrends Economic Review and Outlook*, December 2015 and December 2013 at <http://www.metroplan.org>.

²Science, Technology, Engineering, Art and Mathematics)

The Venture Center’s mentoring program allows newcomers to learn skills from those with more experience, while also encouraging seasoned and successful participants to donate their time mentoring others. So far The Venture Center has 70 trained mentors. It has made inroads into minority and veterans groups and among women. Most important, it has created 286 jobs in two years. Economists know that small startup firms account for the bulk of job growth. Expect The Venture Center to incubate more new jobs. **M**



Gary Dowdy and Lee Watson mentoring Sesie Bonsi, CEO of Bleu, one of the entrepreneurs from the 2016 VC FinTech Accelerator. Photo credit: The Venture Center.



Venture Center Companies

The Venture Center helps entrepreneurs shorten their development time from three–five years to 12–18 months. Thirty-eight percent of the new businesses are owned by women, minorities or veterans. Below is a small sampling of recent startups.



Offers high-speed Internet access to subscribers in Multi-Tenant Units by using wireless gigabit fiber.



Clinicpass provides clinics a tool for managing pharmaceutical sales representatives and provides the sales reps a service to conveniently schedule appointments & increase visibility.



LumoXchange offers a low cost remittance marketplace to compare exchange rates versus the US dollar around the world and send money online and has partnered with Bear State Bank.



Bleu is a secure and easy-to-use contactless payment solution powered by beacon technology.



Housecall is an Arkansas-based telemedicine company.



Akouba provides community and regional banks an underwriting platform for small business loans.



Flutterwave is API- driven infrastructure for African banks, merchants and payment service providers to securely and seamlessly process payments.



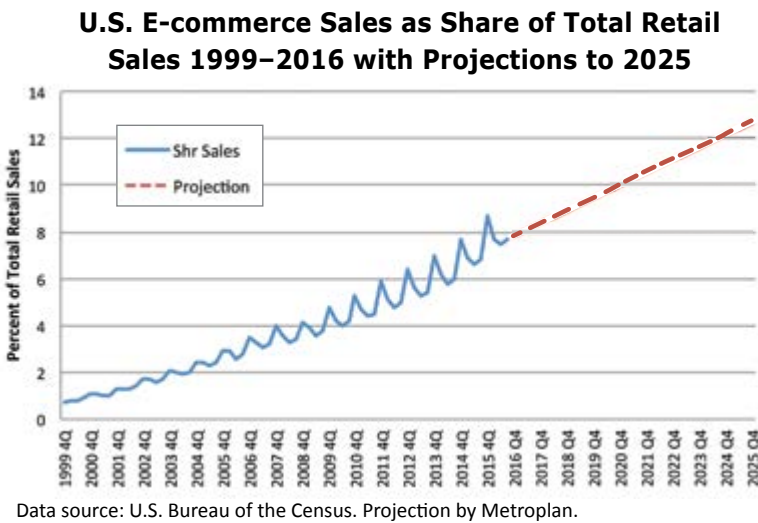
Public Funds Investment Tracking & Reporting strives to help government entities and banks throughout the United States better invest taxpayer dollars.



Apptegy’s mission is to help schools build stronger relationships to their communities by making it easy for educators to communicate effectively using mobile and social technology.

Retailing in 2016 and Beyond

Over the past two decades, retailing has undergone a lot of change. During the 1990s, the role of malls declined, while power centers hosting big-box stores grew rapidly. Internet sales emerged around the turn of the century, beginning as a tiny share of the total but growing rapidly. Today E-commerce accounts for about eight percent of total sales. The chart below shows quarterly E-commerce sales from late 1999 to the present, with a linear projection to 2025. Internet sales zigzag seasonally, hitting a peak in the fourth quarter with Christmas shopping, then dipping early each year before a sharp seasonal up-tick. Sales in the fourth quarter of 2016 may reach near the ten percent mark before subsiding in early 2017. By 2020, if current trends continue, annual sales will average above ten percent, and could reach twelve percent by 2025. The projection, based on the linear trend visible since 2010, may be conservative, since sales accelerated in about 2013.



Traditional “brick and mortar” retailers are competing for a diminishing share of the total. Changing trends have hit retail sectors unevenly. As the table below shows, book and music stores have taken the biggest hit, followed by department stores and office supplies. Vending machines have also seen less business. The next table (facing page) shows the retail sectors with the most growth. Not surprisingly, E-commerce/mail-order sales have seen nearly 35 percent growth in the 2010–2014 interval. Auto dealers were battered by the Great Recession but saw a fast recovery. The rapid rise in used merchandise sales may hint at financial strain in many households in a time of rising inequalities, coupled with smart marketing by some firms. Full-service restaurants have outpaced limited-service ones, a reversal of earlier trends.

As brick-and-mortar retailers adapt to changing market conditions, they are emphasizing the quality of shopping experience, often striving to create an atmosphere of uniqueness. While many firms are adapting to E-commerce by developing their online presence, L.L. Bean—traditionally a catalog and E-commerce retailer—may be signaling a new trend by expanding its brick-and-mortar stores, which will serve as merchandise showrooms.

During 2016 Economic Census figures came out, providing useful insights into changing local trends. The chart at right shows sales growth figures by county for the 2007–2012 period, contrasted with the 2002–2007 interval. While the figures lag current trends, they show a slowdown in retail growth in Faulkner County, which yielded the lead to Lonoke County for the fastest retailing growth. Saline County came in a close second, nearly doubling its retail growth

Top Four U.S. Retail Sectors for Sales Decline 2010–2014

Rank	NAICS	Title	Sales Change 2010–14
1	4512	Book, periodical, and music stores	-29.6%
2	4521	Department stores	-16.1%
3	4532	Office supplies, stationery, and gift stores	-11.3%
4	4542	Vending machine operators	-6.8%

Source: U.S. Bureau of the Census, Annual Retail Trade Survey. Sales figures adjusted for inflation.

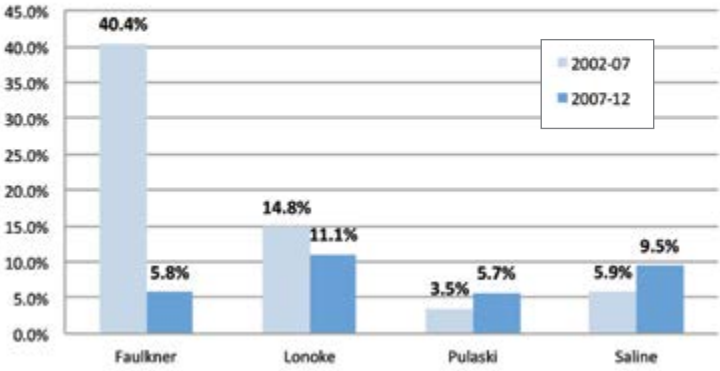
Top Ten U.S. Retail Growth Sectors 2010–2014

Rank	NAICS	Title	Sales Change 2010–14
1	4541	Electronic shopping and mail-order houses	34.6%
2	4411	Automobile dealers	29.9%
3	4533	Used merchandise stores	27.2%
4	4412	Other motor vehicle dealers	25.7%
5	7221	Full-service restaurants	17.0%
6	4483	Jewelry, luggage, and leather goods stores	13.8%
7	4482	Shoe stores	13.4%
8	7222	Limited-service eating places	12.6%
9	4441	Building mat. and supplies dealers	11.6%
10	4422	Home furnishings stores	10.2%

Source: U.S. Bureau of the Census, Annual Retail Trade Survey. Sales figures adjusted for inflation.

over the earlier interval. Pulaski County saw the slowest growth but a pickup in sales over the 2002–2007 period. Over the past two decades, retailers have expanded their presence in the region’s outlying counties to match residential growth. Residents of Faulkner, Saline and Lonoke Counties can do more of their shopping close to home. As Internet sales continue growing, many traditional stores in all locations will face pressures to adapt. E-commerce opens new horizons in convenience and selection, but shakes up the assumptions. **M**

Retail Sales Growth by County 2002–2007 and 2007–2012 (Inflation-Adjusted)



Data source: U.S. Bureau of the Census.



The new Lewis Crossing Center is adding nearly 500,000 square feet of retail space to the Conway area.

Tipton & Hurst, the Internet and a Global Flower Business

Local florist Tipton & Hurst plays a big role in Central Arkansas and across the state. The firm has been around since 1886, when the fastest way to deliver flowers over long distances was via railroad. Tipton & Hurst introduced same-day delivery in 1900, using telegraph to communicate orders, and later telephone. The switch to online sales went smoothly with the Tiptonhurst.com site in the 1994–95 period. Today Internet sales account for about one-third of the business. Many customers still use the telephone, with the web site as a brochure for choosing arrangements. Many people still visit stores, but “foot traffic” is flat while Internet sales are constantly growing.

Tipton & Hurst needs tech workers to help with creative messaging and keep the web site up-to-date. The local area’s large government / hospital sector presents a challenge, competing for the talent pool of available workers. The Internet is also vital with inventory management and vendor orders. The global flower



Owner Howard Hurst does more and more of his business on the web, but many customers still like to visit the stores and pick out arrangements for themselves.

business depends heavily on air freight. South America is Tipton & Hurst’s largest source of flowers, followed by Holland and the U.S. west coast. Some flowers come from Asia —orchids from Thailand, for example —and Africa. The Miami Airport is an international hub from which refrigerated trucks deliver to Central Arkansas. The global flower business is buffeted by constant holiday fluctuations in different countries, weather conditions, airport conditions, and even volcanic eruptions that affect air transport. Valentine’s Day is of course the biggest single “rush” period in a business with constantly shifting daily trends. The best flowers and the best deals are found wherever flowers are growing in the fields, as with tulips in Holland in the spring and Arkansas sunflowers in summer. Flower delivery is a complex global symphony of greenhouses in places like Ecuador, Thailand and Holland, jets crossing the oceans, and colorful front-door deliveries, all conducted quietly and efficiently via the Internet.

Kent Walker Artisan Cheese

Kent Walker started his business about five years ago. An outreach program at Trinity Episcopal Cathedral provided free kitchen space for his business start-up. Today he employs ten workers and is prospering, running a “Cheesery” restaurant in downtown Little Rock as well as selling cheese wholesale to restaurants and grocery stores, and retailing over the Internet, too.



Kent Walker with cheese forms and one of the cheese presses that he built, based on a centuries-old design.

Cheese has some unusual properties as a manufactured good, since it shrinks and improves over time rather than depreciating. Kent needed accounting software to help manage these complexities, but commercial software was too expensive and lacked flexibility. With a degree in computer science, Kent has instead developed his own customized accounting system through five years of

tweaks and improvements. Anyone in manufacturing knows that accounting is a critical component of the business, and Kent has successfully developed a home-made program to manage costs, inventories and sales. Internet sales are an important component of Kent’s business, especially during the Christmas season when online sales can run up to 40 percent of the total. Kent’s restaurant emphasizes the quality of experience for diners and buyers, sponsoring a game night every Thursday evening, with tours and music on Saturdays and other events, too. Visitors can watch cheese being made, and can visit “the cave” where cheese ages at a constant 52 degrees Fahrenheit. **M**

Manufacturing

There were about 20,300 local jobs in manufacturing in 2015.¹ This is only up by 0.5 percent since 2010, compared with 6.8 percent U.S. manufacturing job growth from 2010 to 2015. Regional manufacturing GDP nonetheless grew 13.4 percent over the same period, easily besting 4.6 U.S. manufacturing GDP growth.² This suggests local manufacturers have driven productivity at almost three times the U.S. rate over the past five years.

The region has an emphasis in several manufacturing sectors. The table at right ranks selected local manufacturing sectors by Location Quotient.³ As it shows, local emphasis is especially strong in steel and fabricated metals, as well as in paper and wood products, and the manufacture of wind turbine blades. Other important local manufacturing sectors not shown (due to data restrictions) include the local aircraft modification industry, cosmetics, and sporting ammunition.⁴ The local machinery sector, which includes Caterpillar in North Little Rock, is shown despite a below-average Location Quotient, because it has shown competitive strength in recent years.

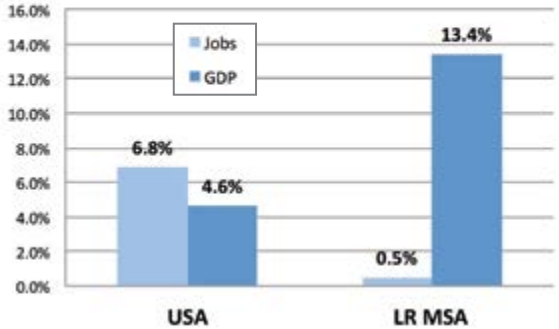
Selected Manufacturing Sectors in Central Arkansas
Ranked by Location Quotient

NAICS	Sector	Jobs 2016 Q1	LQ 2016
3312	Steel products	1,052	9.71
3329	Other fabricated metals	2,157	4.33
3222	Converted paper products	1,464	2.96
3211	Sawmills/wood preservation	466	2.86
3336	Engine, turbine, power transmission	484	2.65
3323	Architectural/structural metals	1,304	1.93
3371	Household/institutional furniture	705	1.57
3273	Cement/concrete products	424	1.37
3372	Office furniture	252	1.31
3331	Construction/mining machinery	371	0.92

Source: Arkansas Department of Workforce Services

While low energy prices help with production and transportation costs, they have weakened demand for some local products. Demand is down in oil, gas and mining, which has softened markets for steel, metal parts, and machinery produced by several local firms. When oil prices pick up, local manufacturing may make some gains, too. **M**

Change in Manufacturing Jobs vs.
Manufacturing GDP 2010–2015



Sources: U.S. Bureau of Labor Statistics;
U.S. Bureau of Economic Analysis.

The Little Rock Port Authority 2016

The Little Rock Port has prospered in recent years, boosted by its transportation advantages. Employment has approximately doubled over the past decade, and was less hard-hit by the Great Recession-related job slump from 2007 to 2010 than general manufacturing employment. During 2016 the Port competed for—and won—a \$6.2 million Federal TIGER grant. This funding will allow the Port to build a new rail-to-barge dock on its slackwater harbor, as well as to add 5,400 feet of storage track on the Port’s railroad to alleviate congestion of out-bound shipments. The port is purchasing additional land to keep up with growth that keeps coming.



¹Arkansas Department of Workforce Services.
²U.S. Bureau of Economic Analysis.
³Location Quotient measures local employment share in a sector against the national share. Any score above 1.0 indicates stronger-than-average local concentration in a sector.
⁴Some figures are withheld by the U.S. Bureau of Labor Statistics to prevent disclosure of individual firms.

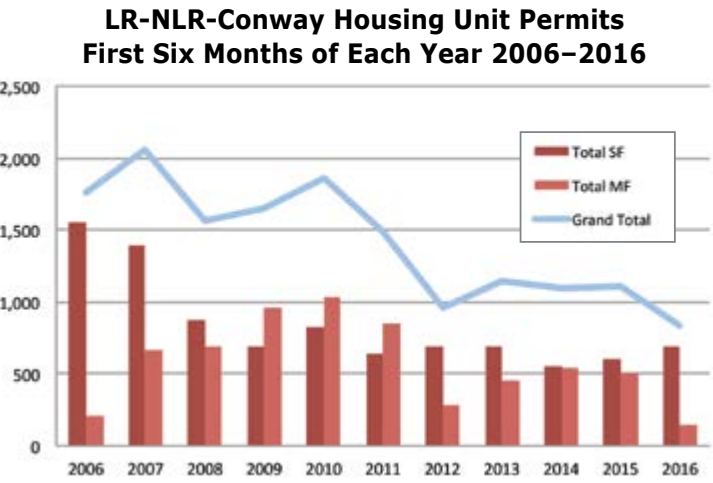
New Housing Stays in Slow-Growth Mode

During the first half of 2016 new housing construction proceeded slowly. Compared with the same interval a year earlier, the region saw a moderate uptick in single-family construction, and a slowdown in multi-family, as shown in the chart below. Single-family moved upward in Conway, which saw the most new single-family units since the January–June interval in 2010. Bryant and Maumelle both saw a doubling in new single-family construction, while Cabot, Jacksonville, North Little Rock and Sherwood all logged higher numbers than the first half of 2015. Only Little Rock and Benton were lower.

Multi-family housing saw relatively few new starts in the first half of 2016. The largest project was in North Little Rock, with 82 units along Maple Street in the Argenta area. In February a permit was issued for 40 new units near German Lane in eastern Conway. Plans for more multi-family units along Bowman Road in western Little Rock have been put on hold while the city studies the



Construction in the Heights neighborhood in Little Rock.



³None of these are shown in the table at right, which depicts the January-June period.

Half Year (January–June) Housing Unit Permits 2012–2016					
Single-Family					
	2012	2013	2014	2015	2016
Benton	101	117	96	101	92
Bryant	69	64	32	32	70
Cabot	48	65	28	45	49
Conway	86	76	62	83	111
Hot Sprgs Vill	28	25	22	37	20
Jacksonville	15	15	20	18	25
Little Rock	168	188	186	193	160
Maumelle	41	41	31	12	24
N Little Rock	87	55	31	46	52
Sherwood	69	73	70	74	108

Multi-Family					
	2012	2013	2014	2015	2016
Benton	0	0	0	0	0
Bryant	26	0	0	0	12
Cabot	0	0	0	19	0
Conway	40	94	61	6	44
Hot Sprgs Vill	0	0	0	0	0
Jacksonville	6	0	12	0	2
Little Rock	207	259	469	370	6
Maumelle	0	0	0	108	0
N Little Rock	0	96	2	0	82
Sherwood	0	0	0	0	0

Regional Totals					
	2012	2013	2014	2015	2016
Total SF	684	694	556	604	711
Total MF	279	449	544	503	146
Grand Total	963	1143	1100	1107	837

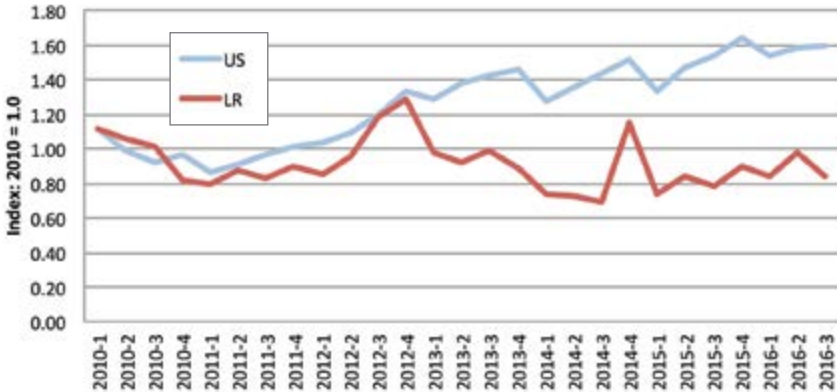


Small lot, big new house: new home construction in Cammack Village.

issue. In September a developer was denied a permit to build a 240-unit apartment complex along Bowman Road.

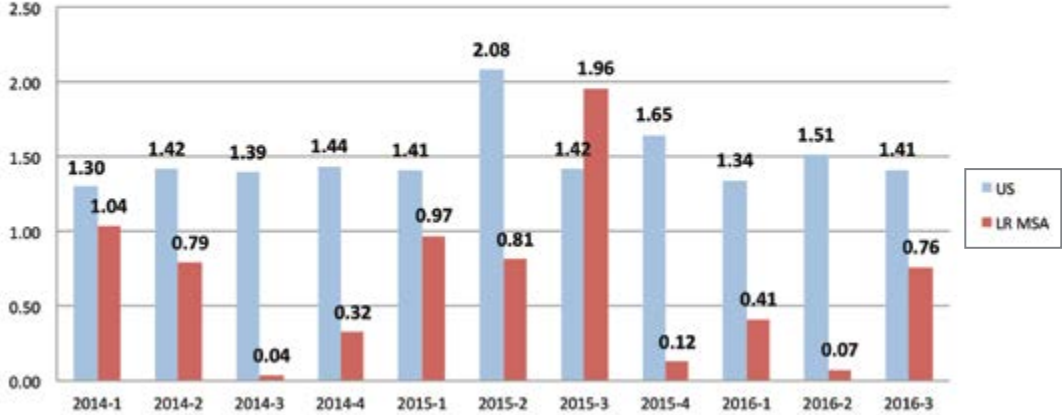
The demand for multi-family housing remains fairly strong in many parts of the region. In August, North Little Rock’s planning commission granted approval for a 960-unit complex in the McCain / North Hills area, likely to be built in phases. In September, Little Rock approved 48 units along Scott Street in the downtown area, as well as 191 units along Rushmore Avenue near Cooper Orbit Road in western Little Rock.¹ The region’s low unemployment rate and steady job growth are likely factors boosting demand for multi-family housing. **M**

Quarterly Single-Family Construction Trend 2010–2016 Q3 (p)



Figures for 3rd Quarter 2016 are preliminary

Index of Multi-Family Construction by Quarter 2014–2016 Q3 (seasonally adjusted)



Index based on quarterly average for years 2010–2014.



Conway’s housing stock includes a sizeable share of duplexes, like these new homes near German Lane in eastern Conway.

Construction Values

The region’s total dollar value of construction activity was down in 2015, following the sawtooth up-and-down pattern it has followed with occasional exceptions over the past two decades. Saline County bucked the trend, however. A large (\$28 million) 612-unit apartment complex, along with the Benton River Center (\$9.3 million) and a Boys and Girls Club (\$6.7 million) kept construction crews busy in Benton, Saline County’s largest city. In fact, Benton’s total construction value of \$117.2 million ranked third in the region behind Little Rock (\$403.7 million) and North Little Rock (\$150.2 million), and ahead of Conway (\$112.9 million).

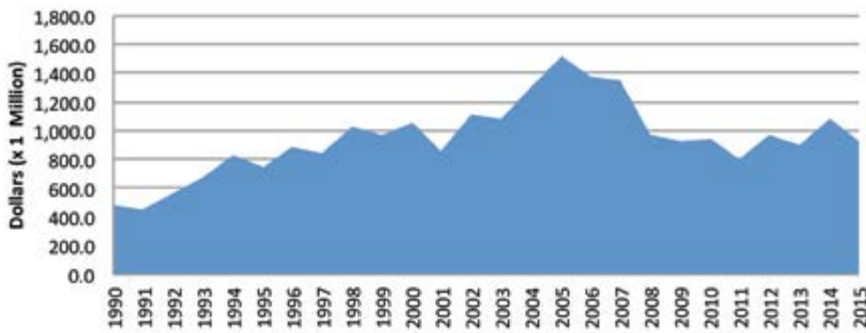
Commercial construction accounted for about 60 percent of total dollar value in the region. New residential construction remained about one-third of the regional total, down from nearly one-half of the total in the years prior to the national housing bust from about 2007–2008 onward. This decline in residential housing investment correlates with a slowdown in single-family housing construction. While multi-family construction has filled some of the gap, the average dollar investment per multi-family unit averages about one-third as much.



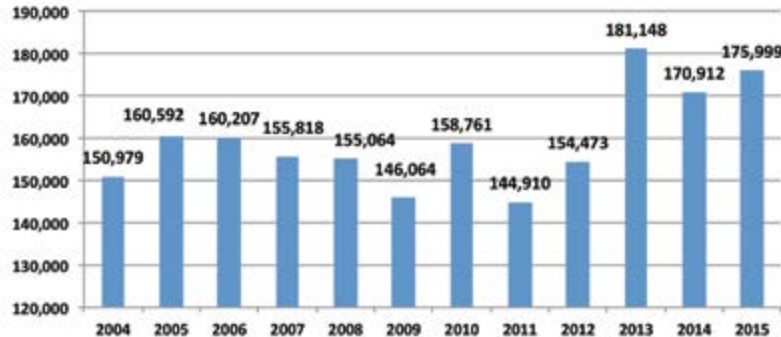
Ironically, although the number of new units under construction has slowed, the average value of single-family units has increased in recent years. As the chart at bottom shows, in 2015 the average new unit had a median permit value of \$175,999, up 11 percent from 2010. With more people living in multi-family and rental units, the market in new single-family units is serving a smaller, wealthier clientele.

While new homes in Central Arkansas are pricier than they used to be, local costs and prices are rising more slowly than the U.S. average. The chart and figures at bottom of page 15 show that by 2015, nearly 46 percent of newly-built U.S. homes cost more than \$300,000, up

Construction Value Trend
LR-NLR-Con MSA 1990–2015 (2015 Dollars)



LR-NLR-Con MSA Median New Home Value by City
2004–2015



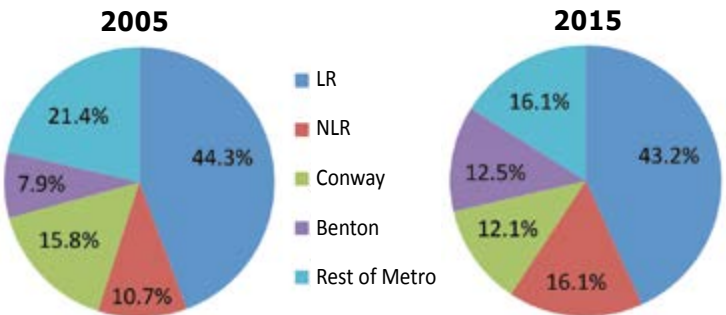
Note that values differ from previous years due to an adjustment in base data (now including to an adjustment in base data Cabot, which began providing value data in 2004).

from just 25 percent in 2010. The local share of newly-built homes valued at over \$300,000 was just 18 percent in 2015, higher than earlier years but less drastically so.

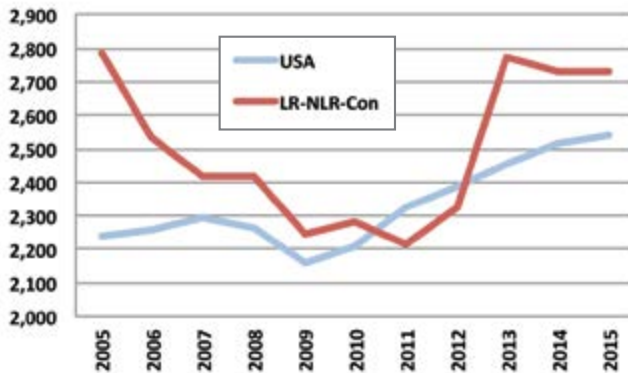
At the same time, the Central Arkansas area housing offers higher square footage than the U.S. average, or more house for the money. Economic trends today are

favoring large metropolitan areas, many of them coastal, with far higher housing costs. Although local prices have risen, national prices have climbed much faster. It looks like the moderate cost of Central Arkansas housing is becoming a competitive regional advantage, at least for those who desire (and can afford) homeownership. **M**

Construction Value by City
LR-NLR-Con MSA 2005 and 2015 (2015 Dollars)

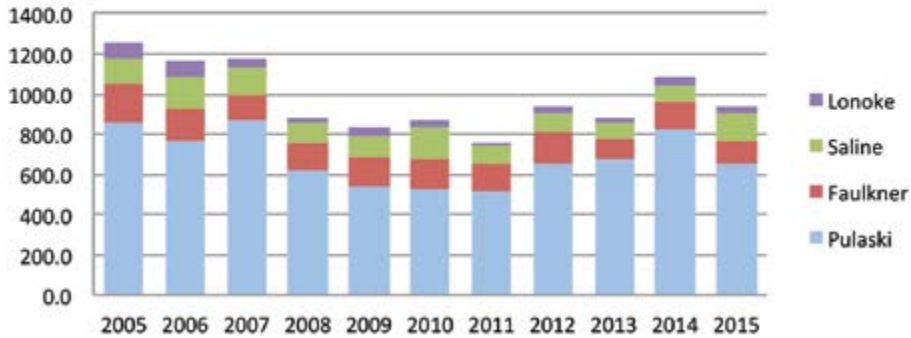


Median Square Footage of New Single-Family Homes 2005–2015

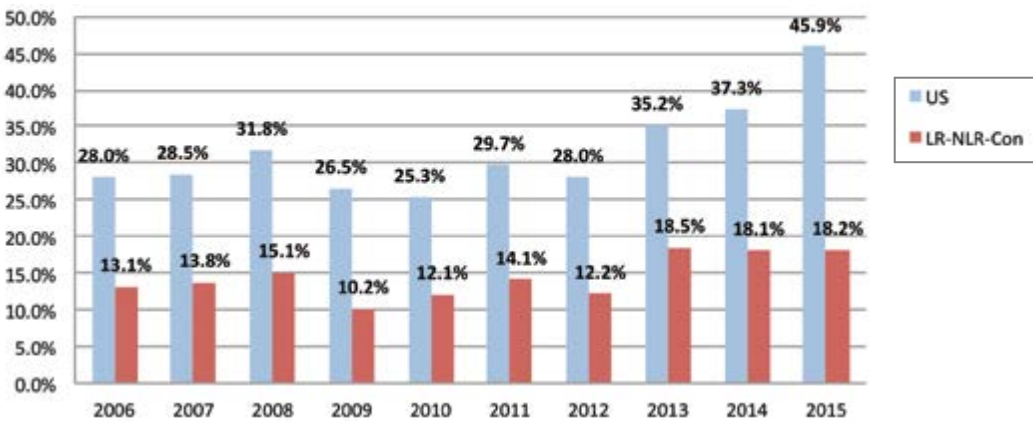


Sources: Median figures for LR, NLR, and Conway only. Maumelle, Benton, Jacksonville also provide square footage data; not recorded here for reasons of data-compiling brevity and consistency over time.

Permit Values by County 2005–2015 (x \$1 Million)



Share of New Homes Valued at \$300,000+

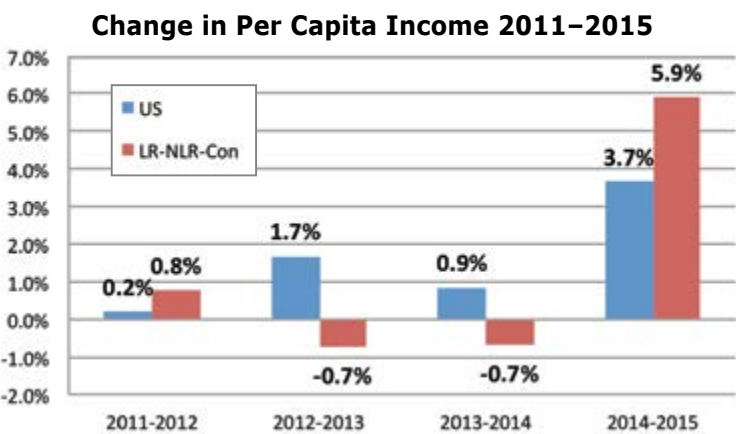


Economic Outlook 2017

The situation of the Central Arkansas Economy might be summarized as “low pain, low gain.” The regional unemployment rate is among the lowest in the country. Labor force participation has risen from its trough in 2014, gaining for two years straight. Local residents who want a job, it seems, can have one. Job growth remains slower than average, though. From January–October, 2016 local jobs grew by 2.3 percent, against 2.4 percent for the state and 3.4 percent for the U.S.A. Local income growth is picking up. The latest release from the American Community Survey (ACS) showed local per capita income reversed its recent decline to gain 5.9 percent from 2014 to 2015, well ahead of the U.S. gain of 3.7 percent.¹

Single-family housing continues growing tepidly, with a focus on high-end homes. Multi-family faces stronger prospects. While the volume of local multi-family building-permit activity was low through 2016, several large projects are likely to begin construction soon. This includes one near North Hills and McCain Boulevards in North Little Rock that will begin with about 250 units during 2017, eventually building out to 650 or more by 2020. A smaller 48-unit project was recently announced in the Aldersgate area of Little Rock. Large new multi-family projects may be announced near Chenal Valley in Little Rock during 2017. Multi-family construction remains possible east of the Clinton Library near the river front as well.

Reviewing the local economy, some sectors are doing well, and others are lagging. The analysis on p. 11 showed



Source: American Community Survey. All figures adjusted to 2015 dollars.

¹American Community Survey 2015, per capita income \$27,288 for the Little Rock-North Little Rock-Conway MSA, with a margin of error of +/- \$802. The figures are based on sampling, and should be used with care.

that, although it is a smaller share of the economy than the U.S. average, local manufacturing has increased output faster than it has grown jobs, a sign of climbing productivity. While Central Arkansas has lost numerous traditional manufacturing firms over the past two decades, many remaining firms are thriving. A recent decision by Tianyuan, a Chinese garment-maker, to open a plant in Little Rock during 2017 is an encouraging indicator. Anecdotal evidence suggests that a rise in protectionist sentiment in the U.S. has encouraged foreign firms to invest in U.S. locations. Not all outcomes of changing U.S. trade policies will be positive for local manufacturers, however, and a likely continuing rise in the dollar will present an exporting challenge.

The region’s large health care / hospital sector faces changing prospects, but policy specifics cannot be foreseen at present. Local retailing has performed well in recent years but also faces a cloudy prospect, due to a very different circumstance: the relentless and continuing rise in Internet sales.

The local tech sector, which has grown only slowly since the late 1990s, might be poised for dramatic growth. Much of this can be attributed to the region’s outsized footprint in cyber-security. Cyber security is an odd field, which defies much of the NAICS industry coding. A fair amount of cyber security work is scattered across the industry groups, including business/professional services, financial services, management, and even health care. There is an opportunity for local educational institutions to enhance their partnerships with the region’s budding cyber-security operations. On-the-job experience is vital in information security, and any economic development efforts must recognize the sector’s informal qualities. The list of firms moving into Little Rock’s Tech Park, with an official opening planned for early 2017, demonstrates the local cyber security presence. The Tech Park will offer an environment of creative exchange and innovation, set in a reviving downtown with top-notch art, entertainment and recreation opportunities. The Venture Center exemplifies a new focus on business incubation with promising future prospects.

Quality of life is an important factor in attracting “tech” talent. While Central Arkansas has a share of high-quality urban environments, it will never be able to outdo the nation’s larger urban areas for cosmopolitan sophistication. Instead, the Natural State has advantages

of its own, a combination of outdoor recreation and sports opportunities on the one hand and a mix of livable and affordable urban and suburban lifestyles on the other. **M**

Statistical Supplement

The figures below were gathered during research for this edition of the *MetroTrends Economic Review and Outlook*. They are provided for hard-core data users, to encourage deeper understanding of the local economy, or as a beginning for further research. Don’t hesitate to contact Metroplan with questions.

The table below gives detail on Information Technology (IT) occupations in the Little Rock-North Little Rock-Conway Metropolitan Statistical Area. The figures represent jobs by *occupation*, not industry. The codes at left are from the U.S. Bureau of Labor Statistics, which makes additional information available at its O-Net site of occupational data, at <http://onetonline.org>. As you can see, there were about 12,260 IT jobs in the region in

2015. This amounts to a local Location Quotient (LQ) of about 1.20, meaning the region has an above-average share of about 1.2 jobs in IT fields for every one job at the national level. The LQ for Information Security Analysts is 8.53, the highest among all U.S. metros. The region also ranks above average in Network and Computer System Administrators, Database Administrators, and several other fields. It lags the U.S. average in software and web developers, however.

The table at bottom compares total Information Security Analyst jobs in the state of Arkansas against the U.S. average. Arkansas ranks above average in this field, and is projected to see faster proportional growth in job sector 15-1122 than the national average. **M**

LR-NLR-Conway IT Occupations 2015

OCC_CODE	OCC_TITLE	Employment	LQ
11-3021	Computer and Information Systems Managers	1,160	1.39
15-1121	Computer Systems Analysts	1,850	1.36
15-1122	Information Security Analysts	1,850	8.53
15-1131	Computer Programmers	970	1.37
15-1132	Software Developers, Applications	580	0.32
15-1133	Software Developers, Systems Software	740	0.77
15-1134	Web Developers	230	0.73
15-1141	Database Administrators	390	1.42
15-1142	Network and Computer Systems Administrators	1,680	1.84
15-1143	Computer Network Architects	300	0.84
15-1151	Computer User Support Specialists	1,690	1.18
15-1152	Computer Network Support Specialists	490	1.09
15-1199	Computer Occupations, All Other	330	0.60
Total IT		12,260	1.20
Total Employment		336,780	

Source: U.S. Bureau of Labor Statistics.

Employment by Occupation—Information Security Analysts
2014 Statistics with Projections to 2024
Occupation Code 15-1122

	Employment		Change 2014-2024	Annual Job Openings 2014-24
	2014	2024		
United States	82,900	97,700	17.9%	2,550
Arkansas	1,460	1,870	28.1%	60

Source: U.S. Bureau of Labor Statistics, O-Net online: <http://www.onetonline.org>

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