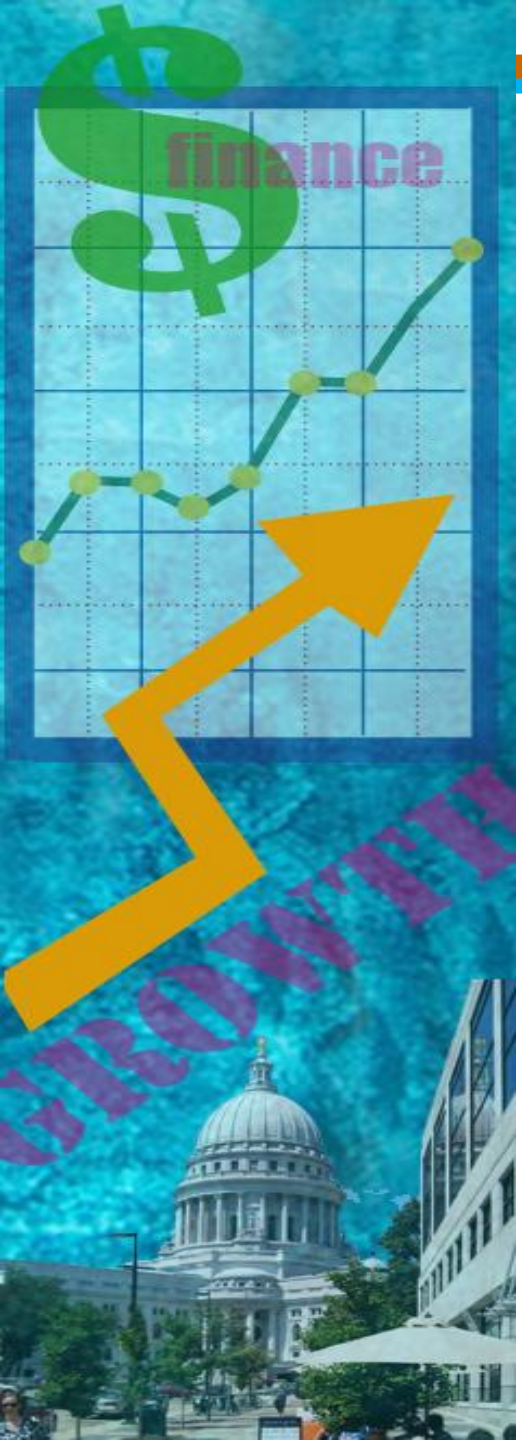


Economic Dashboard Report

Madison

As of: February 26, 2010

U.S. current = **9.7%**

WI current = **8.3%**

8 county region-THRIVE current = **7.3%**

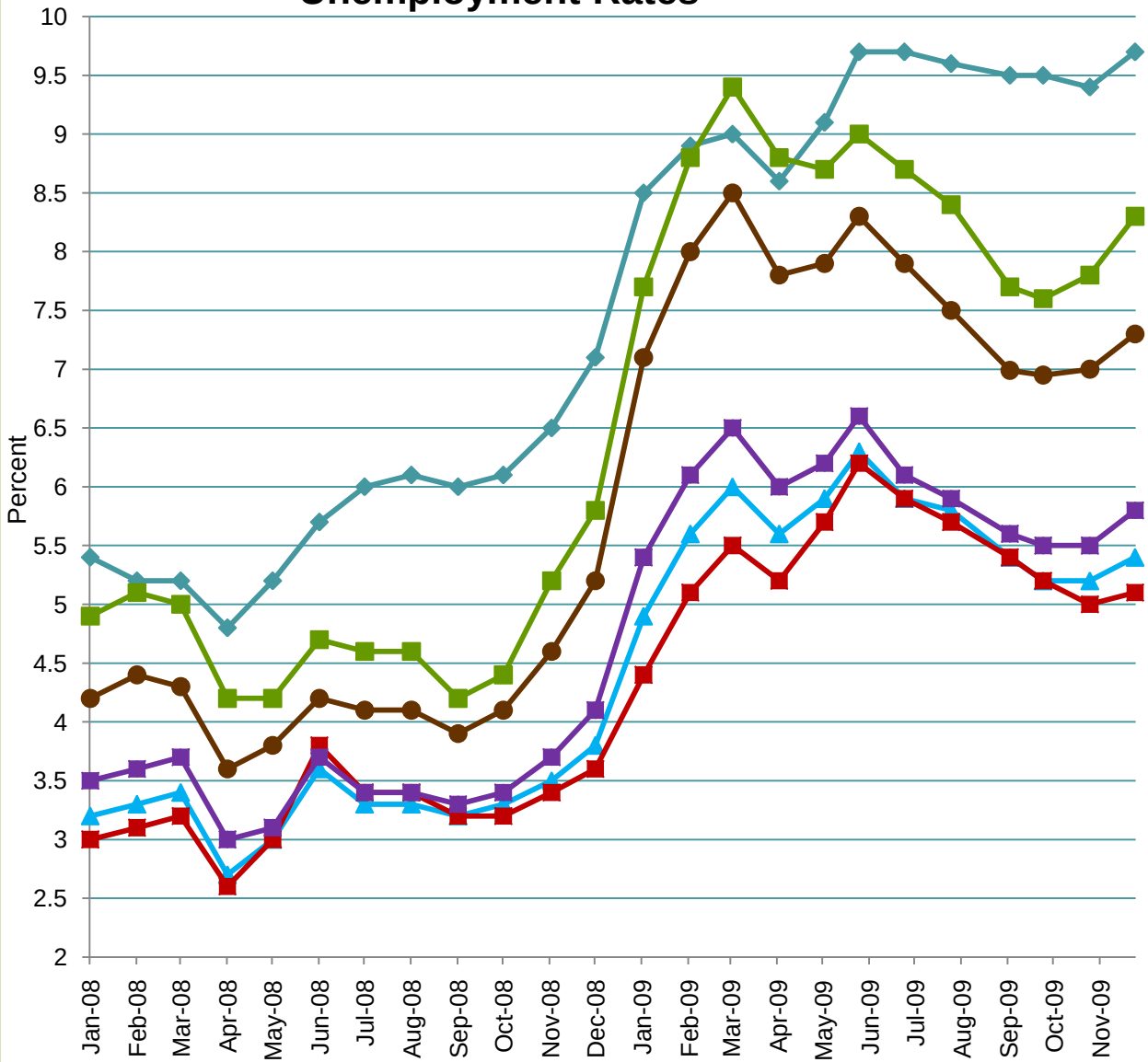
MSA current = **5.8%**

DANE current = **5.4%**

Madison

December 2009 UNEMPLOYMENT

Unemployment Rates

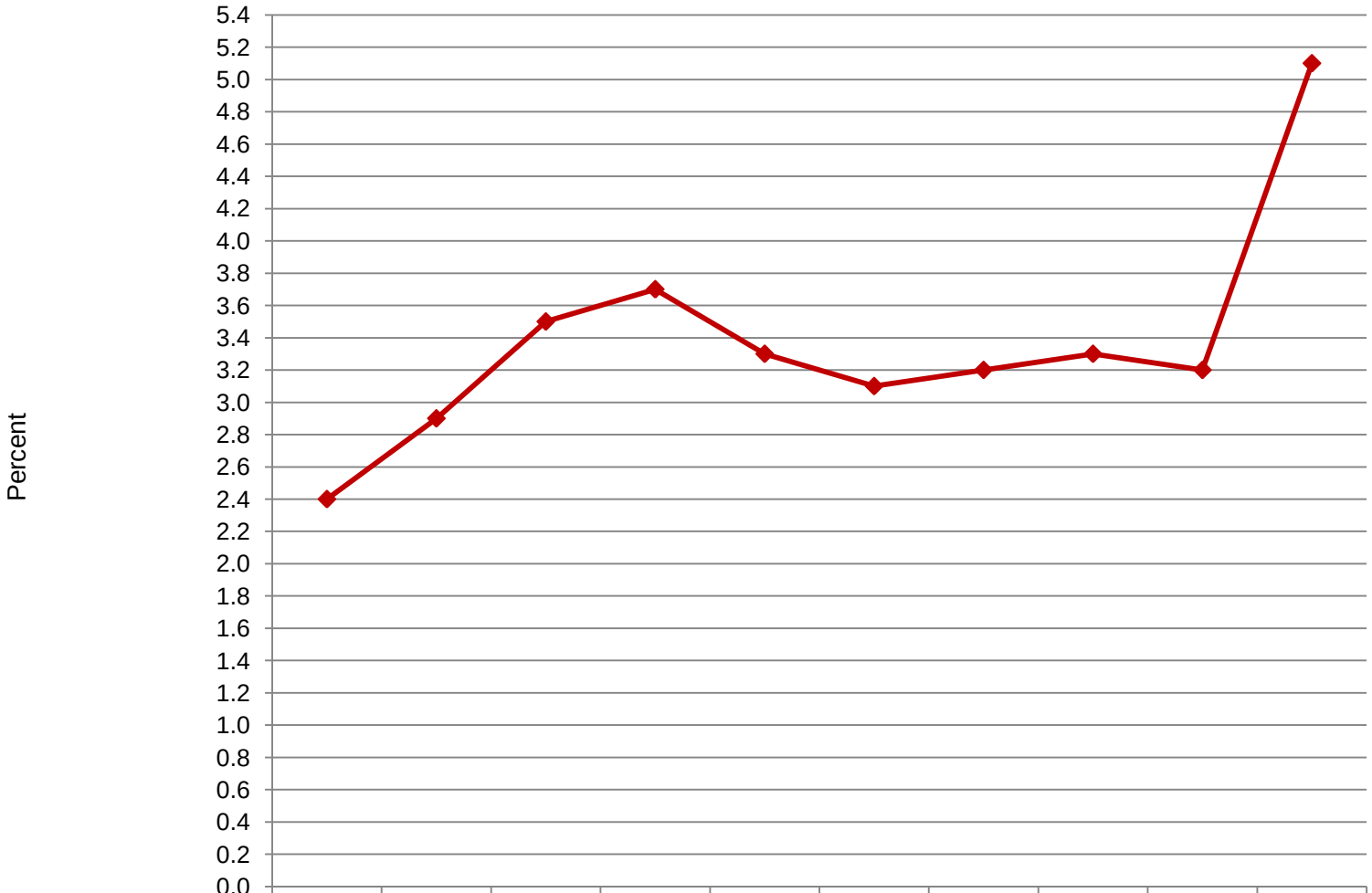


CITY OF MADISON current 5.1%

- United States
- Wisconsin
- Dane County
- City of Madison
- Madison MSA
- THRIVE

Source: Wis. Dept of Workforce Development, THRIVE

City of Madison Unemployment Rate (U-3)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Unemployment Rate	2.4	2.9	3.5	3.7	3.3	3.1	3.2	3.3	3.2	5.1

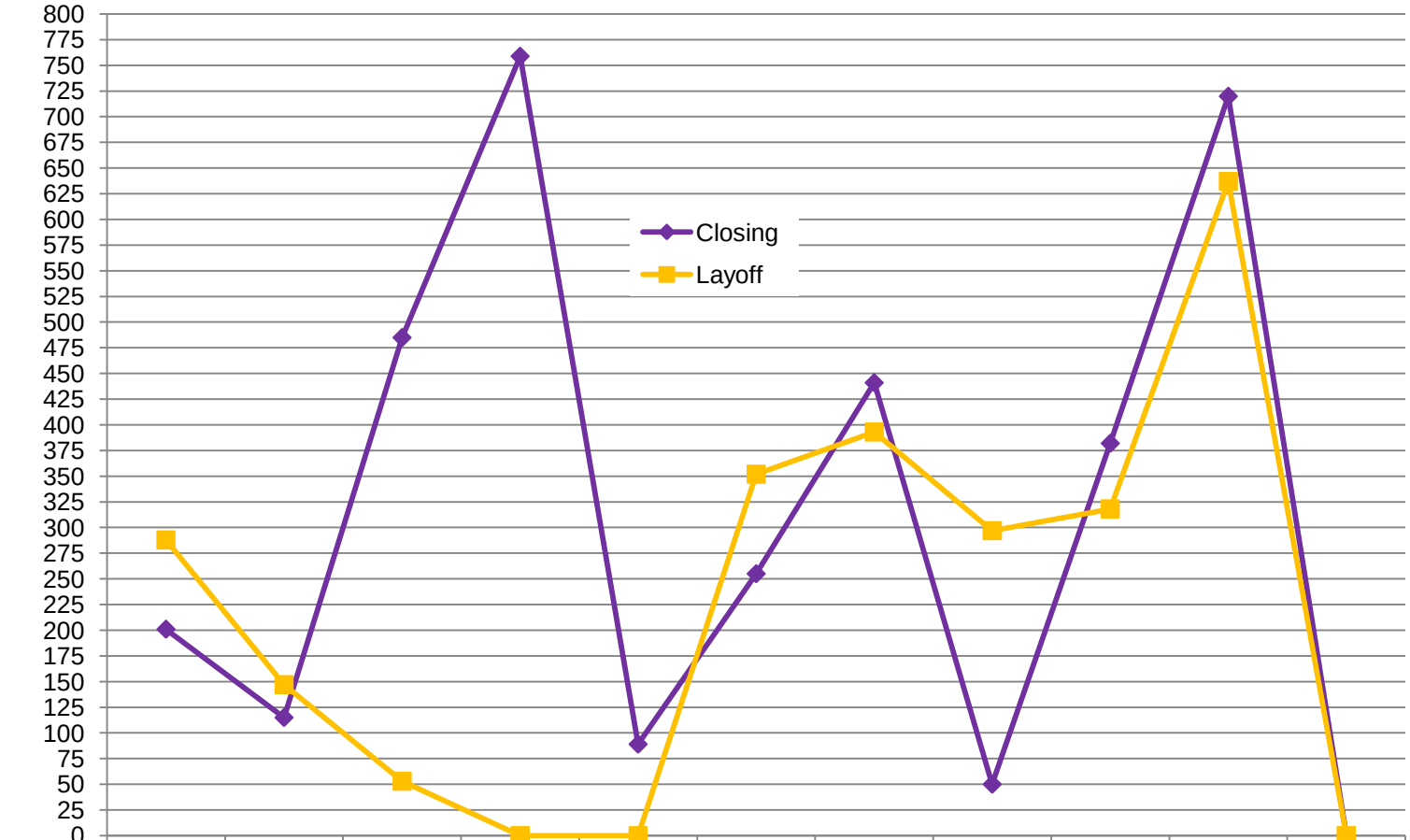
Source: Wisconsin Dept of Workforce Development

City of Madison Unemployed People (U3)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Unemployed People	3,191	3,903	4,819	5,051	4,656	4,426	4,536	4,751	4,622	7,173

Source: Wisconsin Dept of Workforce Development

City of Madison - Number of Jobs Eliminated Due to Plant Closings and Mass Layoff Notices

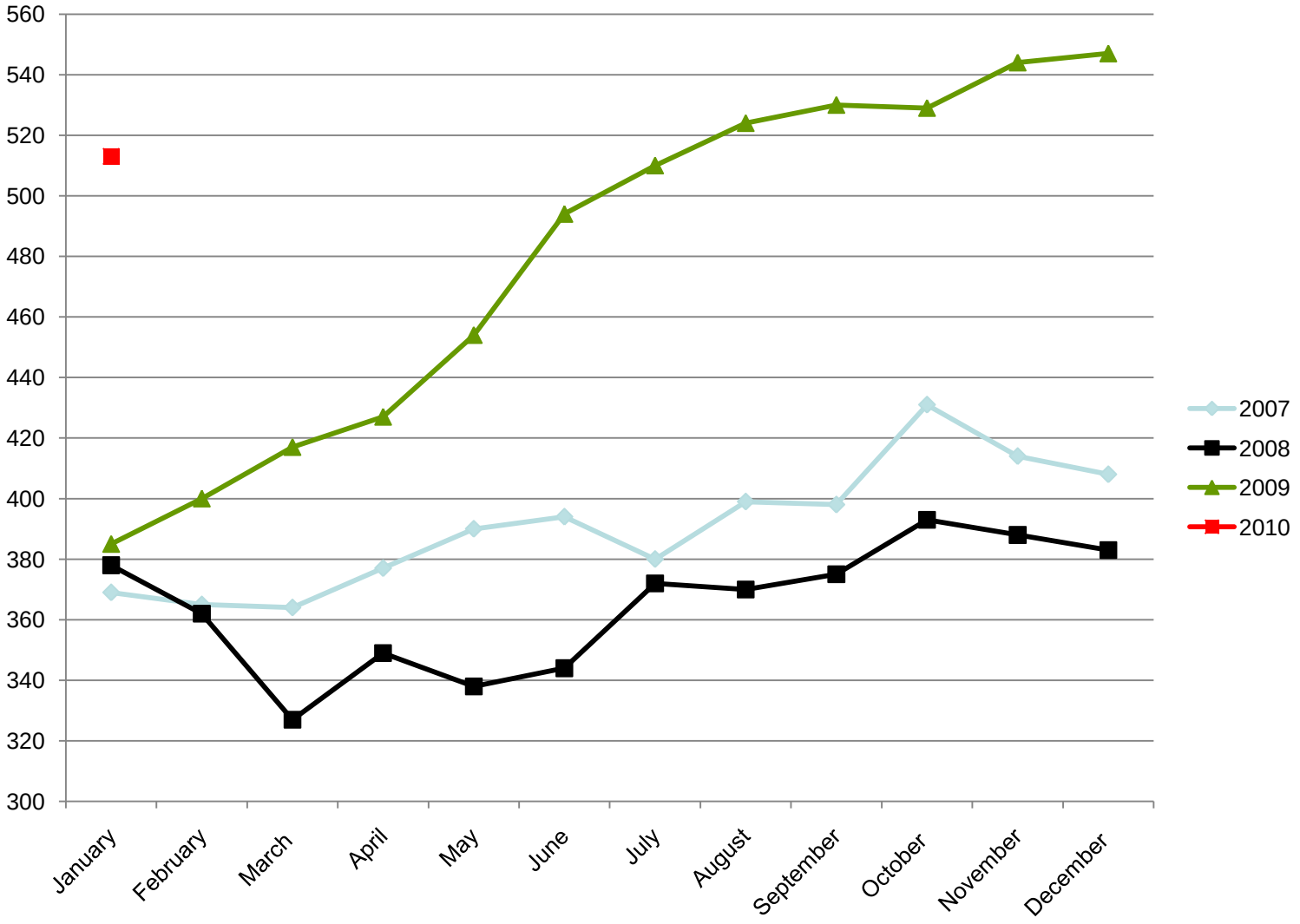


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Closing	201	115	485	759	89	255	441	50	382	720	0
Layoff	288	147	53	0	0	352	393	297	318	637	0

(Jan-Feb. 19th)

Source: Wisconsin Dept of Workforce Development

Dane County W2 Caseload (Total Caseload)

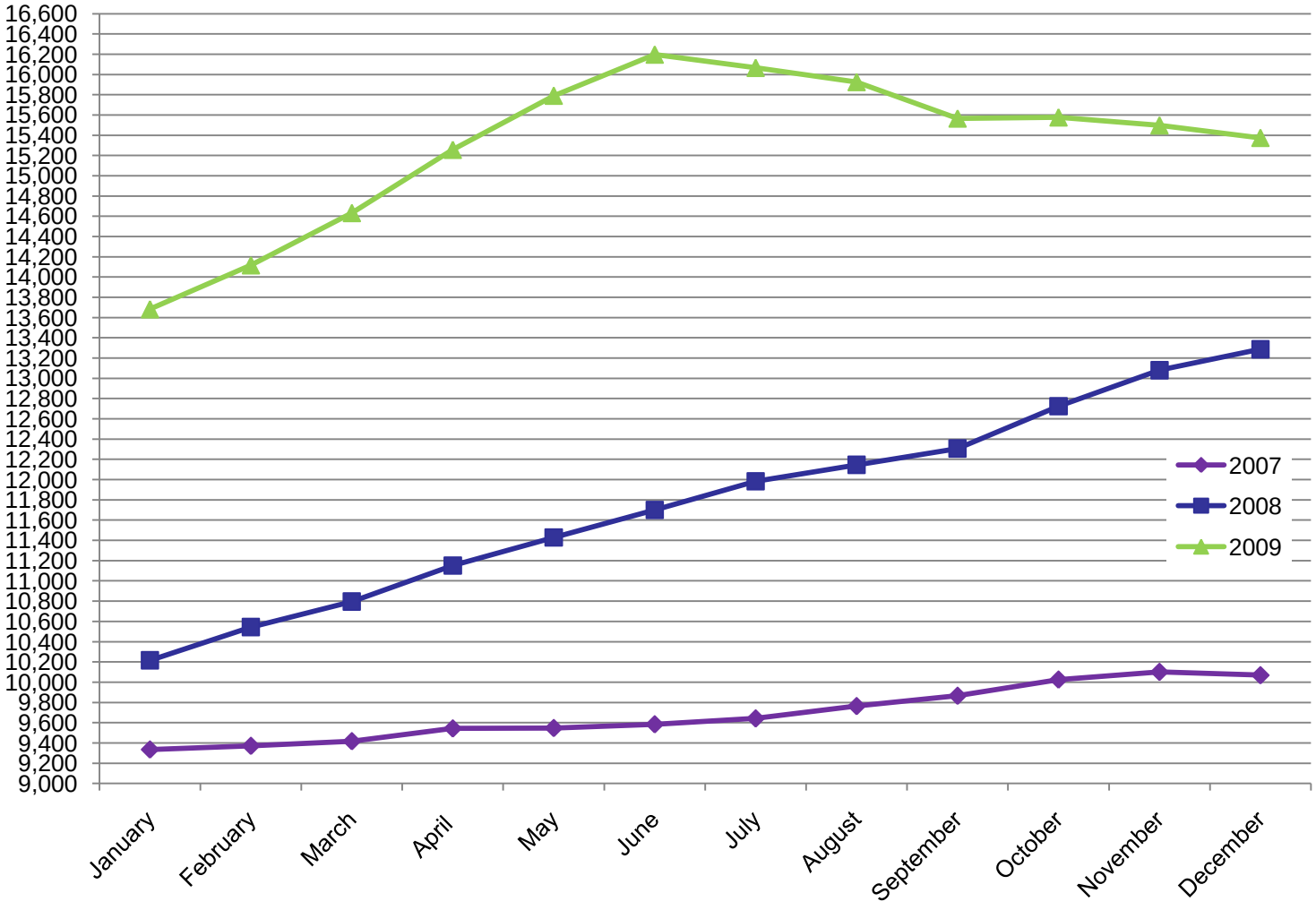


Source: State of Wisconsin

Madison

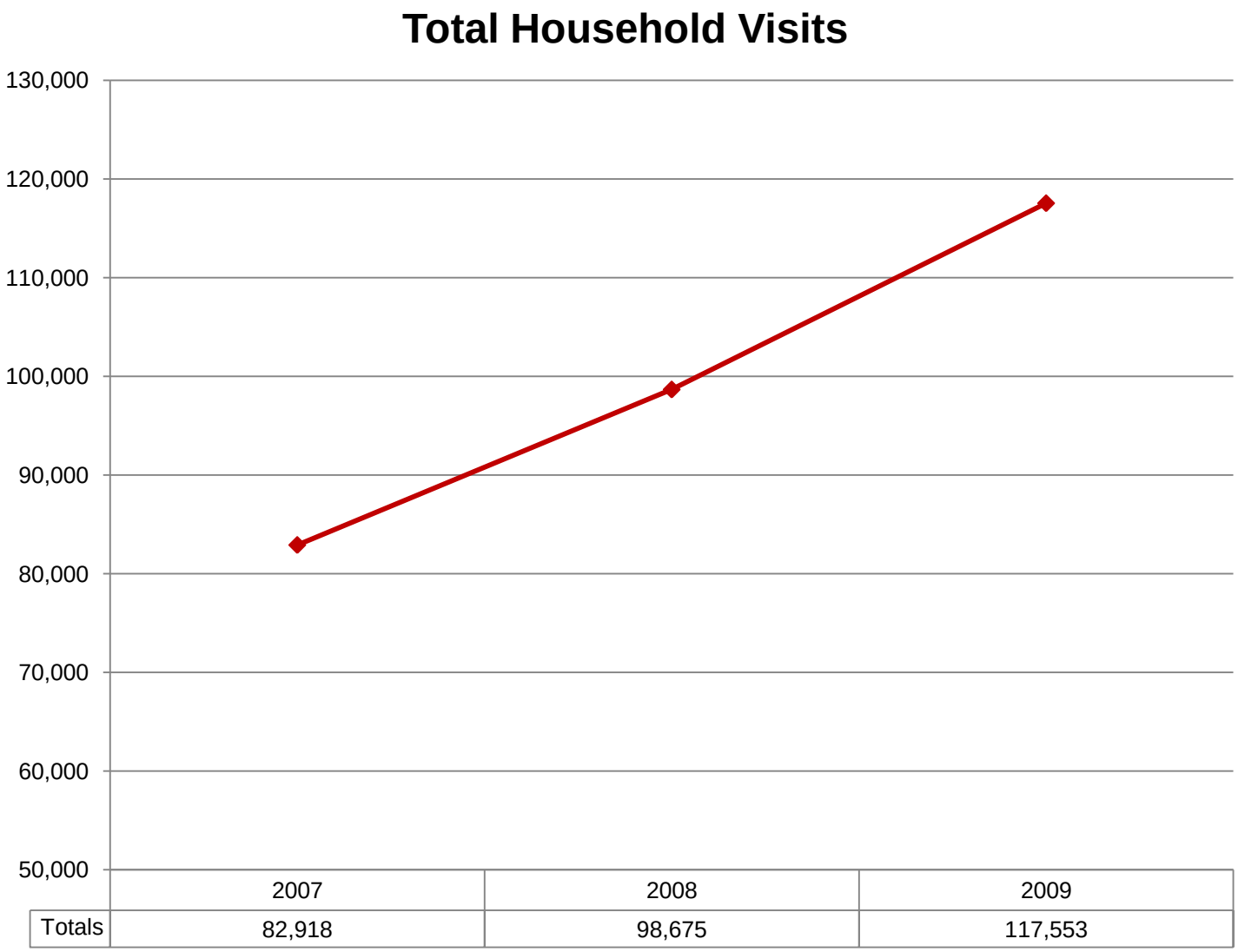
Dane County Food Stamps(Food Share)

Unduplicated Recipients



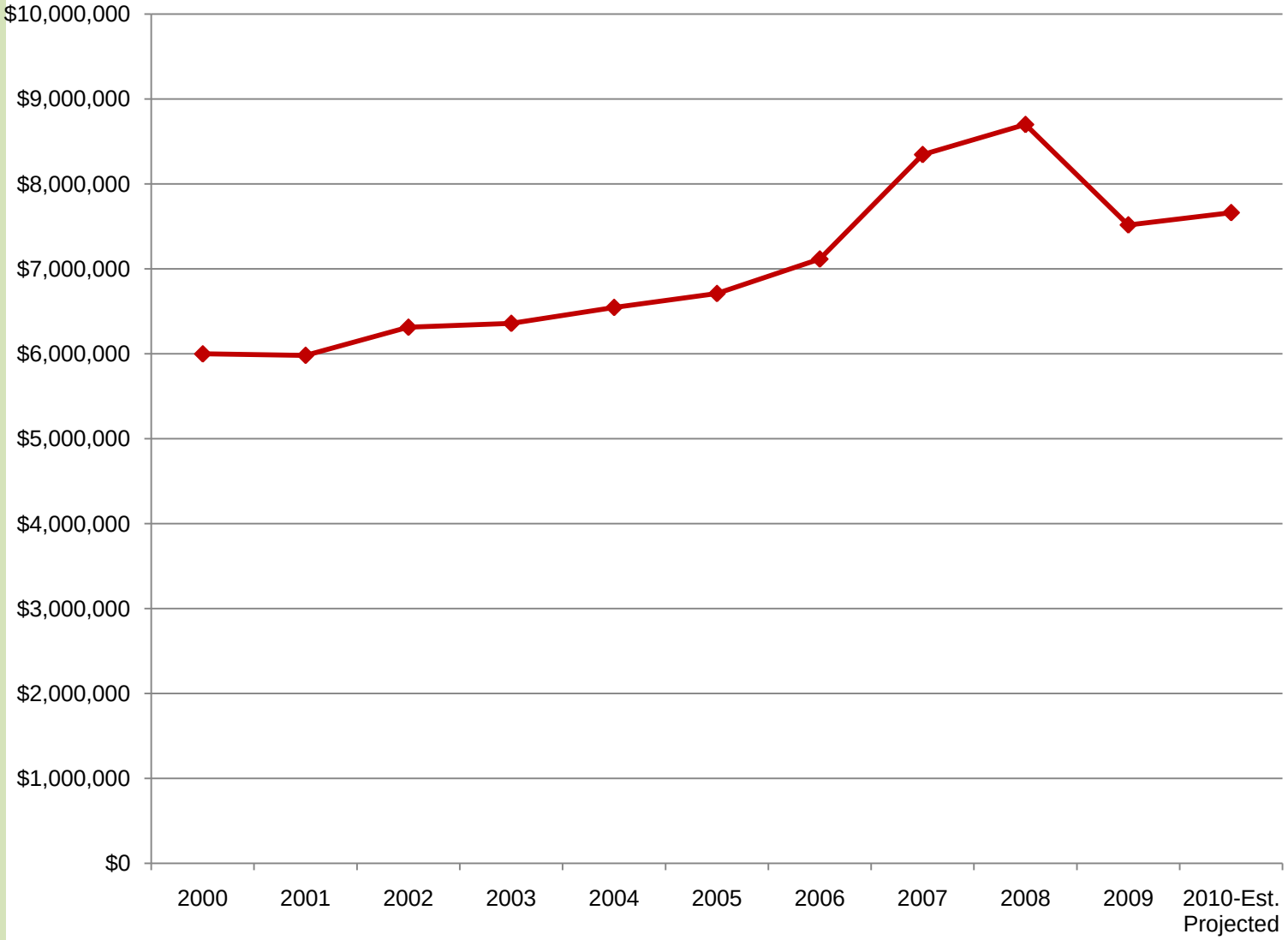
Madison

Dane County Food Pantry Visits



	2007	2008	2009
Totals	82,918	98,675	117,553

City of Madison Hotel Tax Revenues



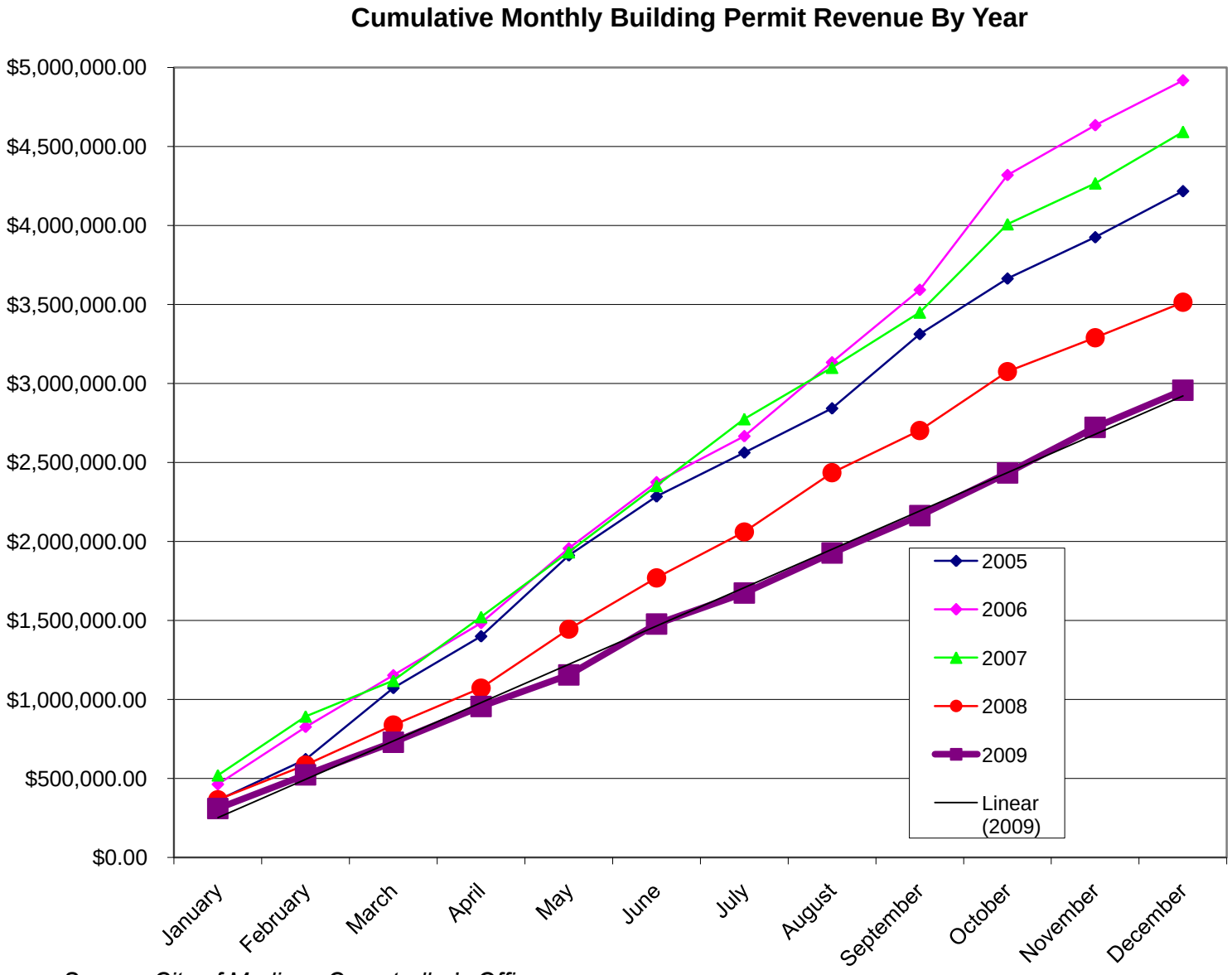
Source: City of Madison Treasurer's Office & City of Madison 2010 Adopted Budget

Total Intergovernmental Revenues

* = actual, all others are adopted

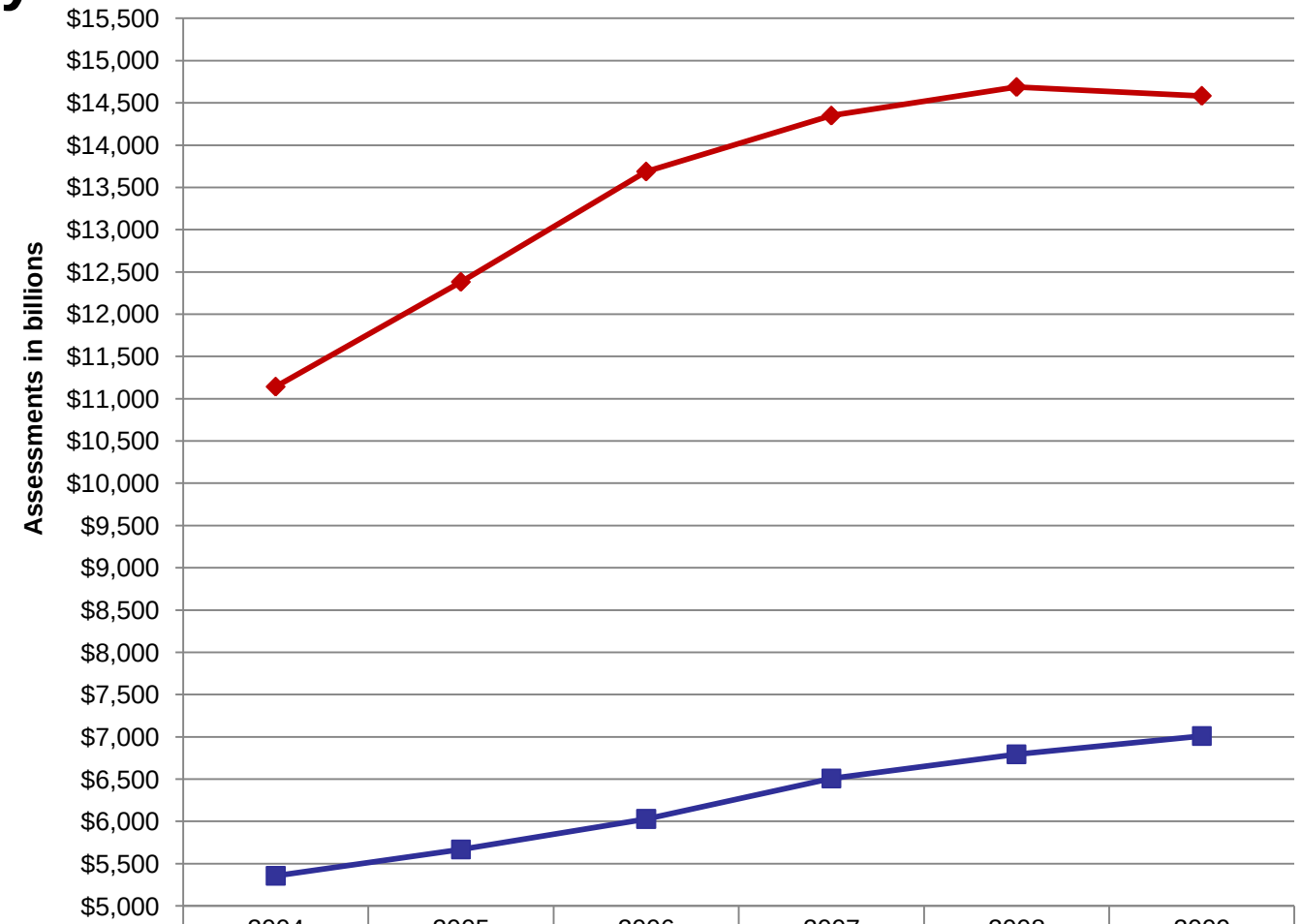
Source: City of Madison Adopted Budgets

City of Madison Total Permit Fees



Source: City of Madison Comptroller's Office

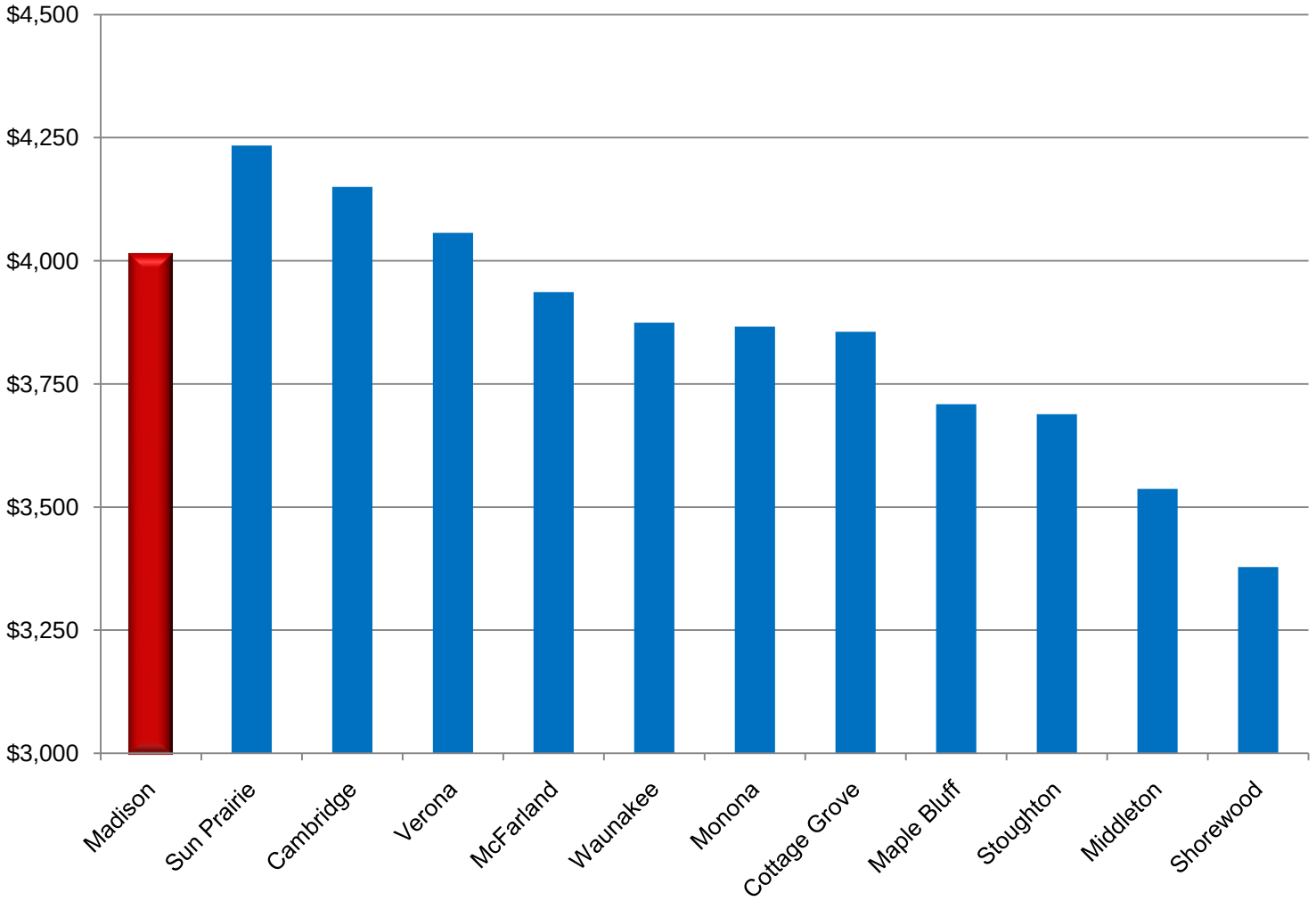
City of Madison Tax Base



	2004	2005	2006	2007	2008	2009
Residential Assmts	$11,141	$12,381	$13,687	$14,349	$14,687	$14,583
Commercial Assmts	$5,357	$5,669	6,029	$6,507	$6,793	$7,010
Agriculture Assmts	$2	$3	$13	$10	$13	$16

Source: City of Madison Assessor's Office

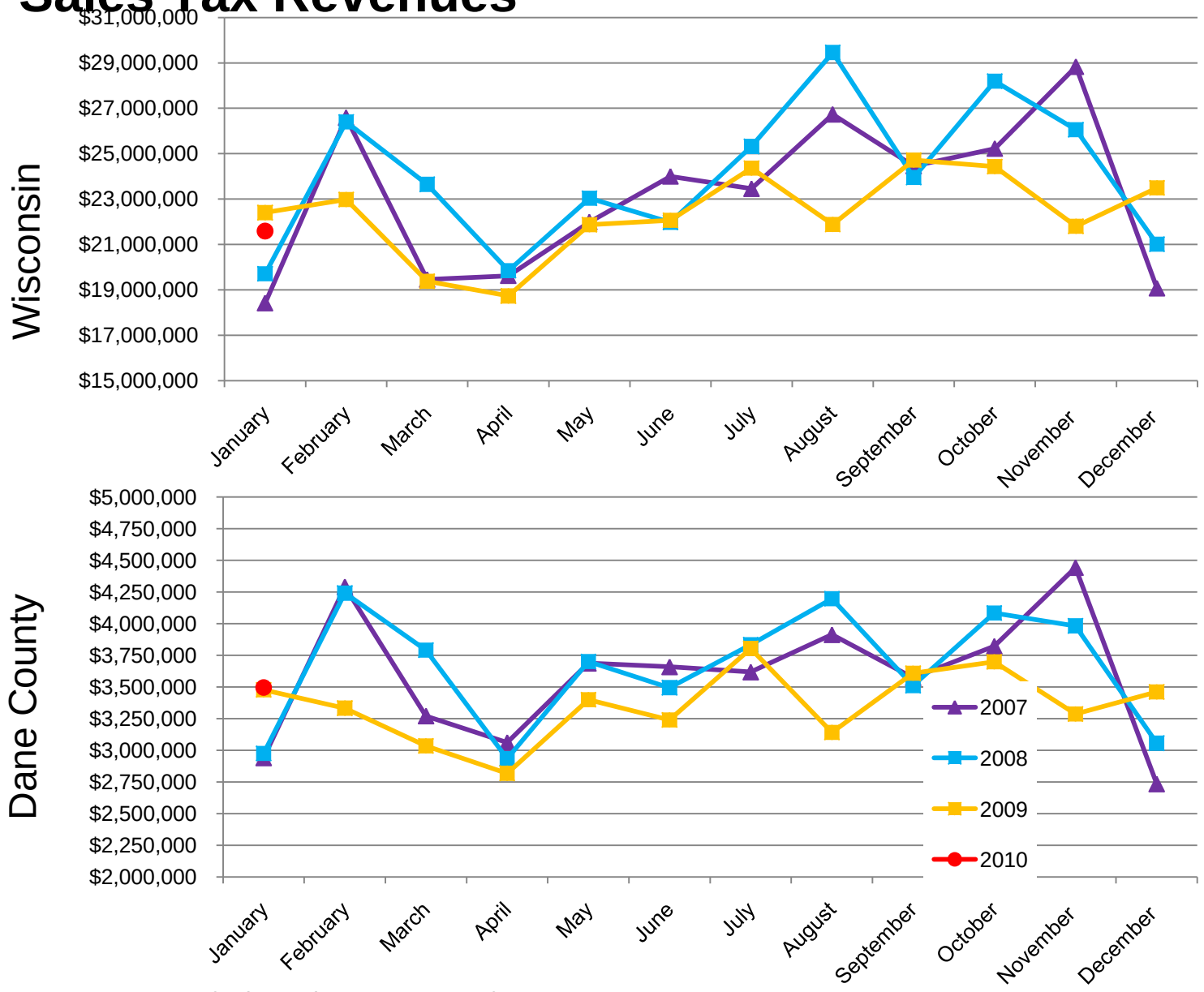
2009 Property Tax 0n a $200,000 Home



Source: 2010 Book of Business

Madison

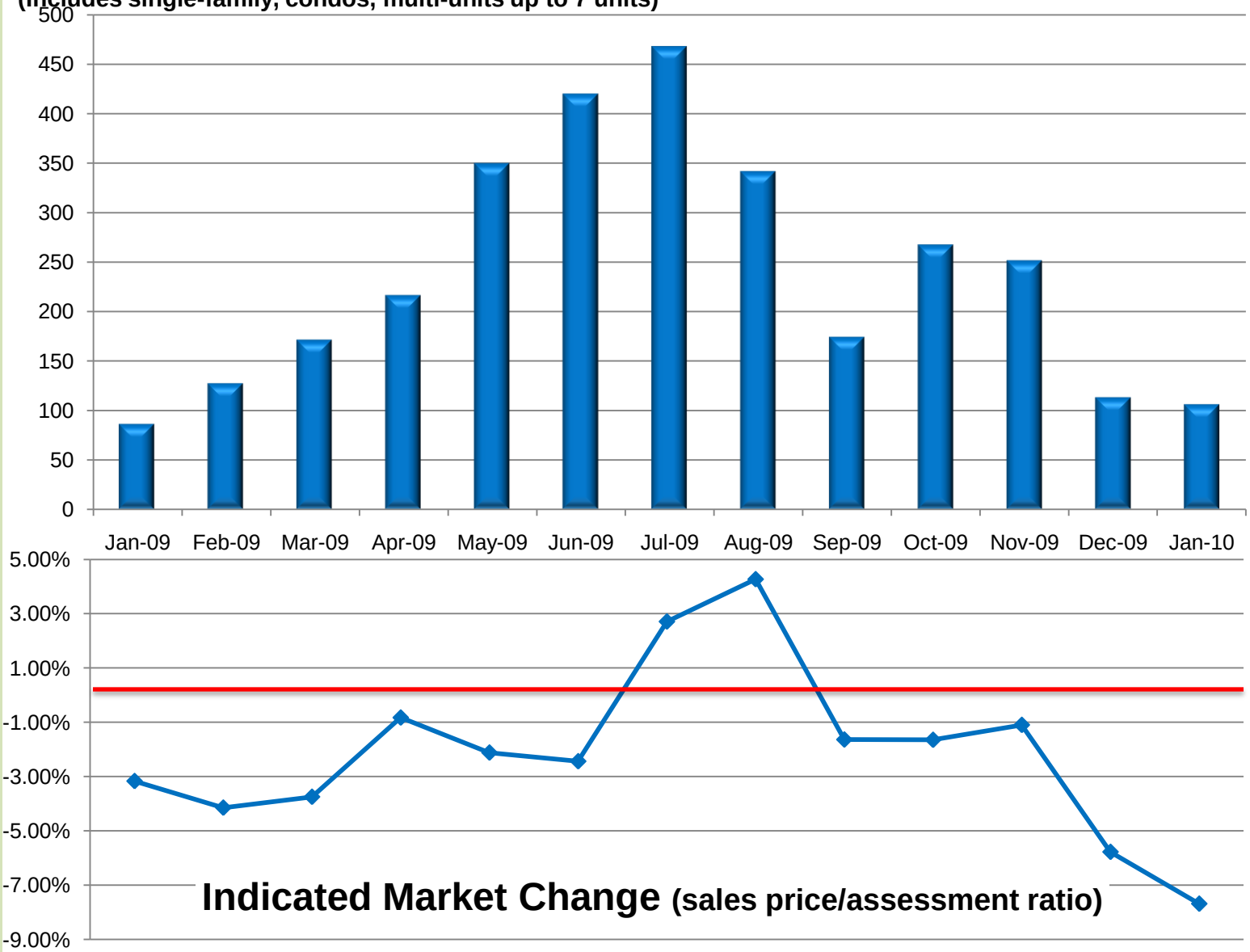
Sales Tax Revenues



Source: State of Wisconsin, Department of Revenue

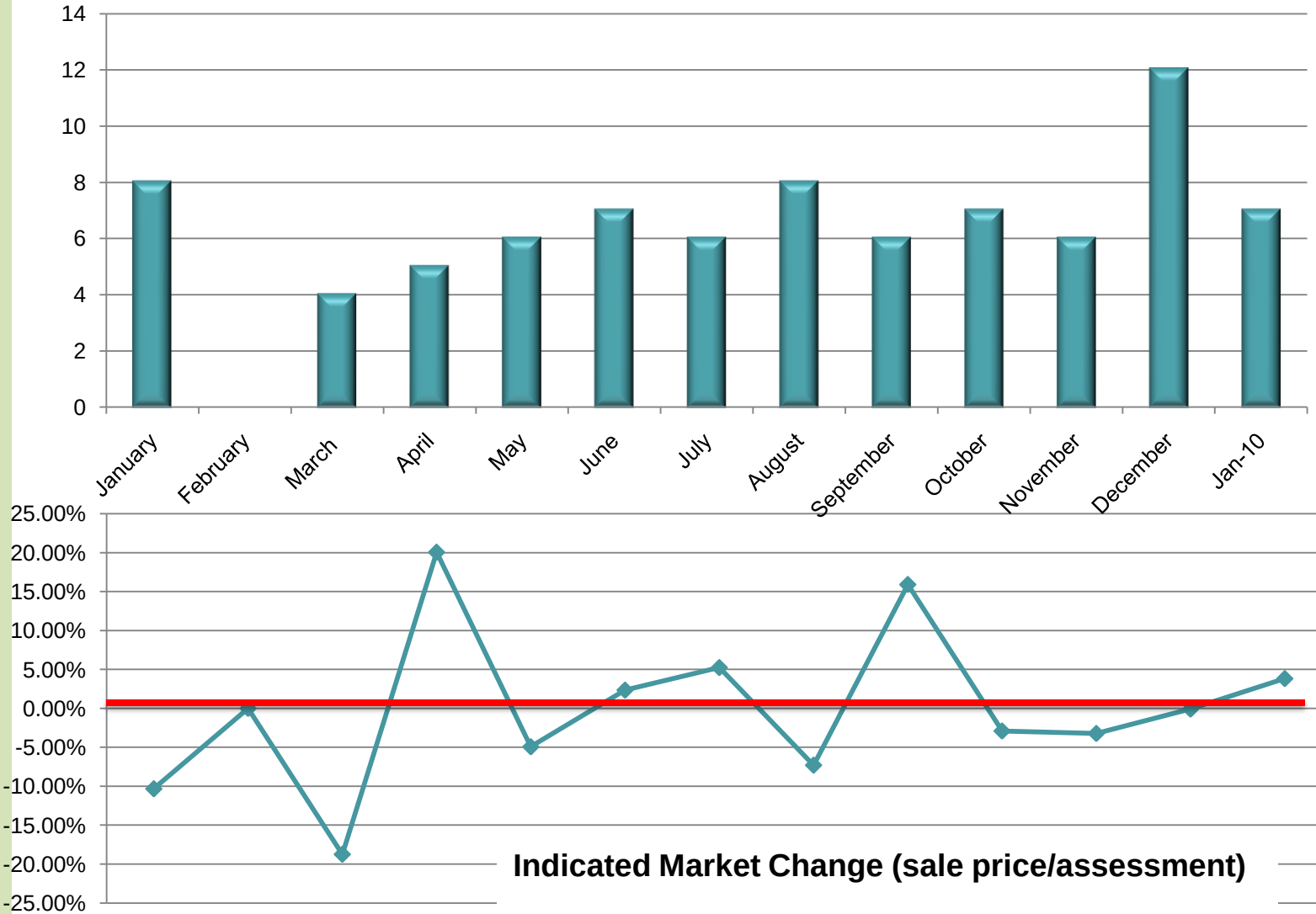
City of Madison Valid Residential Sales

(Includes single-family, condos, multi-units up to 7 units)



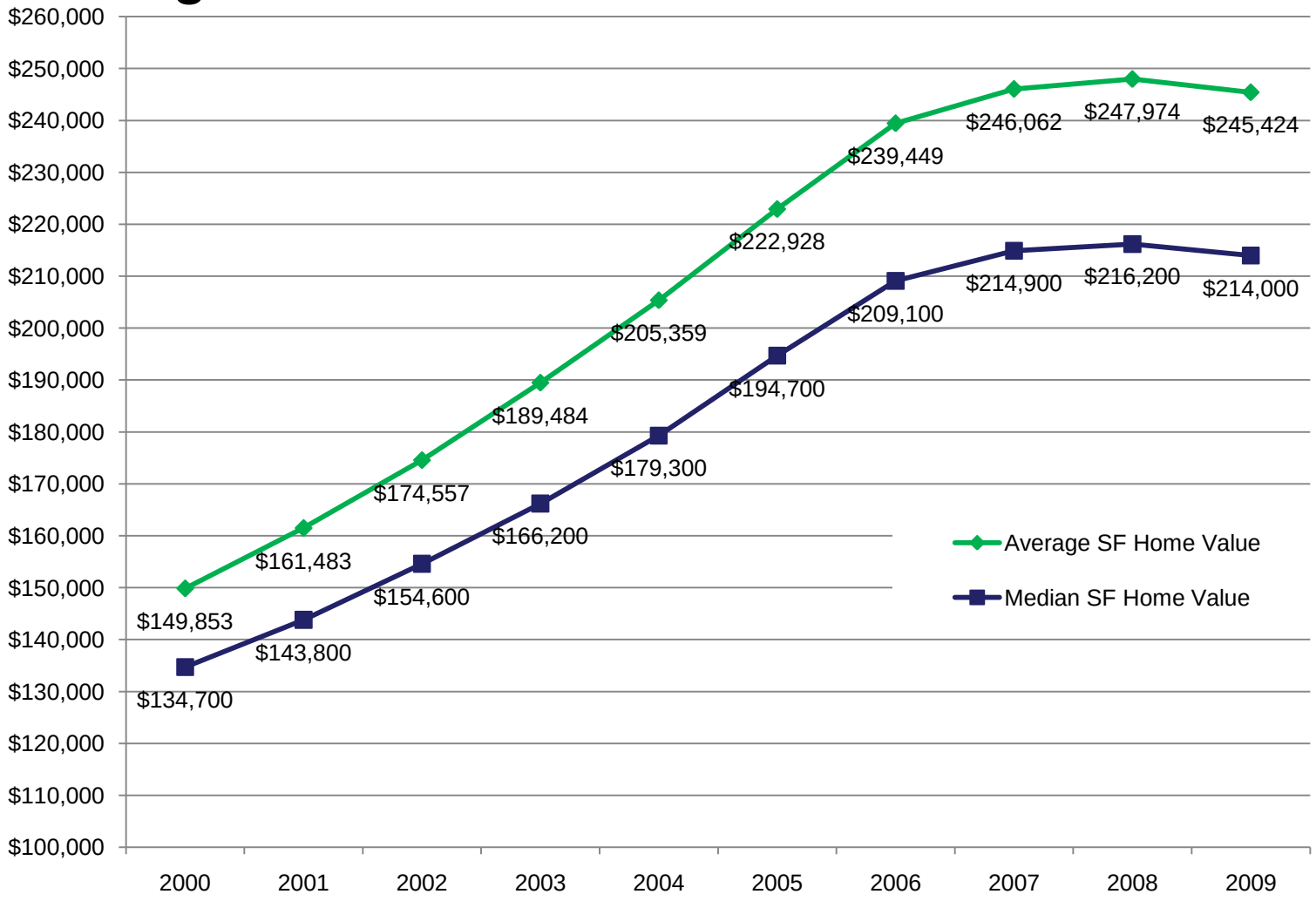
Source: City of Madison Assessor's Office

City of Madison Valid Commercial Property Sales, 2009-2010 does not include manufacturing property



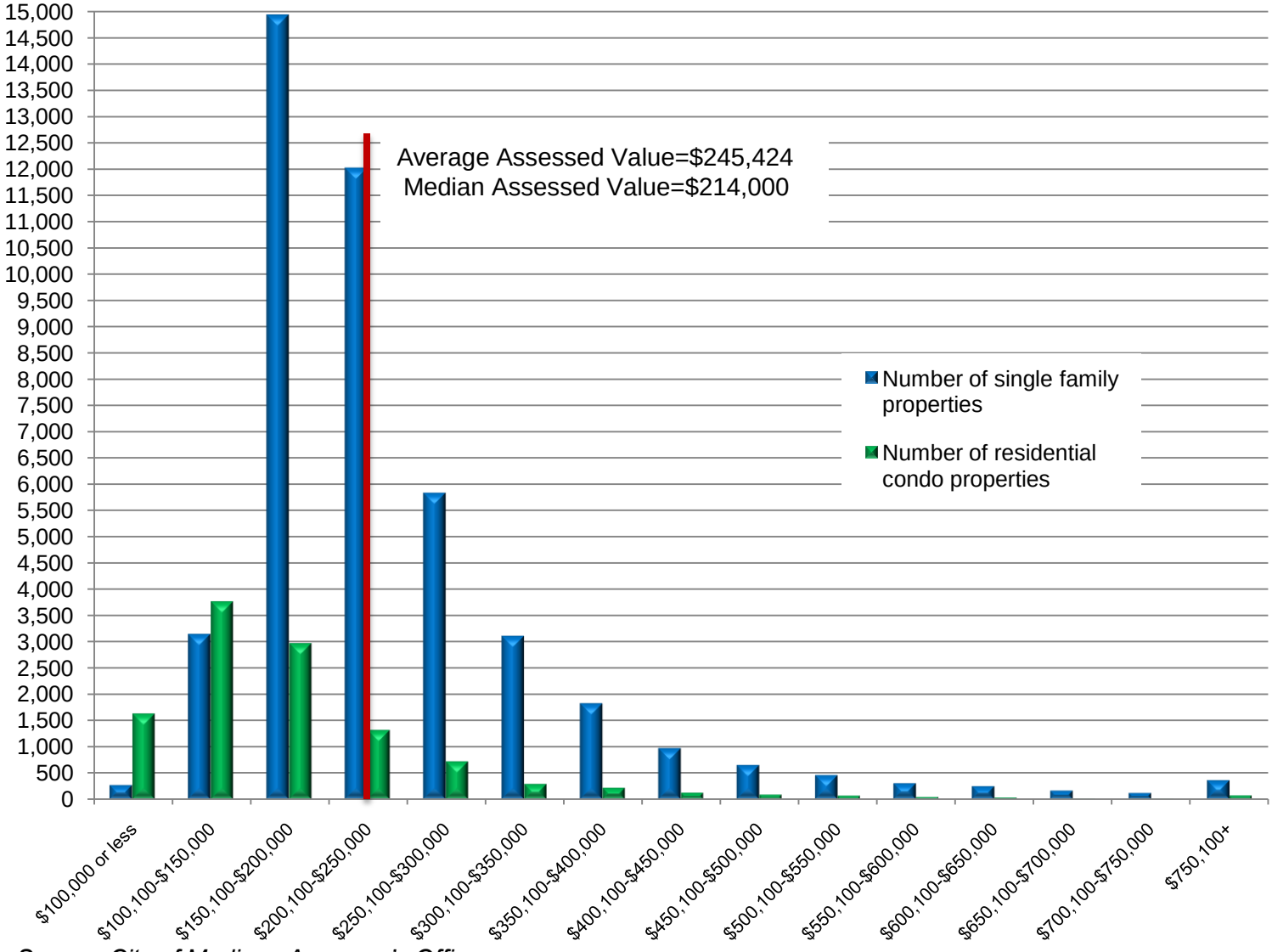
Source: *City of Madison Assessor's Office*

City of Madison Single Family Home- Average and Median Value



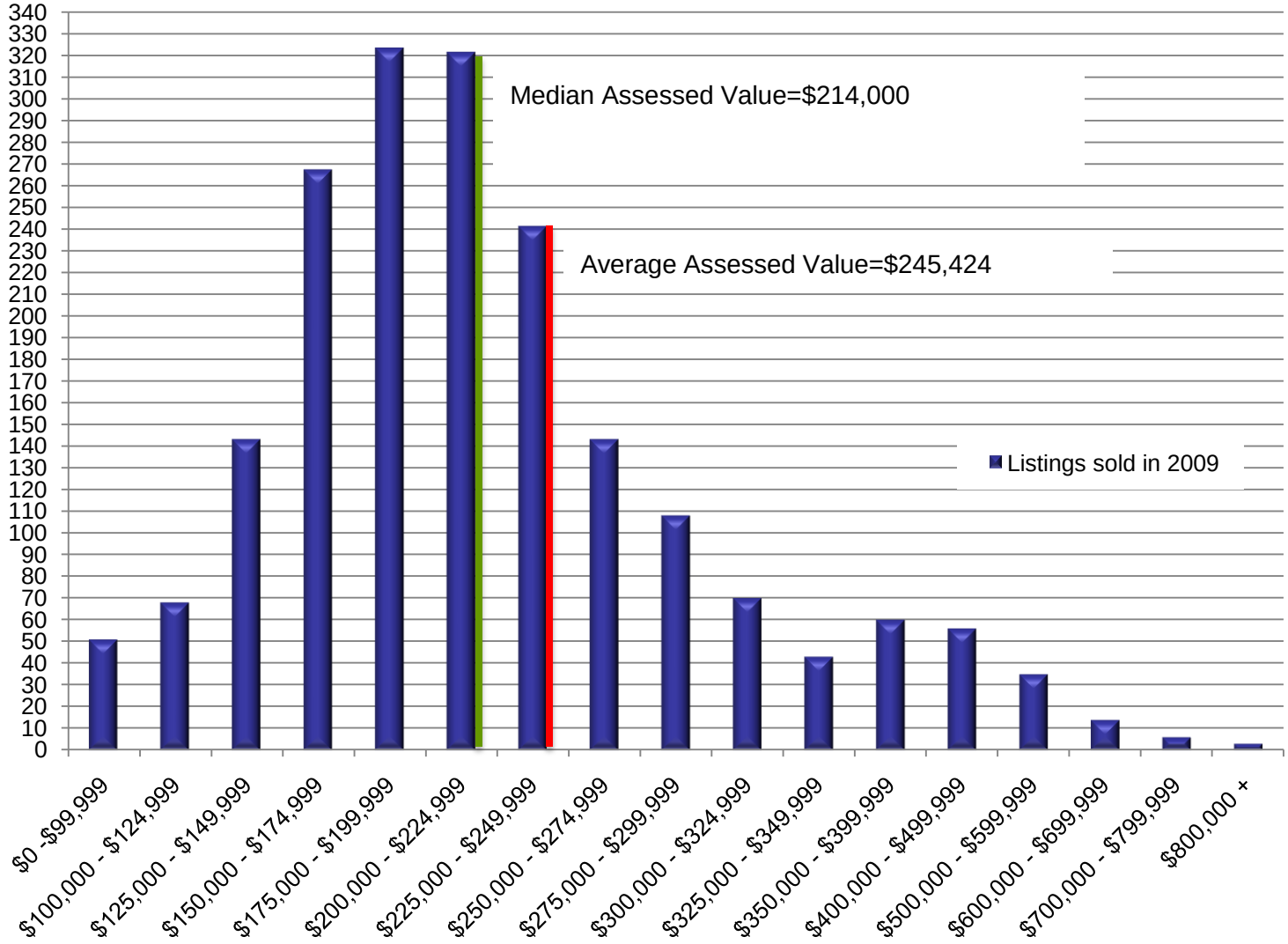
Source: City of Madison Assessor's Office

City of Madison Number of Residential Properties by 2009 Assessed Value

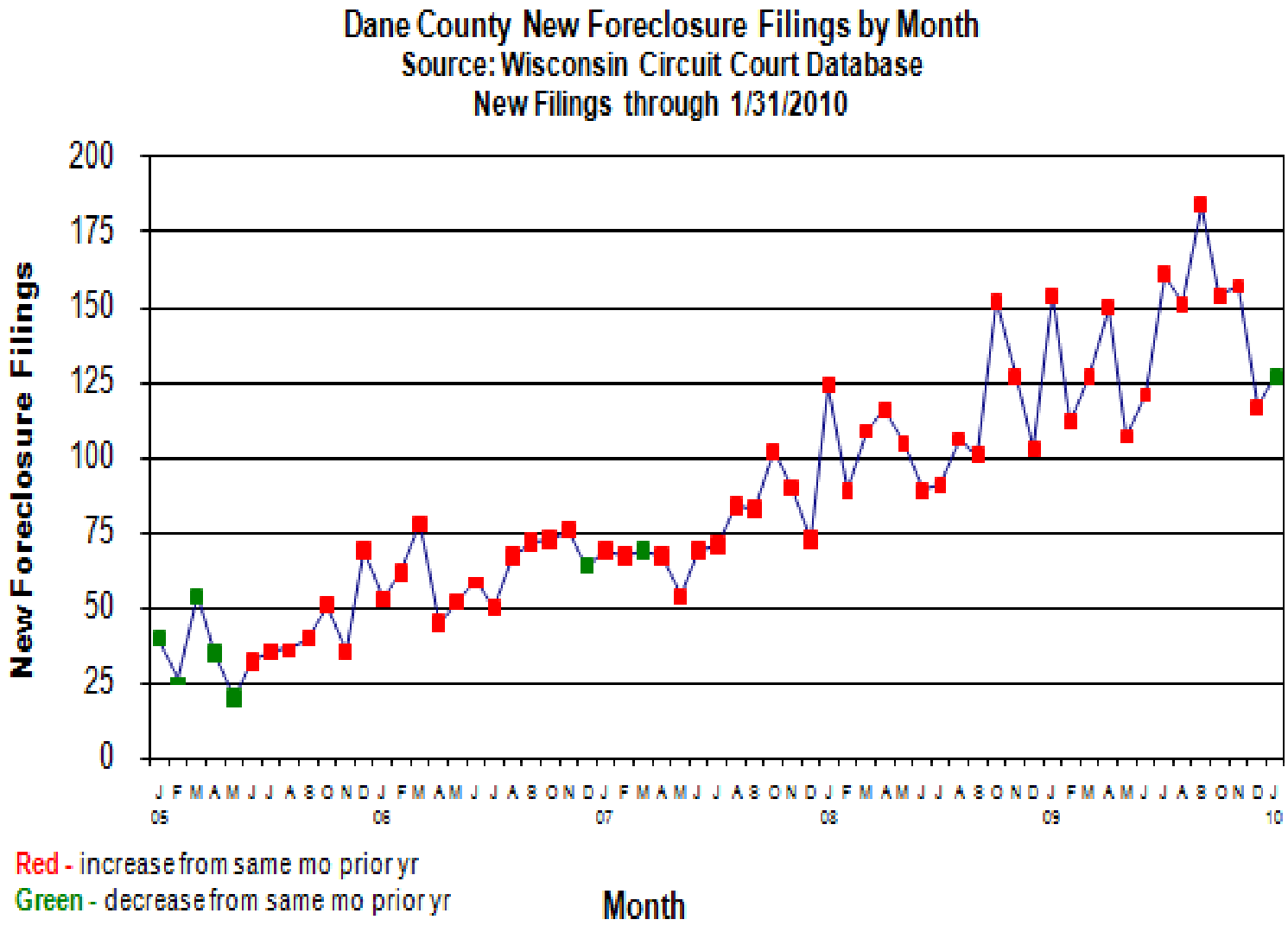


Source: City of Madison Assessor's Office

City of Madison Homes Sold by Price Range - 2009

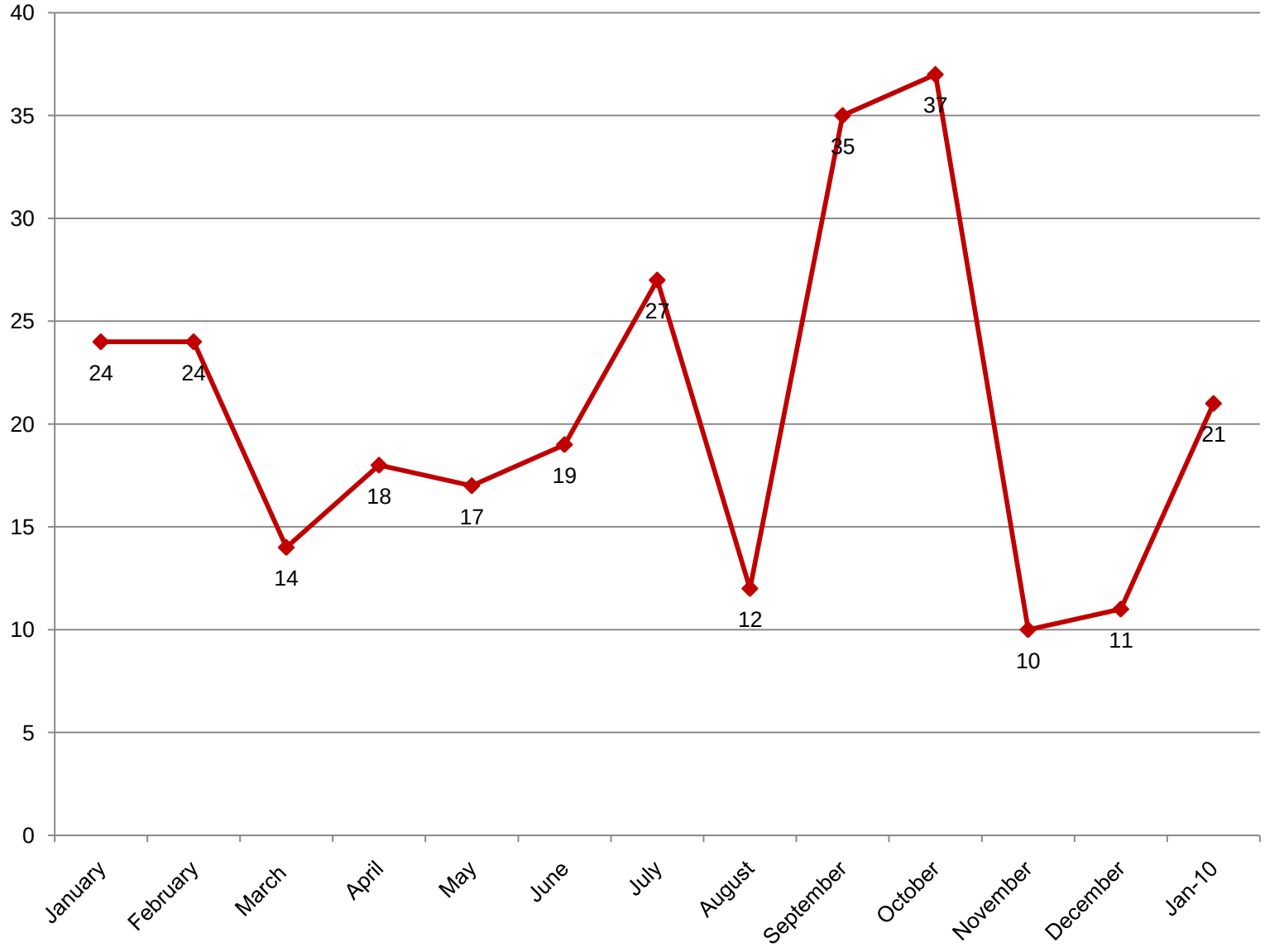


Source: South Central Wisconsin MLS Corporation



Source:www.madisonrealestatemarket.com

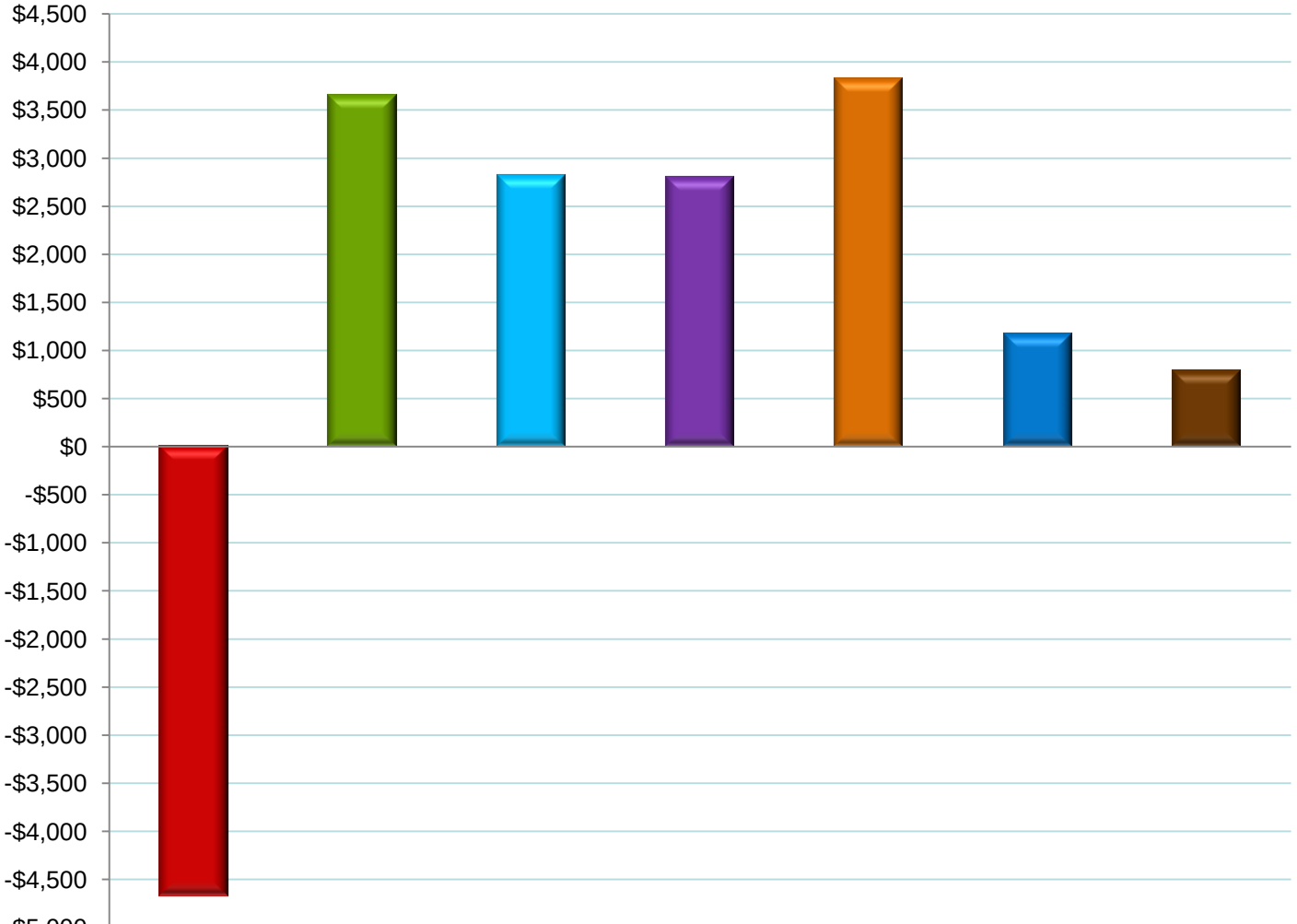
City of Madison Foreclosures – 2009-2010



Source: *City of Madison Assessor's Office*

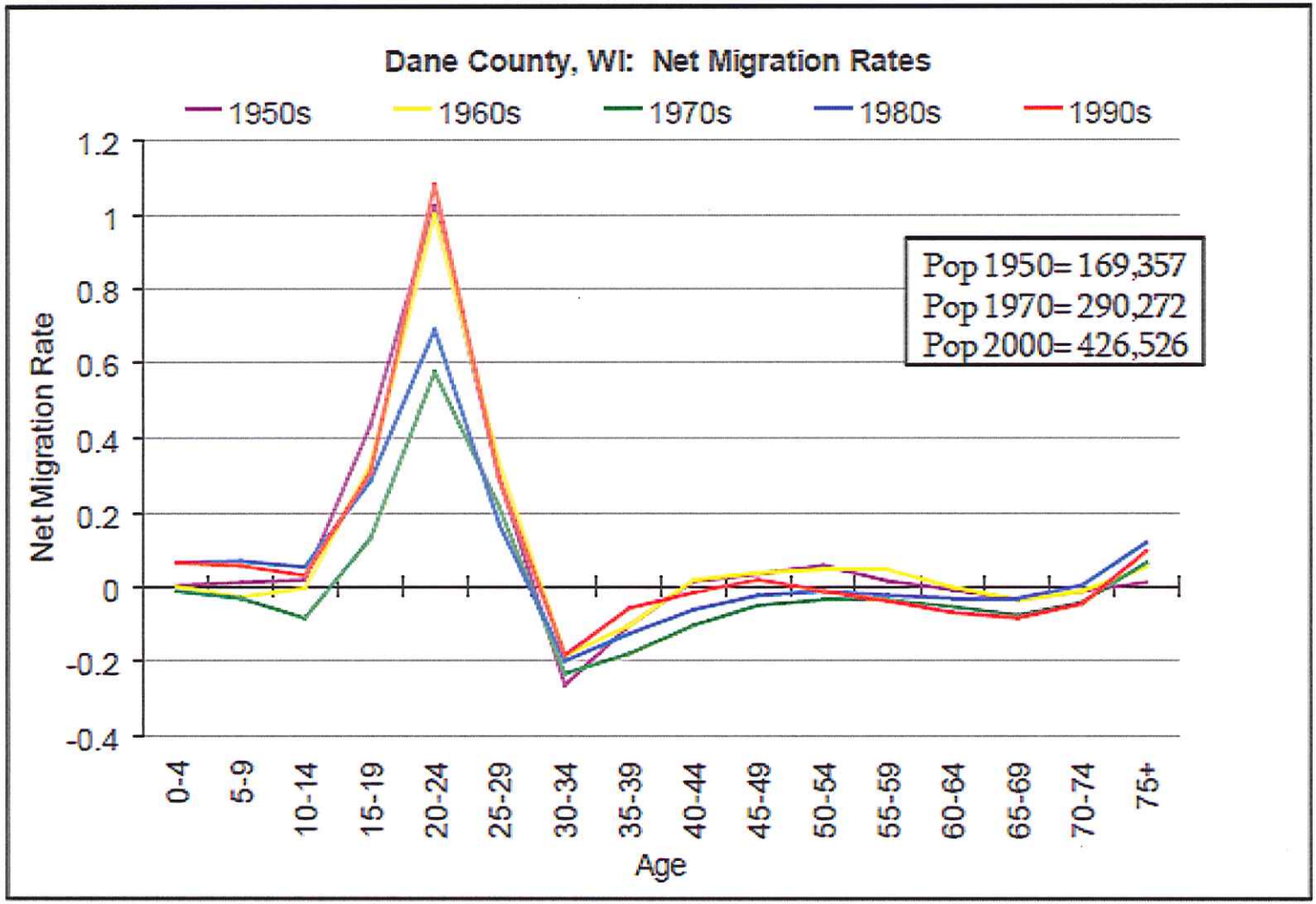
Fiscal Sustainability

Net Median Household Income Migration 2000-2005



	Dane	Waukesha	Jefferson	Iowa	Columbia	Rock	Green
Net	-$4,668	$3,652	$2,826	$2,805	$3,828	$1,169	$787

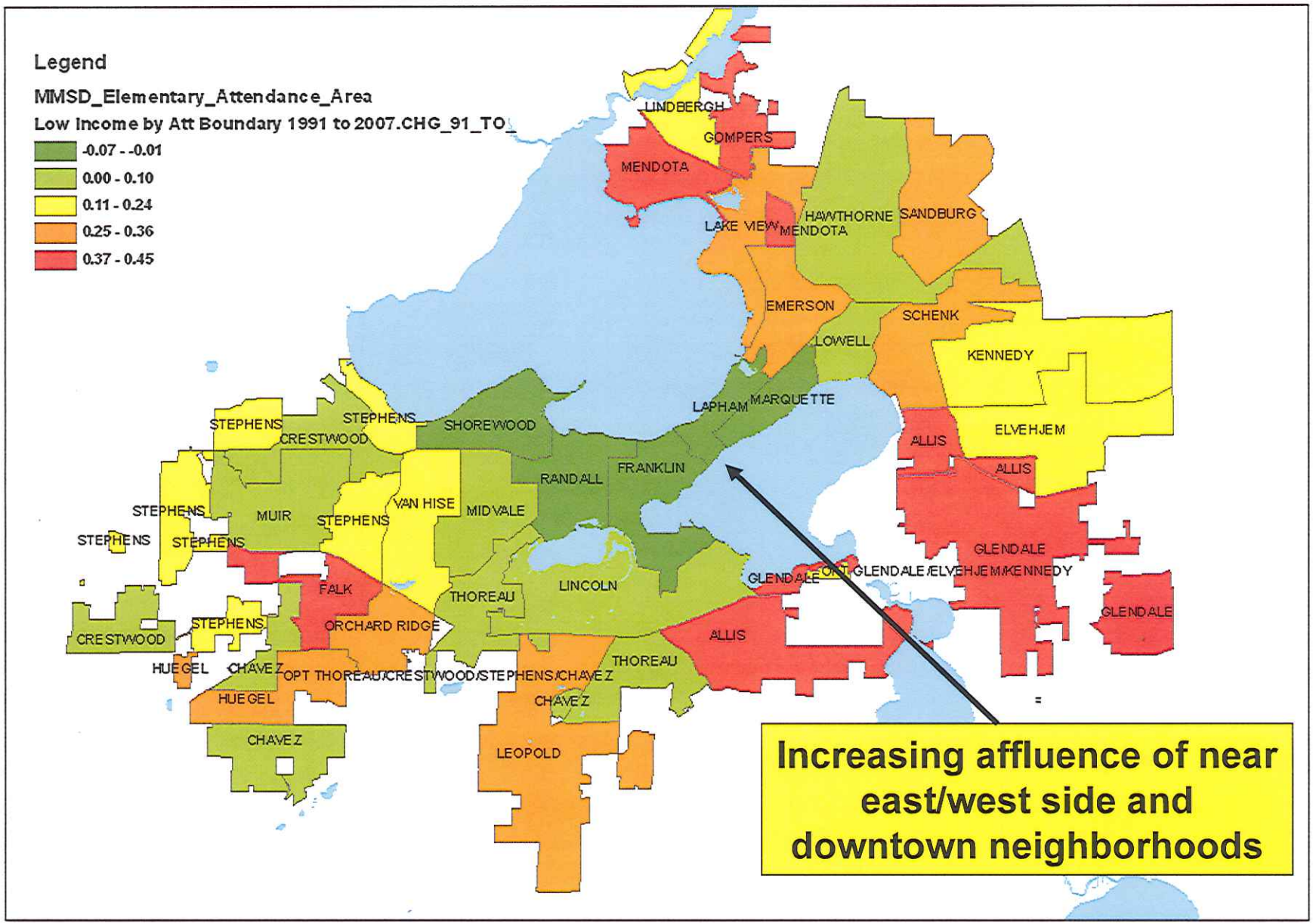
Source: http://enterprise.star-telegram.com/ARCIms/Maps/clt/2007/irsmig.a...


Dane County, WI: Net Migration Rates
1950s
1960s
1970s
1980s
1990s
Net Migration Rate
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
Pop 1950= 169,357
Pop 1970= 290,272
Pop 2000= 426,526
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75+
Age

Income

- Income is the single greatest predictor of student achievement
- Past 16 years has witnessed dramatic increase in percentage of low income students educated within MMSD schools
- In general, but not entirely, income status demographic shifts affect all MMSD schools

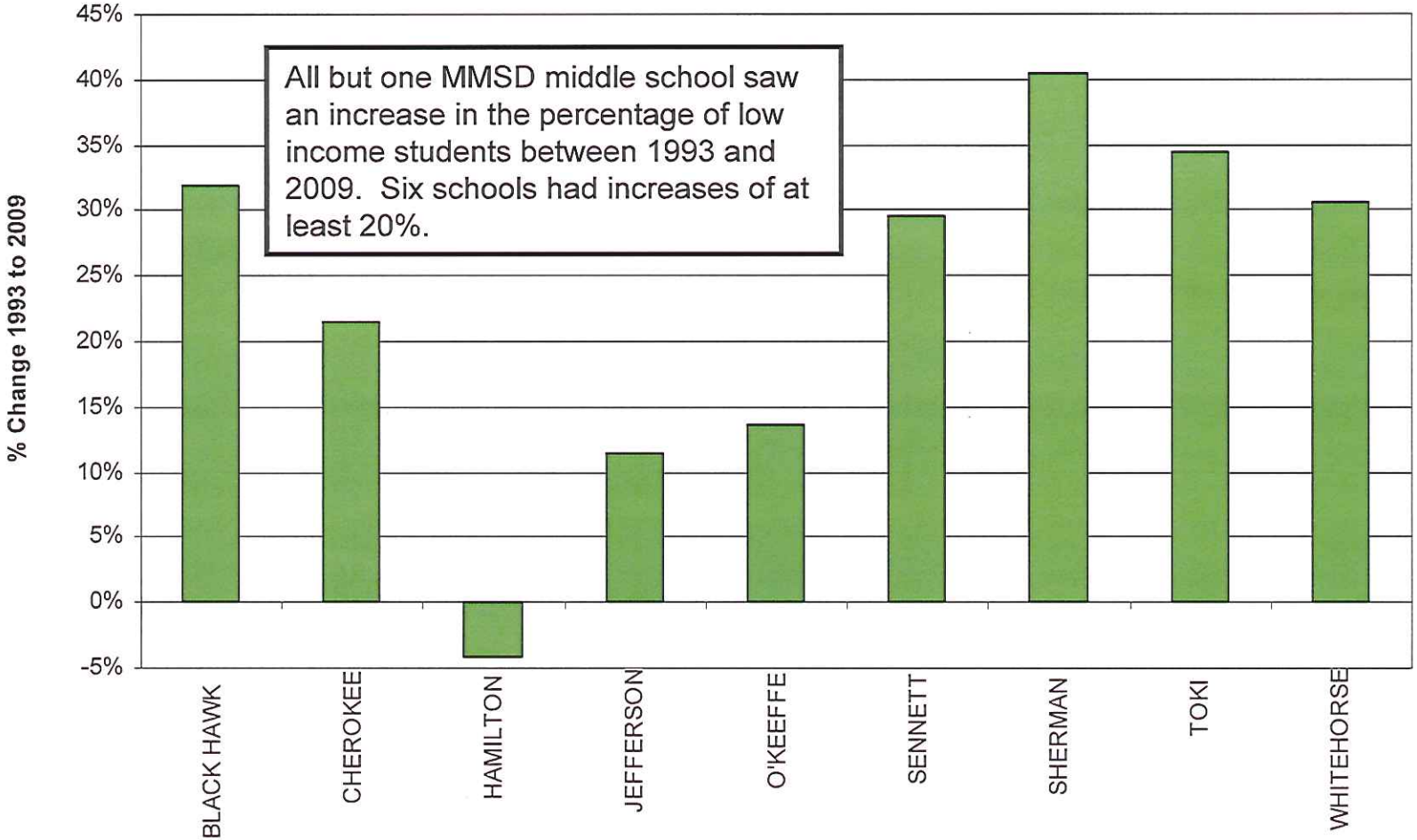
Change in Elementary % Low Income
By Elementary Attendance Area 1991 to 2007



MADISON METROPOLITAN SCHOOL DISTRICT

LOW INCOME ENROLLMENT - PERCENTAGE CHANGE 1993 TO 2009

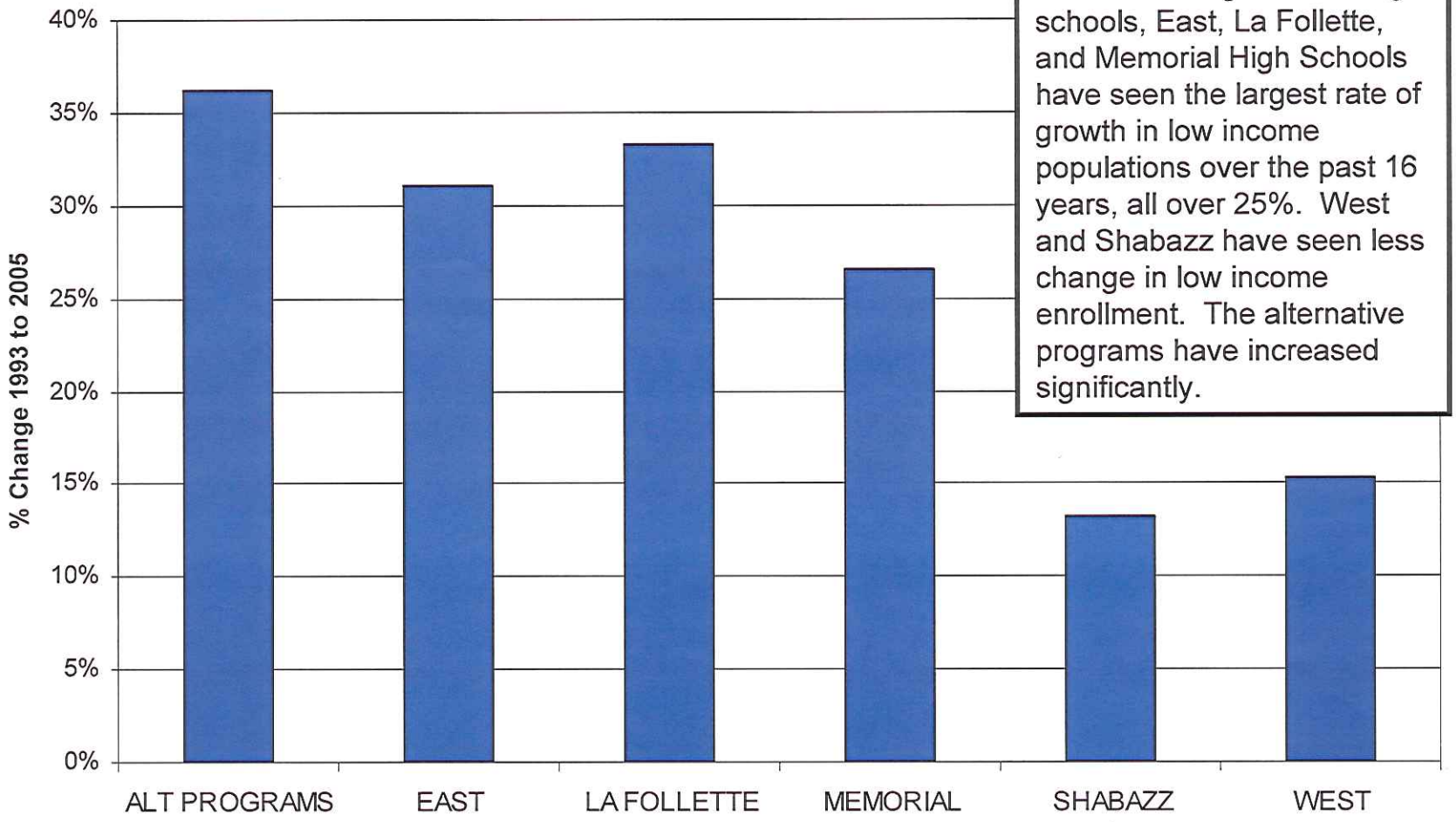
MIDDLE SCHOOLS



MADISON METROPOLITAN SCHOOL DISTRICT

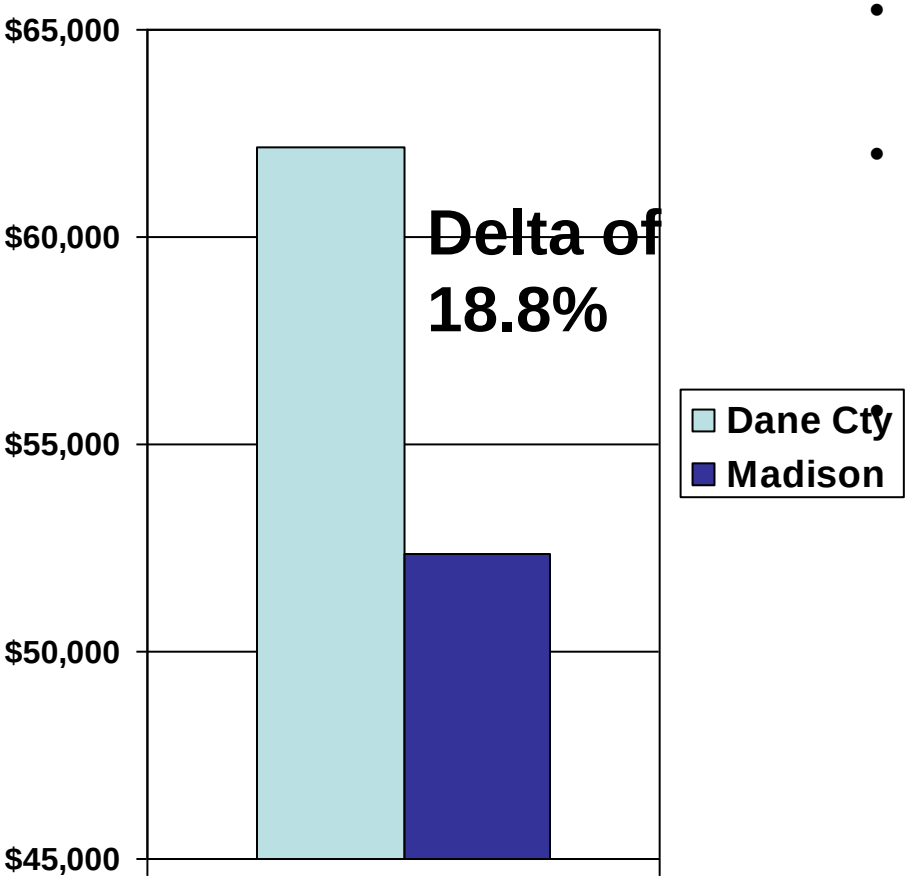
LOW INCOME ENROLLMENT - PERCENTAGE CHANGE 1993 TO 2009

HIGH SCHOOLS



Of the four large MMSD high schools, East, La Follette, and Memorial High Schools have seen the largest rate of growth in low income populations over the past 16 years, all over 25%. West and Shabazz have seen less change in low income enrollment. The alternative programs have increased significantly.

Median 2008 Household Income

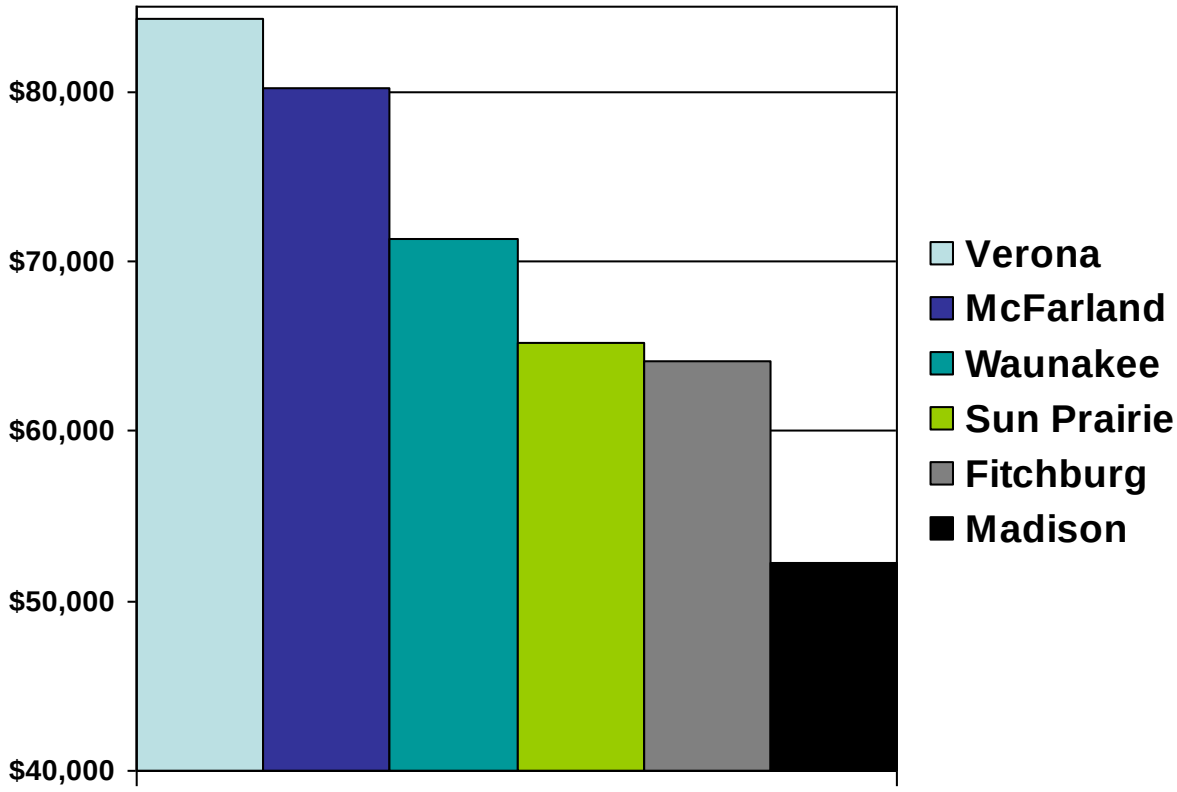


- **Madison is lagging rest of county.**
- **Wealth is moving to the suburbs.**
  - Added discretionary income
- **Commercial development is following**
  - Retail/service/office/ industrial/hospitality

Source: U.S. Census Bureau, American Community Survey

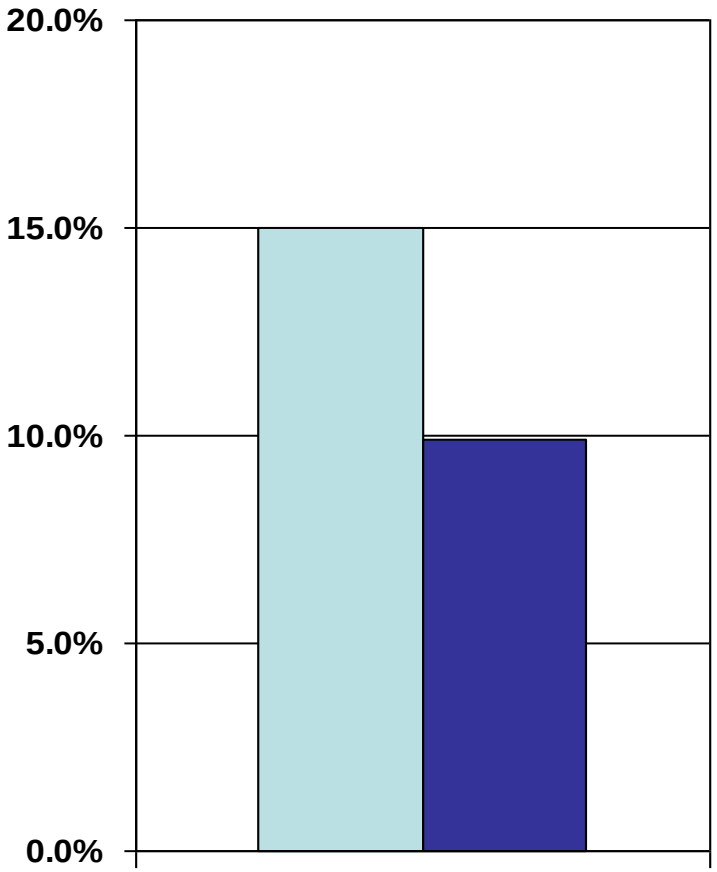
Large Disparity with Immediate Suburbs

2008 Median Household Income



Source: U.S. Census Bureau, American Community Survey

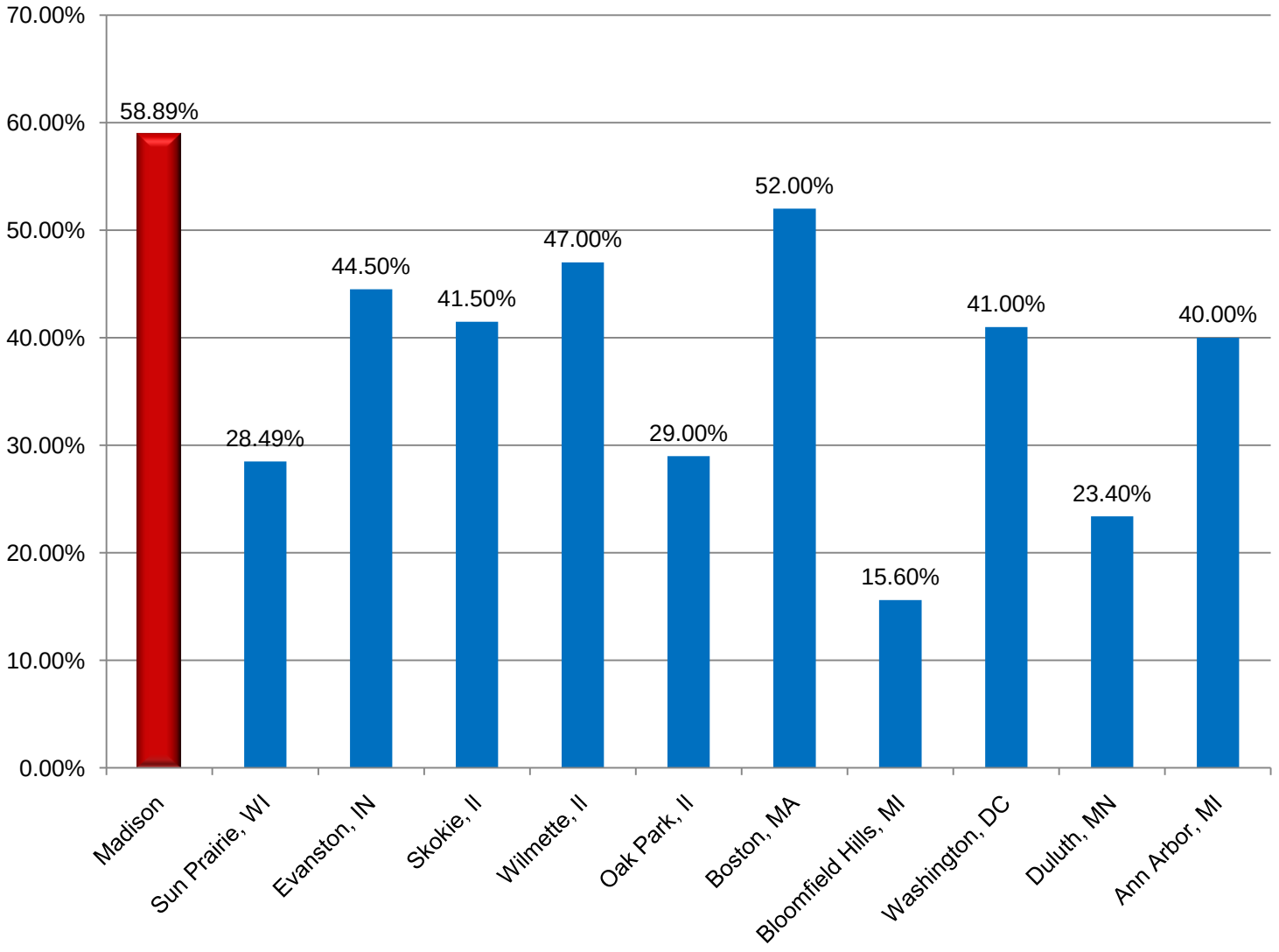
Job Growth Rate 2000-2008



50% Greater

- **Statistics are for <u>location</u> of the job vs. individual holding the job.**
- **As household and discretionary income moves, jobs follow.**

Municipalities Percentage Tax Exempt Property



Madison

Articles and Research

- The business of growing up-JSOnline
- Wisconsin Job Watch Dec. 2009-Center on Wisconsin Strategy
- Despite Madison's relative affluence, poverty rate growing rapidly-The Capital Times, 2/24/10
- Tracking Economic Recession and Recovery in America's 100 Largest Metropolitan Areas-Brookings Institute
- Public-private partnerships as a development engine-McKinsey Quarterly
- A Rollercoaster Decade for Migration-Brookings Institute
- Job Sprawl Revisited -Brookings Institute
- Bad economies in states to worsen-Reuters
- In the Next Industrial Revolution, Atoms Are the New Bits-Wired magazine
- The Great Musical North-University of Toronto
- Detroit Mayor Bing emphasizes need to shrink city-The Detroit News, 2/25/10

Madison

The business of growing up

Madison pays attention to its young companies

By Kathleen Gallagher of the Journal Sentinel

Posted: Feb. 20, 2010 |(2) Comments

Madison — University Research Park began offering space this month in its new Accelerator building.

Designed for start-ups that have outgrown smaller suites in the park's incubator building, the 80,000-square-foot Accelerator boasts cutting-edge air-exchange systems, space designed for lab build-outs, and features that could help tenants shave thousands of dollars off their energy bills.

Facilities like this are becoming more common in Madison, where a growing number of parks offer young firms networking opportunities and shared resources such as research equipment and phone systems. They have helped breed companies including Jellyfish.com, Mirus Bio Corp., NimbleGen Systems Inc., Third Wave Technologies and TomoTherapy Inc., which have become some of Wisconsin's biggest entrepreneurial success stories.

In addition to an expanding University Research Park, Madison start-ups can choose from among tech parks created by real estate developers who share some of the entrepreneurs' risk by taking a stake in a company in exchange for rent payments.

At least six of the Madison area's more than 35business parks have attracted clusters of young companies with high growth potential. At least two more - including the city-planned BioAg Gateway park on the southeast side - are on the drawing board.

"Even if some of them don't physically have a building stamped 'incubator,' it's happening," said Tom Still, president of the Wisconsin Technology Council.

The world is full of business parks with "research" or "technology" in their name. But the ones breeding high-tech companies offer a mix of shared resources and potential for building out specialized research facilities.

Other locations

Madison's tech parks stand in stark contrast to the options available in southeastern Wisconsin.

Milwaukee start-ups can choose to locate in Milwaukee County Research Park, where a mandate to have technology firms in 60% of the space has administrators identifying as "tech" Yellow Book USA, engineering and IT consulting firms, and back-office services for Children's Hospital and the Medical College of Wisconsin.

In coming years, they may find space in the University of Wisconsin-Milwaukee's proposed Innovation Park for Engineering and Applied Science Research in Wauwatosa. But for now, start-ups have the choice of the county's park or going it alone.

The latter has been the preferred choice for those that have raised angel or venture dollars - fast-growing firms including harQen, MyHealth Direct, Sagence Group/Silver Train Inc. and Spaulding Clinical Research. They're scattered around Milwaukee and in places such as Delafield, West Allis and West Bend.

That means they lose out on having the kind of informal networks that thrive in Madison, where clusters of entrepreneurs discuss everything from the best accountants and insurance brokers to product liability and equipment set-up.

"That location, and the ability to walk down the hall and talk to people in the same boat, is a big deal," said Bryan Renk, executive director of BioForward, Wisconsin's biotech industry trade association.

Milwaukee County Research Park started with $1.7 million from the county, but paid it all back and has been self-funding since 1998, said Bill Drew, executive director.

University Research Park, which started with proceeds from UW-Madison's sale of land next to the park, has always been self-funded, said Mark D. Bugher, its executive director. The park pays its full property tax assessment to the city of Madison - $3.6 million in 2009 - and sends money back to UW-Madison, typically $400,000 to $500,000 a year.

Madison's other high-tech parks may get some government assistance, but the majority are private, for-profit endeavors such as the Gialamas Co.'s Old Sauk Trails development on Madison's west side, Still said.

The public/private partnership between Madison Area Technical College and McAllen Properties that spawned the Technology, Education and Commerce Incubator Center on Madison's east side uses MATC resources and gets help from organizations such as Madison Gas & Electric Co., said Mac McAllen, co-owner of McAllen Properties.

McAllen said he takes the risk because of the potential payback that happens when a start-up such as Virent Energy Systems Inc. or NeuWave Medical Inc. grows big enough to rent a 10,000-&emspor 20,000-square-foot space from his company.

Some say the treasure trove of technology pouring out of UW-Madison, and a much healthier slug of government dollars, have been the most critical factors in building Madison's burgeoning entrepreneurial scene.

But others contend Madison's tech parks and the rest of its entrepreneurial infrastructure grew out of a unified strategy and long-term cooperation among the city, the state, the university and business people.

"This hasn't happened overnight," said David Linz, southeast regional director for the Wisconsin Entrepreneurs'

Network. "It's been 25 years in the making."

Working together

It's difficult to get the universities and business community in Milwaukee to pull together, Drew said.

"We were able to get together and spend a billion dollars of tax money for a baseball stadium, but that doesn't create a future for our children by providing high-paying jobs like those they're creating in those tech parks in Madison," said Greg Meier, an entrepreneur involved with PhysioGenix and Lansare Corp., which have space in Milwaukee County Research Park.

Still, southeastern Wisconsin is strong in engineering, software, medical devices and some emerging biotech and information technologies, said Still, of the Technology Council.

"The opportunity for Milwaukee is that it could leapfrog to interdisciplinary parks almost immediately," he said.

UWM understands this, with its plans for an interdisciplinary park on the county grounds in Wauwatosa, said Dan Steininger, vice president of BizStarts Milwaukee and a board member for the Milwaukee County Research Park.

Innovation Park will house academic research and encourage corporate partnerships, said David Gilbert, president of the UWM Real Estate Foundation. It will have a public and private side, like the $205 million Wisconsin Institutes for Discovery opening in Madison this year, he said.

Milwaukee might want to look toward Madison more, said Linz, of the Wisconsin Entrepreneur's Network.

"If we got enough people to actually go there and experience that story, maybe we could light a fire here," he said.

2 Comments

Post a Comment

Sort by: **Oldest** | Newest | Most Thumbs Up

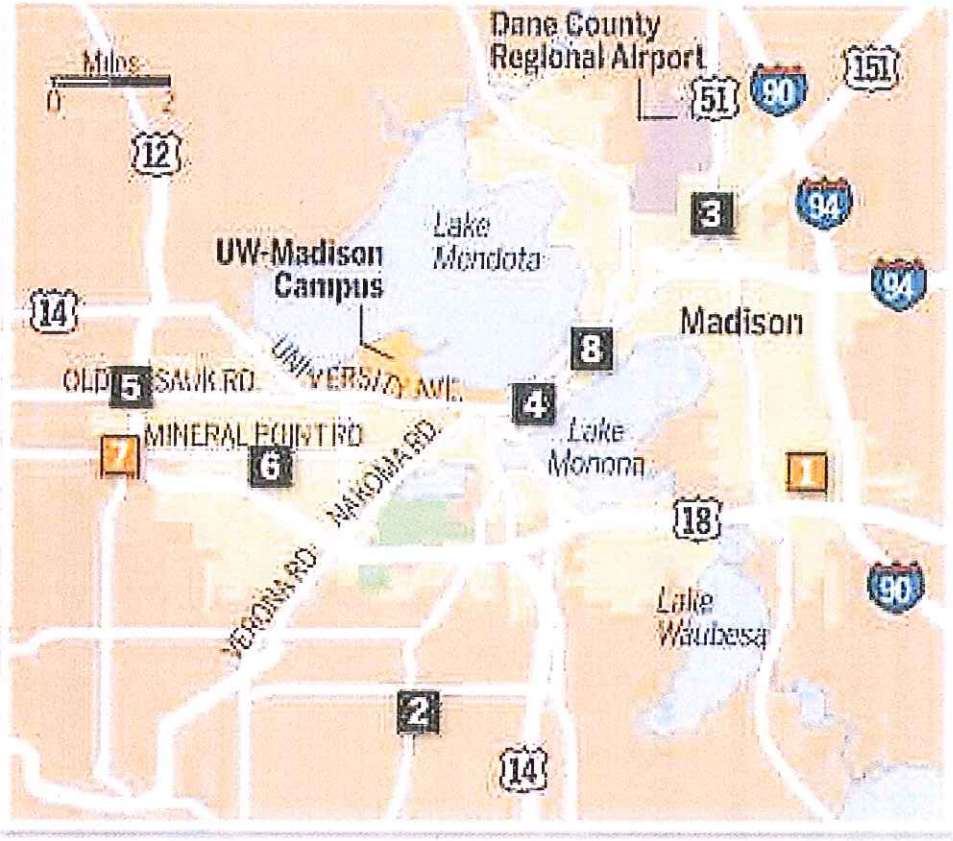
1. **elpollo - Feb 21, 2010 9:56 AM**

   » Report abuse
   00
   00

Madison's tech magnets

There are at least eight existing or planned business parks in Madison where high-growth start-ups can find like-minded companies and extra amenities such as shared meeting space and equipment, and high-speed computing services.

PLANNED



1. **BioAg Gateway**, southeast side of Madison (intersection of World Dairy Drive and Agriculture Drive)
2. **Fitchburg Technology Campus**, 5500 Nobel Drive, Fitchburg
3. **Technology, Education and Commerce Incubator Center**, 3591 Anderson St.
4. **Network 222**, 222 W. Washington Ave.
5. **Old Sauk Trails**, 8040 Excelsior Drive
6. **University Research Park**, 510 Charmany Drive
7. **University Research Park II**, University Research Park's Phase 2 development at Junction Road and Highway M on the west side of Madison; groundbreaking planned for fall; expected completion by 2011
8. **University Research Park Metro Innovation Center**, 1245 East Washington Ave.

Journal Sentinel

WISCONSIN JOB WATCH

COWS
center on wisconsin strategy

December 2009 Data Update

JOBS CONTINUE TO SLIDE, UNEMPLOYMENT UP

Wisconsin's job market slipped again in December, losing some 15,200 jobs from November to December 2009. Since the recession's start in December 2007, the state has lost 176,700 jobs – 6 percent of the pre-recession job base. As shown in Figure 1, the heaviest losses to date occurred between October 2008 and April 2009, followed by a leveling off between April and August 2009. Job loss has picked up speed again, with over 40,000 jobs lost in the last four months.

Wisconsin's unemployment rate jumped to 8.7 percent in December 2009, up 0.5 percentage points from November and nearly twice its pre-recession level (4.5 percent in December 2007). Wisconsin's unemployment rate had been declining steadily between a June/July peak (9.0 percent) and November 2009, despite sustained job loss during this time. Given recent consistent job loss, unemployment levels may continue to climb in months to come. (Table 1, Figure 3 on back page.)

Wisconsin's male workers have borne the brunt of job loss this recession, not surprising given their concentration in industries that have been hardest hit (i.e. manufacturing and construction, see below). In 2007 Q4, average unemployment rates for Wisconsin women (4.4 percent) and men (4.7 percent) were roughly equal. By 2009 Q4, the gender gap had widened considerably, with average unemployment rates in Wisconsin rising to 7.2 percent for women and 9.5 percent for men.

MANUFACTURING DIPS, CONSTRUCTION PLUMMETS

Wisconsin lost 1,200 manufacturing jobs between November and December. Despite this loss, manufacturing jobs have held relatively steady since May 2009, a positive sign that this important industry might be stabilizing. Still, Wisconsin's manufacturing sector has 63,200 fewer jobs than when the recession started, representing an almost 13 percent loss within this sector and accounting for more than one-third of Wisconsin's total job loss.

Table 1

CHANGES IN UNEMPLOYMENT AND NUMBER OF JOBS IN WISCONSIN, DECEMBER 2007 TO DECEMBER 2009

	December 2007	*December 2009*	*Change*	*Percent Change*
Unemployment	4.5%	8.7%	4.2	
All jobs	2,889,000	2,712,300	-176,700	-6.1%
Manufacturing jobs	500,000	436,800	-63,200	-12.6%
Construction jobs	123,800	99,100	-24,700	-20.0%

Figure 1

TOTAL JOB LOSS IN WISCONSIN, DECEMBER 2007 TO DECEMBER 2009

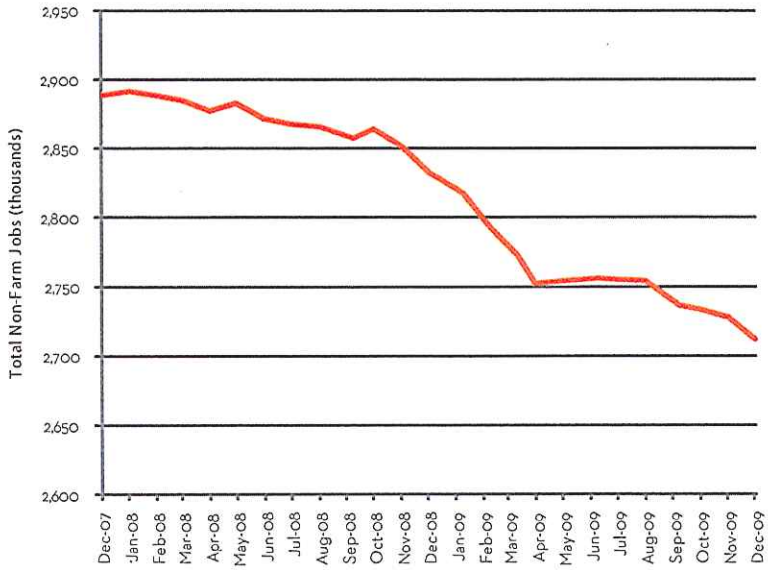
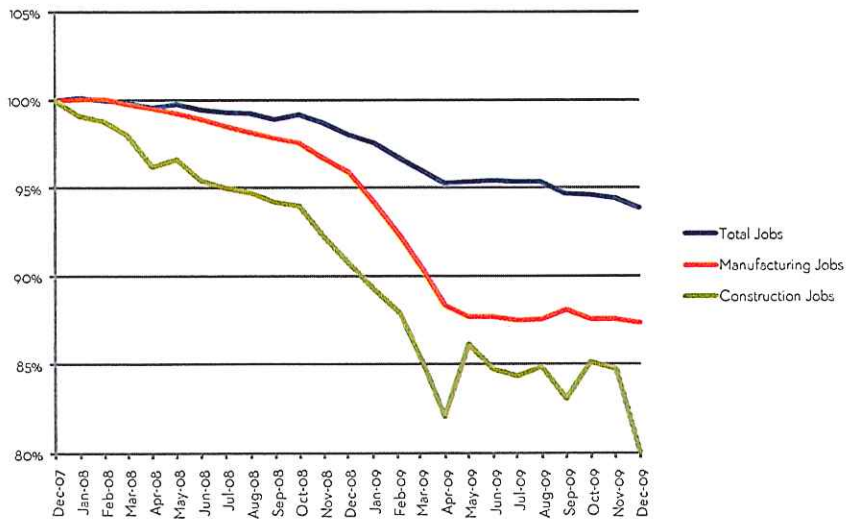


Figure 2

PERCENT CHANGE IN MANUFACTURING, CONSTRUCTION, AND TOTAL JOBS IN WISCONSIN, DECEMBER 2007 TO DECEMBER 2009



The construction sector lost another 5,800 jobs between November and December, bringing the total number of construction jobs to 99,100, its lowest (seasonally adjusted) level since February 1994. The construction industry has seen its job numbers shrink dramatically over the course of the recession, with jobs down 20 percent (24,700 jobs) since December 2007. (Table 1, Figure 2)

JOB LOSS OUTPACES PAST RECESSIONS

The current recession has just hit the two-year mark, and while there are some positive signs of GDP growth in recent quarters, that growth is clearly not yet generating gains in the job market. Indeed the severity of this recession stands out in comparison to the three most recent downturns of 2001, 1990, and 1981. In terms of total jobs lost – now 6.1 percent – this recession is substantially worse than the very difficult recession of 1981. We have lost more than 175,000 jobs, and we have yet to post labor market gains. (Figures 3 and 4)

Figure 3
WISCONSIN UNEMPLOYMENT RATE IN CURRENT RECESSION, COMPARED WITH 1981, 1990, AND 2001 RECESSIONS

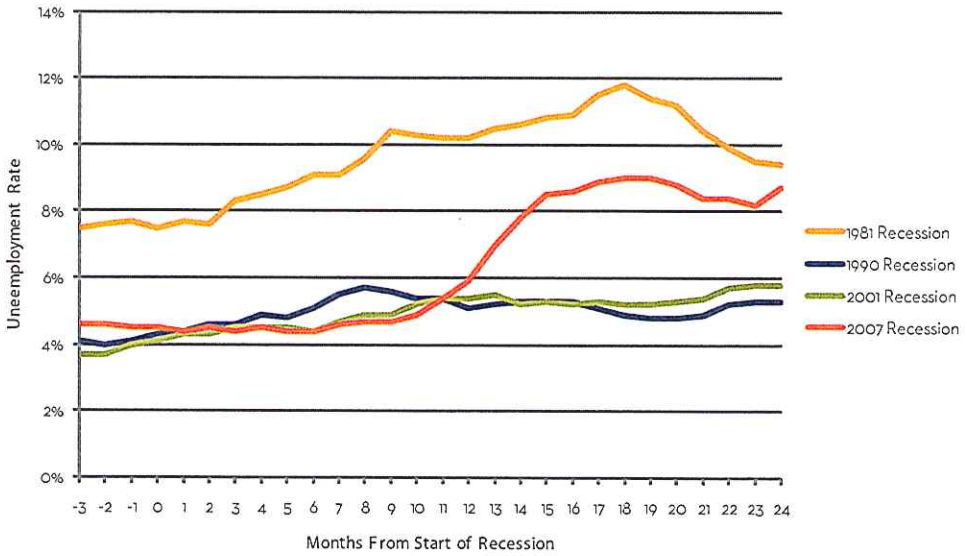
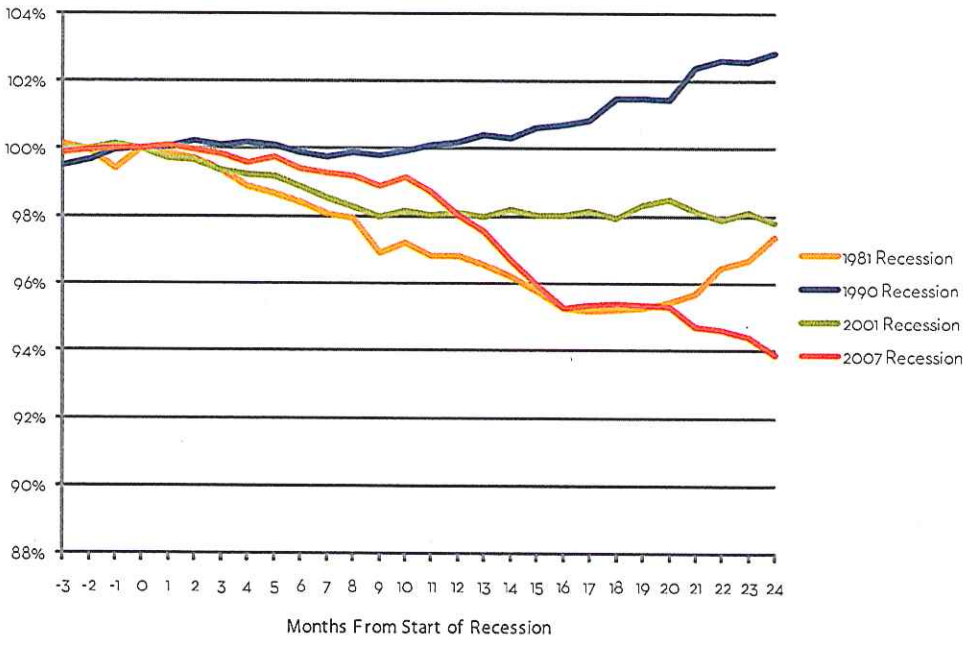


Figure 4
PERCENT CHANGE IN WISCONSIN JOBS IN CURRENT RECESSION, COMPARED WITH 1981, 1990, AND 2001 RECESSIONS



Wisconsin Job Watch, a monthly publication of the Center on Wisconsin Strategy (COWS), provides a snapshot of Wisconsin's job picture and reports on key recession trends. The numbers provided in this report are based on seasonally-adjusted Bureau of Labor Statistics data compiled by the Economic Policy Institute (www.epi.org).

The Center on Wisconsin Strategy (COWS) is a policy center and field laboratory for high road economic development – a competitive market economy of shared prosperity, environmental sustainability, and capable democratic government. Housed at University of Wisconsin-Madison, COWS has been supporting progressive policy innovation since 1991. For more information, visit www.cows.org.

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Despite Madison's relative affluence, poverty rate growing rapidly

MIKE IVEY | The Capital Times | mivey@madison.com | Posted: Wednesday, February 24, 2010 5:45 am

The doors at the Society of St. Vincent de Paul food pantry on Fish Hatchery Road don't open for another 30 minutes, but a line has already formed.

They wait quietly, for the most part, this rainbow coalition of all ages: African-American grandmothers, Latino families, young women with pierced tongues, disabled seniors and working fathers.

What they have in common is poverty. Once a month, with a valid photo ID, clients get enough groceries to last a week.

"As my kids get older, I just keep having to cook more, so every bit helps," says Belinda Washington, 44, who has four children at home ages 4 to 17.

A Chicago native, Washington moved to Madison 17 years ago and lives in the Lake Point neighborhood off West Broadway on the city's south side. Her resume includes food service, catering and factory work but she's been unemployed since her youngest was born. "I keep applying but the jobs are hard to come by," she says.

Danny Pilgrim, 37, has a part-time job at Einstein Brothers Bagels in Madison but had his hours reduced recently. Now, he's visiting the food pantry with his wife. "What can I say? We need the groceries," explains the father of three.

Being poor, hungry or unemployed is a world far removed for many in Wisconsin's capital city, where arguments over passenger rail, Badger sports or high-rise hotels can dominate the news.

But the reality is Madison's poverty rate is climbing — rising nine times faster than the rate of other U.S. cities, according to a new report from the liberal-leaning Brookings Institution.

Since 2000, the poverty rate (defined as a family of four with an income under $21,800) in Madison has jumped from 15 percent to 17.7 percent. That's one in every six residents.

Perhaps more significantly, the city has seen an explosion in the number of low-income children as measured by participation in subsidized or free-lunch programs. One of every two students in the Madison Metropolitan School District is now considered "low income" using the lunch standard. In 1990, just one in five Madison school kids qualified.

"It's very much a part of the changing demographics in the district," says Madison school Superintendent Daniel Nerad.

And the overall picture is not improving. In its report, Brookings predicts Madison will likely see its poverty rate jump another 1.1 percent this year, surpassing the average poverty rate for the 95 largest U.S. cities.

It's a complicated issue. Certainly, the slumping economy has strained many family budgets. Others point to overwhelmed social services and a lack of job-training programs. Some blame an influx of low-income residents from the big cities of Chicago or Milwaukee.

But one thing is clear to Elizabeth Kneebone, senior researcher at Brookings, one of the nation's oldest think tanks: "Madison has historically done better than a lot of places but we are seeing a significant increase in poverty," she says.

Measuring poverty in college towns can be somewhat misleading, researchers caution, since many students live below the poverty line and are counted by the U.S. Census Bureau as officially "poor" even if they come from wealthy families.

But Kneebone says students don't account for the growing number of poor residents in Madison. According to the American Community Survey, an annual estimate from the Census Bureau, Madison added nearly 8,400 residents living below the poverty line between 2000 and 2008, a 29 percent increase.

Kneebone's study, "The Suburbanization of Poverty," shows poverty rising fastest outside America's inner cities, as higher housing and transportation costs drive lower-income people to the decaying "first ring" suburbs. But in the Midwest, both cities and suburbs are getting poorer, largely because of the recession and heavy job losses in the Rust Belt states.

"Of all the regional economies, the Midwest has been hit hardest," says Kneebone.

There's little argument the recession has pushed more Wisconsin families into poverty. The state's overall poverty rate has climbed from 8.7 to 10.7 percent since 2000. The national rate also increased, from 12.4 to 13.1 percent over that same period.

The rising poverty rates in the Badger State come as no surprise to Tim Smeeding, director of the Institute for Research on Poverty, the nation's original poverty research center, established in 1966 on the UW-Madison campus.

Smeeding last year co-authored the first-ever Wisconsin Poverty Report, which showed one in seven Wisconsin children living in poverty even before the economic downturn took full hold.

"Wisconsin and the Midwest in the late 1990s were actually leading the nation in poverty reduction," says Smeeding. "But since 2000, we've gone about 179 degrees in the other direction. Now, we're a manufacturing state in a manufacturing recession."

As a result, poverty is soaring in places like Rock County, the Sparta region and the northern tier of Wisconsin along Lake Superior. Smeeding notes that in 2003, the city of Milwaukee accounted for about half the food stamp caseload in the entire state; today, its share has fallen to a third.

"The recession seems to be hitting all over the place although my general impression is Madison is not doing that badly," says Smeeding, a professor at the La Follette School of Public Affairs and a national leader on poverty research.

Smeeding says university towns tend to provide enough part-time jobs such as bartending or restaurant work for young people who don't yet have a family to support. "College kids will always find their way," he says. "But I'm more worried about the guy with only a high school degree or less."

Others paint a more dire picture. They point to the percentage of poor kids in the Madison schools, the increased complaints about crime and the number of businesses locating new facilities outside the city.

For Tom Hefty, the retired CEO of Blue Cross Blue Shield insurance and past chairman of Competitive Wisconsin, a major issue is the number of poor people migrating from Chicago and Milwaukee.

"I'm afraid it's a discussion nobody wants to have," says Hefty, who was co-chair of Gov. Jim Doyle's Economic Growth Council from 2003 to 2005.

Actually, there was a major public discussion of poverty and all the various implications during the 1990s. Wisconsin under Gov. Tommy Thompson became a national leader in trying to reform its system of public assistance.

Dubbed "Governor Get-a-Job" by some observers, Thompson pushed a variety of reforms, including a two-tiered welfare system that offered lower payments for new arrivals into the state, ostensibly to counter the "welfare magnet" effect of Wisconsin's reputedly generous support programs.

While the state Supreme Court eventually struck down the two-tiered system as unconstitutional, other reforms did move forward. Programs like W-2 and the federal Temporary Aid to Needy Families (TANF) showed some success in Wisconsin in breaking the cycle of dependency, says Smeeding.

"They worked because of a strong economy where mothers could get jobs, plus child care and other assistance with finding jobs and with transportation to and from work," he says. But nationally, Smeeding says welfare reform did little to reduce chronic poverty among single women. "It turned the welfare poor into the working poor and the recession has most likely driven these mothers into living with relatives or partners."

Either way, Hefty fears rising poverty is costing Madison as the city works to compete in a global economy. He references an analysis of Internal Revenue Service data from 2000 to 2005 showing the leading counties from which people migrated to Dane County were Cook County, Ill., and Milwaukee County.

According to the IRS, those moving into Dane County over that period carried an average annual income of $19,782. Those moving out had incomes of $24,449.

"What all these numbers tell me is that we are attracting very-low-income people into the community," says Hefty.

Sandra Sykes, 66, migrated to Madison to help raise her grandchildren living on the city's southeast side. Sykes grew up in Chicago but moved to Milwaukee in 1993 to get away from the crime and other problems. She says she left Milwaukee about five years ago for the same reasons.

"I hate to say it, but Milwaukee is like Chicago now," she says.

Chicago might be known as the "City of Big Shoulders" but Madison is known to many as a place that opens its arms.

Linda Hoskins, president of the Madison Chapter of the NAACP, relocated from Arkansas in the 1980s seeking a better life for her family and hasn't been disappointed.

"Madison is a city with a big heart," she says. "If you come here and you are hungry, you get fed. If you don't have a place to sleep, nine times out of 10 you'll find one."

Mayor Dave Cieslewicz says he's got no problem with the city enjoying that kind of reputation.

"It's the nature of the community to want to help people transition into the middle class," he says. "And I'm not sure we want to change that."

But the mayor, a Milwaukee transplant himself, has seen the poverty statistics and says they should serve as a wake-up call to the entire area — not just the city of Madison.

"I've said it before, but this is a regional issue," says Cieslewicz. "At some point you get too many people with extraordinary needs and they overwhelm the system." Cieslewicz says other communities in Dane County must expand their affordable housing efforts so the poor don't end up concentrated in troubled neighborhoods.

"It's not just Madison's issue," he says.

A much bigger question, of course, is whether any government, religious organization or nonprofit group can actually end long-term poverty.

When President Lyndon Johnson announced the "War on Poverty" during his 1964 State of the Union Address, many thought the problem could be eradicated. But since then, even during the best economic times and with substantial government assistance, the official U.S. poverty rate has never dipped below 10 percent.

Poverty researchers attribute the failure to lower the poverty rate to several factors: the growth of single-parent families, individuals with little education stuck in low-paying jobs, and the historically high poverty rates for people of color.

At the same time, the economic boom of the 1990s was marked by an increased willingness of employers to hire minorities and other groups that traditionally face economic hurdles.

And some government programs, for all their critics, have reduced poverty on a national level. The best example is Social Security, which analysts say is the primary cause of the dramatic declines in elderly poverty over the past 50 years. Medicare has also kept millions of seniors from going broke trying to pay medical bills.

As LBJ predicted nearly 50 years ago, however, the struggle against poverty has proven neither short nor easy. Hefty, for his part, would like to see more creative discussion about new approaches to the poverty question.

"There's a lack of balance between our economic development and our social services policies," he says. "We are losing our educated upper-income people and gaining very low-income populations with limited education."

But the new executive director of the Wisconsin Council on Children & Families disputes the "us vs. them" scenario. "It's not a zero sum game," says Ken Taylor, who took over the top job at the organization two months ago.

Taylor says government clearly has a role to play in easing poverty. He argues that money spent on the poor — whether a public job, job training or direct assistance — is injected immediately back into the local economy.

"I won't accept the premise that in order to have a society where the top 2 percent are super wealthy and the rest of us are pretty comfortable, there needs to be 10 or 20 percent poor at the bottom," he says.

Neither does Ernie Stetenfeld, director of community services for St. Vincent de Paul. He says those living in Milwaukee or Chicago read the same magazine reports about Madison's quality of life and move here for their chance at a better life. "People who are struggling are drawn here for the same reasons others are," Stetenfeld says.

Perhaps nowhere is the impact of poverty more acute than on children.

"Poverty is the great disequalizer," says school chief Nerad. "It affects everything from early medical needs to dental needs to whether there are books in the home."

And poverty in public schools is an issue statewide, says Patrick Gasper, spokesman for the state Department of Public Instruction. Gasper notes that the Bayfield School District in far northern Wisconsin has nearly three-quarters of its students now qualifying for free lunch.

"It's not just a Madison, Milwaukee, Green Bay thing," he says.

Yet child poverty remains very much a racial issue in Wisconsin. According to a recent report by the Wisconsin Council on Children and Families, 43 percent of African-American children in the state are living in poverty versus 9 percent of white children.

"That's how we get to the figure that childhood poverty for black children in Wisconsin is five times higher than for white kids," says WCCF's Taylor.

A need to help the children hasn't been lost on Sykes, the grandmother from Madison's Lake Point neighborhood. "Kids need something to do other than just hang around," she says.

Once known as the infamous Broadway/Simpson neighborhood, the area off West Broadway was often a first stop for those coming into Dane County for the first time. It became an area of high crime and drug activity.

The city of Madison eventually stepped in, redeveloped some of the problem properties and helped the private sector develop others. The name of Simpson Street was also changed to Lake Point Drive in an effort to change the image.

Today, the Lake Point neighborhood is home to a combination of renters, condominium owners and seniors. The crime problem has slowed and new businesses have opened. Madison is now attempting the same thing in the poverty-plagued Allied Drive neighborhood.

The NAACP's Hoskins says affordable, decent housing remains the biggest challenge for the poor. She recalls being able to rent a two-bedroom apartment for $450 in the 1990s. Today, rents run twice that high.

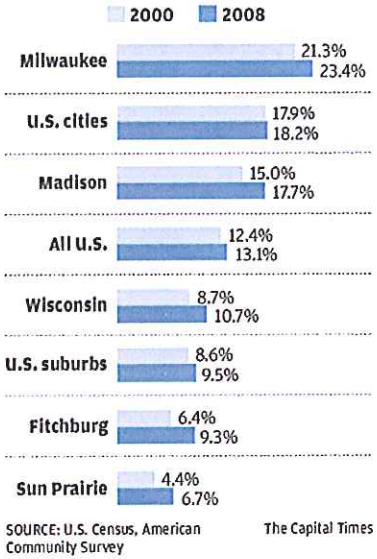
"You need to remember that poor people pay the same for a loaf of bread as the mayor or the county executive or anyone else who makes a lot of money," she says.

Sykes has watched the progress at Allied and says the investment there is a step in the right direction. But she says it all comes down to jobs. She worries there is an entire generation of young people coming along who may not have as many opportunities as their parents.

"When even McDonald's isn't hiring, you know things aren't too good," she says.

Accounting for the poor

The percentage of individuals living under the poverty line ($21,834 for a family of four) is rising.

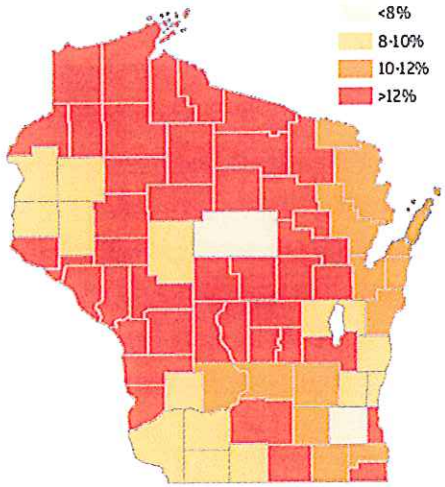


SOURCE: U.S. Census, American Community Survey

The Capital Times

Child poverty in Wisconsin

Data from 2005 to 2007 found high poverty rates for children in Dane County and much of the rest of the state.

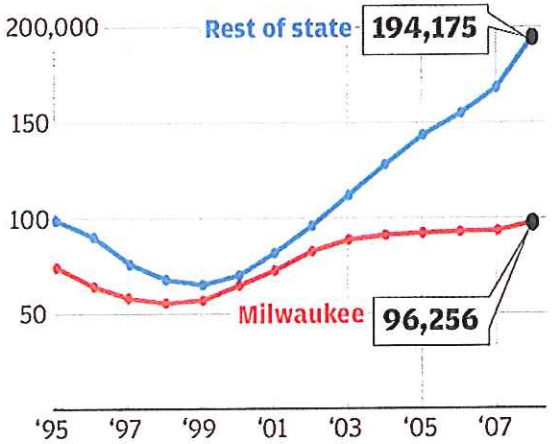


SOURCE: Institute for Research on Poverty

The Capital Times

Food stamps in demand

Poverty, as measured by number of households needing food assistance, has been growing fastest outside of Milwaukee.



SOURCE: Institute for Research on Poverty

The Capital Times

Metropolitan Policy Program at BROOKINGS

Blueprint for American Prosperity
Unleashing the Potential of a Metropolitan Nation

MetroMonitor

Tracking Economic Recession and Recovery in America's 100 Largest Metropolitan Areas

December 2009

Nationwide, the recession is over—at least in the view of most economists in light of third quarter 2009 indicators. They revealed a real U.S. gross domestic product (GDP) increasing at a 2.8 percent annual rate, after four consecutive quarters of contraction. Most interpreted that rate of output growth, along with other signals such as increasing housing prices, as indication that the economic recovery is underway.

Yet the recovery seems fragile. The output increase may have resulted largely from the replenishment of manufacturing inventories and from temporary federal policies: the "cash-for-clunkers" program (already over), the first-time homebuyer tax credit (now extended through April 2010), and the American Recovery and Reinvestment Act's economic stimulus. As the effects of these policies recede, the recovery could slow or give way to yet another recession or a prolonged period of economic stagnation.

Real recovery in the labor market, moreover, remains elusive. Although output grew between July and September of 2009, the total number of U.S. jobs continued to decline. Payroll employment dropped by about 600,000 during the third quarter (about half the decline of the previous quarter), and the unemployment rate climbed to 9.8 percent by September. While the most recent national-level report showed a significant slowing of job losses in November, and a slight downtick in unemployment, the national economy still seems a long way from posting the sustained job gains that would meaningfully lower unemployment and boost incomes.

Focusing on national aggregates, however, overlooks the fact that just as the American economy is not the same everywhere, neither is the recovery. The U.S. economy's performance is driven largely by that of its major metropolitan economies, some of which are recovering and some of which are still in recession. Several of the nation's 100 largest metropolitan areas posted signs of robust economic growth in the third quarter of 2009, most showed a mixed though improving performance across their headline indicators, and some remained mired in recession with no signs that recovery is around the corner.

The *MetroMonitor*, an interactive barometer of the health of America's metropolitan economies, looks "beneath the hood" of national economic statistics to portray the diverse metropolitan landscape of recession and recovery across the country. It aims to enhance understanding of the local underpinnings of national economic trends, and to promote public- and private-sector responses to the downturn that take into account metro areas' distinct strengths and weaknesses.

This edition of the *Monitor* examines indicators through the third quarter of 2009 (ending in September) in the areas of employment, unemployment, output, home prices, and foreclosure rates for the nation's 100 largest metropolitan areas. It finds that:

METROMONITOR: 3RD QUARTER 2009

- **Metro areas continued to register highly disparate economic performance even as the nation showed early signs of recovery.** Several communities in the nation's manufacturing belt that suffered large job and output losses since the recession began posted relative gains in the newest index. But the strongest performing areas in the *Monitor*'s overall index (that is, those that have suffered least or shown signs of having the strongest economic recoveries since the start of the recession) remained in the country's southern midsection, especially Texas. A few new bright spots appeared in Upstate New York and the Heartland. The weakest performers shifted even more strongly toward California, in part because of large recent increases in unemployment. Florida still is home to several of the lowest-ranking metropolitan performers nationwide.

- **Six metro areas—Albuquerque, Austin, McAllen, San Antonio, Virginia Beach, and Washington, DC—had regained their pre-recession peak level of output by the third quarter.** Just one metro area (McAllen) regained its pre-recession peak employment level. No metropolitan area had a lower unemployment rate in September than it did one year earlier, though increases over that period ranged widely, from a little over 1 percentage point to more than 8 percentage points.

- **Recovery seemed to be underway in most metro areas, but job growth remained spotty.** In line with strong GDP growth nationally, gross metropolitan product (GMP) expanded during the third quarter of this year in 92 of the 100 largest metro areas, up from just 20 that had GMP growth in the second quarter. Only 13 of those metro areas, however, posted employment gains as well. Ten metropolitan areas (Greenville, Jackson, McAllen, New Orleans, New York, Omaha, Raleigh, Syracuse, Washington, and Worcester) managed to post faster growth in both jobs and GMP in the third quarter than in the second quarter. Two-thirds of metropolitan areas saw GMP growth accelerate, and job losses decelerate, between the second and third quarters. Metro areas that lost both jobs and GMP were Albany, Cape Coral, Chicago, Portland (OR), and four regions in Pennsylvania.

- **The first-time homebuyer tax credit appeared to boost economic growth in nearly all metro areas.** Real estate output (GMP), which includes payments to real estate brokers, appraisers, and other workers and companies whose earnings come largely from real estate sales, grew in the third quarter in all but five (Cape Coral, New Orleans, New York, Palm Bay, and Portland (OR)) of the 100 largest metropolitan areas, compared to only 35 metro areas in the second quarter. Moreover, the growth rate of real estate GMP was higher in the third quarter than in the second quarter in all but two metro areas (Palm Bay and Cape Coral). Although there are many factors that influence the housing market, these developments may have resulted in part from accelerated use of the first-time homebuyer tax credit in the third quarter, particularly in anticipation of its scheduled expiration in November 2009 (Congress subsequently extended the credit through April 2010). Because the homebuyer tax credit probably affected GMP in nearly all metro areas, the credit did not boost the overall rankings of metro areas that suffered from the collapse of their housing markets during the last few years.

- **The "cash-for-clunkers" program boosted economic growth in most metro areas, and probably accounted for the improved rankings of auto production-specialized metro areas.** Output (GMP) in auto and transportation equipment manufacturing increased in 59 metro areas in the third quarter—including seven of the 12 metro areas that specialize most strongly in auto and auto parts manufacturing (Columbus, Dayton, Indianapolis, Jackson, Knoxville, Toledo, and Youngstown)—

compared to just 23 in the second quarter. Even in metro areas where auto and transportation equipment output fell in the third quarter, it fell at a slower rate than in the second quarter. These developments probably resulted from the cash-for-clunkers program and perhaps from some inventory replenishment that might have occurred anyway. Of the 12 metro areas that specialize most strongly in auto and auto parts production, only one (Detroit) was among the 20 weakest-performing metro areas in this *MetroMonitor*'s overall ranking, compared to five (Dayton, Detroit, Grand Rapids, Toledo, and Youngstown) in the previous edition of the *MetroMonitor*.

- **The rate of metropolitan job losses in construction, manufacturing, and administrative services slowed considerably in the third quarter.** The vast majority of metro areas continued to shed construction, manufacturing, and administrative services jobs, although at a slower pace than in the second quarter. The slowing of job losses in construction probably reflects the impact of the first-time homebuyer tax credit, while the moderating pace of job losses in manufacturing probably reflects the influence of the cash-for-clunkers program and some inventory replenishment. Hospitality employment across the 100 largest metro areas actually grew modestly, after declining more than 2 percent in the second quarter. Most metro areas added jobs in education and health care in the third quarter. More worryingly, retail job losses accelerated, and the government sector failed to grow after expanding in the second quarter. The latter trend reflects newly declining government job levels in several metro areas that include state capitals, likely in response to deteriorating state budget conditions.

- **Home prices stabilized or grew in an increasing number of metro areas, but inventories of real estate-owned properties (REOs) continued to mount overall.** In 49 metro areas, home prices in the third quarter were up from their levels one year earlier, an increase from 43 metro areas in the prior quarter. What effect the federal homebuyer tax credit may have had on these trends was unclear, as a similar improvement occurred in the second quarter compared to the first quarter. Four metro areas in Ohio—Akron, Cleveland, Dayton, and Toledo—joined the list of those posting year-over-year price gains. These and 78 other metropolitan areas, however, saw increases in REOs during the third quarter, signaling potential threats to sustained home price growth. Florida metro areas, in particular, saw mounting REOs between June and September. REOs declined precipitously in most California metro areas, likely reflecting impacts of that state's new foreclosure law.

Widespread output growth at the metropolitan level during the third quarter of 2009 was a sign of a nascent nationwide economic recovery. However, the potential duration and long-term strength of the recovery should not be overstated. In nearly all the 92 metro areas that had GMP growth in the third quarter, at least some of the recovery seemed to be the result of temporary factors. Relatively few metro areas gained jobs during the quarter. In addition, vast differences in performance continued to separate the strongest and weakest performing metropolitan areas.

As the administration and Congress consider new proposals to improve the nation's dismal jobs picture, they must be alert to differences in labor market performance among metropolitan areas. In particular, they should craft policies that provide the biggest employment boost to places that need new jobs the most. The nation's Cape Corals and Detroits need more help with job creation than its McAllens and Austins, and strategies to foster a broad national economic resurgence should recognize and address recovery's metropolitan underpinnings.

METROMONITOR: 3RD QUARTER 2009

Methodology

The *MetroMonitor* tracks quarterly indicators of economic recession and recovery in the nation's 100 largest metropolitan areas—those with at least 500,000 residents in 2007—which collectively contain two-thirds of the nation's jobs and generate three-quarters of GDP. These indicators include:

- **Employment**: Total wage and salary jobs, seasonally adjusted. Percentage change in employment is shown from each metro area's peak employment quarter to the most recent quarter, measuring the extent to which employment has recovered from the recession's impact. Peaks are defined as the highest employment level attained since the first quarter of 2004; in some metro areas where this peak occurred in the most recent quarter, the peak was defined as the highest level attained between 2004 and its most recent quarter of employment losses. Percentage change in employment is also shown from the previous quarter to the most recent quarter, measuring the extent to which employment is moving toward recovery. Source: Moody's Economy.com

- **Unemployment rate**: Percentage of the labor force that is currently unemployed, not seasonally adjusted, last month of quarter. Because the data are not seasonally adjusted, change in the unemployment rate is shown from the same month in previous year. Source: Bureau of Labor Statistics.

- **Gross metropolitan product (GMP)**: Total value of goods and services produced within a metro area. The percentage change in GMP is shown from each metro area's peak GMP quarter (defined in the same way as the peak employment quarter, described above) to the most recent quarter, and from the previous quarter to the most recent quarter. Source: Moody's Economy.com.

- **Housing prices**: Prices of single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac, not seasonally adjusted. Because the data are not seasonally adjusted, the percentage change in housing prices is shown from the same quarter in the previous year to the most recent quarter. Source: Federal Housing Finance Agency House Price Index.

- **Real estate-owned (REO) properties**: Foreclosed properties that fail to sell at auction and thus become owned by the lending institution. Shown as the share of all mortgageable properties in each metro area in the last month of the most recent quarter, and change in share from last month in previous quarter. Source: McDash Analytics.

This *MetroMonitor*'s Overall Performance Index combines metropolitan rankings on four key indicators:

- Percent employment change from peak quarter to 3rd quarter 2009
- Percentage point change in unemployment rate from September 2008 to September 2009
- Percent GMP change from peak quarter to 3rd quarter 2009
- Percent change in House Price Index from 3rd quarter 2008 to 3rd quarter 2009

Metropolitan areas are classified into groups of 20 based on their average ranking, across all four indicators, among the 100 largest metro areas.

Interactive *MetroMonitor* maps, underlying indicator data, and one-page profiles of each of the 100 largest metro areas are also available at www.brookings.edu/metromonitor.

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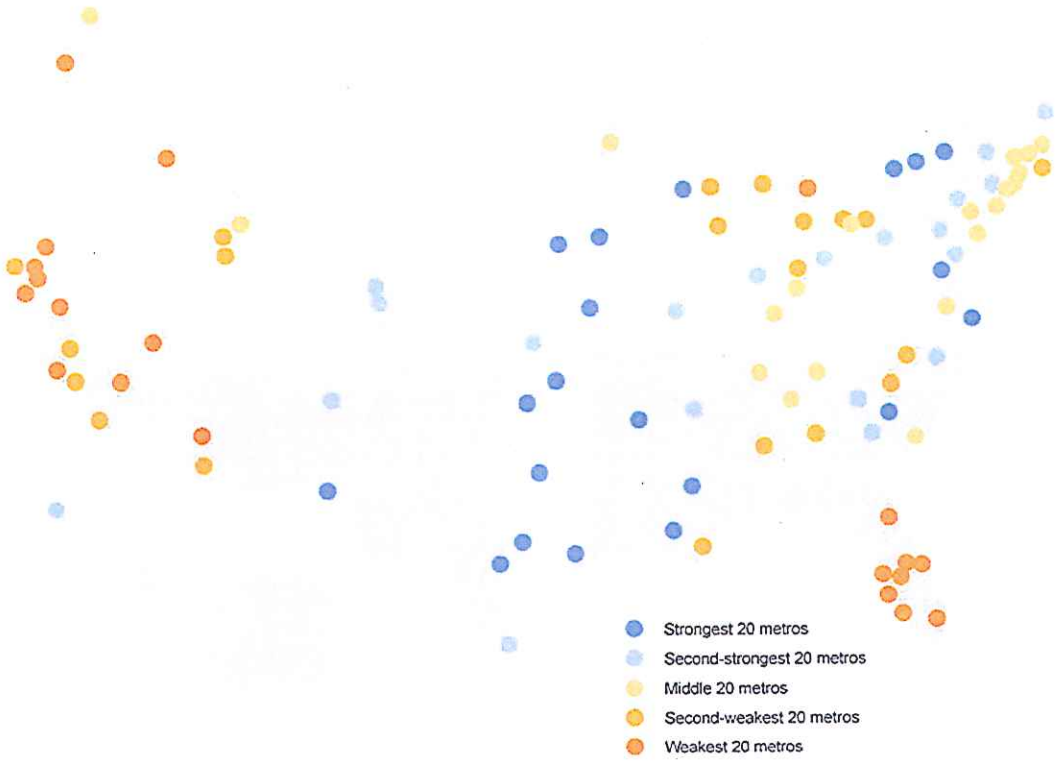
Overall performance of the largest 100 metro areas during the recession

The 100 largest metropolitan areas have varied greatly on changes in employment, unemployment rate, gross metropolitan product (GMP), and housing prices over the course of the recession. We rank all 100 metropolitan areas on measures of their changes in these indicators since their peak or over the past year, depending on the indicator (see Methodology). We then group the areas by their average rank across all four indicators. This overall performance index yields a striking illustration of disparate economic performance among the nation's largest metro areas.

Overall performance on change in employment, unemployment rate, GMP, and housing prices during the recession



The 20 strongest-performing metro areas		The 20 weakest-performing metro areas	
Austin, TX	Little Rock, AR	Boise City, ID	Orlando, FL
Baton Rouge, LA	Madison, WI	Bradenton, FL	Oxnard, CA
Buffalo, NY	Oklahoma City, OK	Cape Coral, FL	Palm Bay, FL
Columbia, SC	Omaha, NE-IA	Detroit, MI	Phoenix, AZ
Dallas, TX	Rochester, NY	Fresno, CA	Portland, OR-WA
Des Moines, IA	San Antonio, TX	Jacksonville, FL	Riverside, CA
El Paso, TX	Syracuse, NY	Lakeland, FL	Sacramento, CA
Houston, TX	Tulsa, OK	Las Vegas, NV	San Jose, CA
Jackson, MS	Virginia Beach, VA-NC	Miami, FL	Stockton, CA
Kansas City, MO-KS	Washington, DC-VA-MD-WV	Modesto, CA	Tampa, FL

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Employment

Only one of the nation's 100 largest metro areas—McAllen, TX—surpassed its pre-recession peak employment, though the depth of job loss elsewhere continued to vary significantly. Overall, the 100 largest metro areas suffered a 4.3 percent decline in employment from their peak levels, somewhat short of the nationwide decline of 4.6 percent. Metro areas in Florida, Ohio, California, and parts of the Intermountain West dominate the list of those experiencing the largest job losses from their peaks, with eight metro areas experiencing drops of at least 10 percent. Meanwhile, a swath of metropolitan areas in Texas, the Plains States, and the Mississippi River Valley, together with Syracuse and the government centers of Columbia and Washington, lost 2 percent or less of their jobs from their employment peaks.

Just 13 metro areas experienced an increase in jobs in the third quarter. Many of the metro areas posting modest gains were among the strongest performers across the course of the recession, such as Columbia, Jackson, McAllen, and Omaha. New York, Raleigh, Syracuse, and Worcester made impressive gains relative to previous quarters. At the other extreme, state capitals such as Atlanta, Boise, Hartford, and Honolulu had difficult quarters due partly to recent declines in government employment. Meanwhile, employment losses continued, though at reduced rates, in some metro areas reliant on manufacturing (Akron, Cleveland, Wichita, Youngstown) and housing-related activities (Bradenton, Cape Coral, Phoenix, Riverside). Regionally, metro areas in the Carolinas and in parts of the Northeast and Mid-Atlantic and performed relatively well, while metro areas throughout the West struggled.

Change in employment
Peak quarter to 3rd quarter 2009

Rank	Metro	Percent employment change, metro peak to 2009Q3
1	McAllen-Edinburg-Mission, TX	1.4%
2	Austin-Round Rock, TX	-0.8%
3	San Antonio, TX	-0.9%
4	El Paso, TX	-1.1%
5	Washington-Arlington-Alexandria, DC-VA-MD-WV	-1.1%
6	Baton Rouge, LA	-1.5%
7	Omaha-Council Bluffs, NE-IA	-1.6%
8	Columbia, SC	-1.7%
9	Syracuse, NY	-1.8%
10	Des Moines-West Des Moines, IA	-1.8%
11	Little Rock-North Little Rock-Conway, AR	-2.0%
12	Oklahoma City, OK	-2.0%
13	Dallas-Fort Worth-Arlington, TX	-2.0%
14	Jackson, MS	-2.1%
15	Rochester, NY	-2.1%
86	Sacramento--Arden-Arcade--Roseville, CA	-7.3%
87	Greensboro-High Point, NC	-7.3%
88	Dayton, OH	-7.5%
89	Tampa-St. Petersburg-Clearwater, FL	-8.0%
90	Las Vegas-Paradise, NV	-8.1%
91	Palm Bay-Melbourne-Titusville, FL	-9.8%
92	Youngstown-Warren-Boardman, OH-PA	-9.9%
93	Boise City-Nampa, ID	-10.1%
94	Toledo, OH	-10.2%
95	Riverside-San Bernardino-Ontario, CA	-10.2%
96	Phoenix-Mesa-Scottsdale, AZ	-10.6%
97	Bradenton-Sarasota-Venice, FL	-14.4%
98	Detroit-Warren-Livonia, MI	-14.9%
99	New Orleans-Metairie-Kenner, LA	-16.0%
100	Cape Coral-Fort Myers, FL	-16.3%
	100 Largest Metros	-4.3%
	United States	-4.6%

Change in employment
2nd quarter 2009 to 3rd quarter 2009

Rank	Metro	Percent employment change, 2009Q2 to 2009Q3
1	McAllen-Edinburg-Mission, TX	1.3%
2	New Orleans-Metairie-Kenner, LA	0.6%
3	New York-Northern New Jersey-Long Island, NY-NJ-PA	0.5%
4	Omaha-Council Bluffs, NE-IA	0.5%
5	Columbia, SC	0.3%
6	Worcester, MA	0.2%
7	Jackson, MS	0.2%
8	Raleigh-Cary, NC	0.1%
9	Washington-Arlington-Alexandria, DC-VA-MD-WV	0.1%
10	Madison, WI	0.1%
11	Syracuse, NY	0.1%
12	Greenville-Mauldin-Easley, SC	0.0%
13	Buffalo-Niagara Falls, NY	0.0%
14	Memphis, TN-MS-AR	0.0%
15	Augusta-Richmond County, GA-SC	0.0%
86	San Diego-Carlsbad-San Marcos, CA	-1.1%
87	Salt Lake City, UT	-1.1%
88	Honolulu, HI	-1.1%
89	Boise City-Nampa, ID	-1.1%
90	Youngstown-Warren-Boardman, OH-PA	-1.1%
91	Hartford-West Hartford-East Hartford, CT	-1.1%
92	Riverside-San Bernardino-Ontario, CA	-1.2%
93	Cleveland-Elyria-Mentor, OH	-1.3%
94	Atlanta-Sandy Springs-Marietta, GA	-1.3%
95	Akron, OH	-1.5%
96	Phoenix-Mesa-Scottsdale, AZ	-1.5%
97	Wichita, KS	-1.6%
98	Ogden-Clearfield, UT	-1.6%
99	Cape Coral-Fort Myers, FL	-1.6%
100	Bradenton-Sarasota-Venice, FL	-2.0%
	100 Largest Metros	-0.5%
	United States	-0.5%

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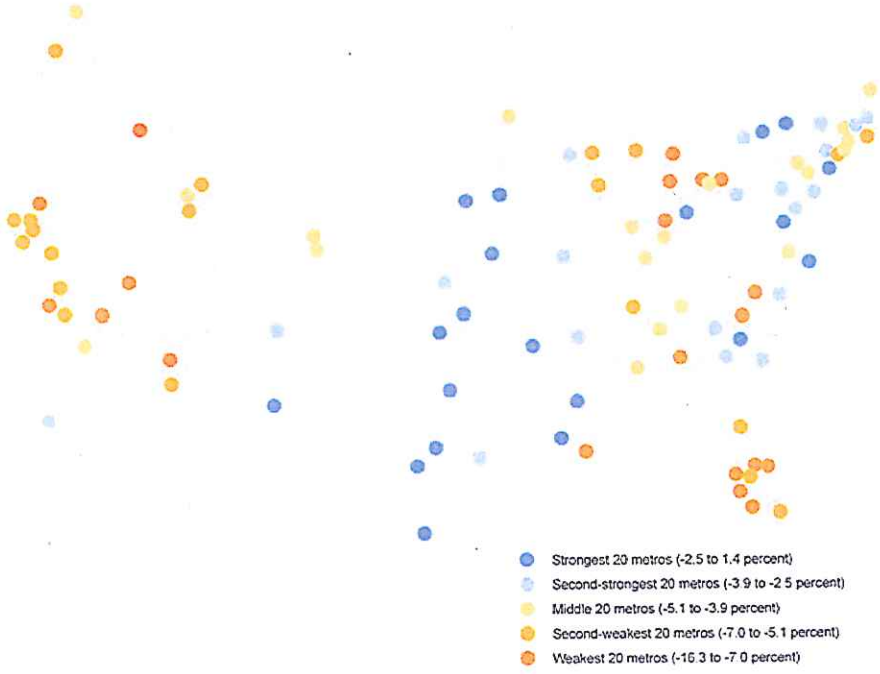
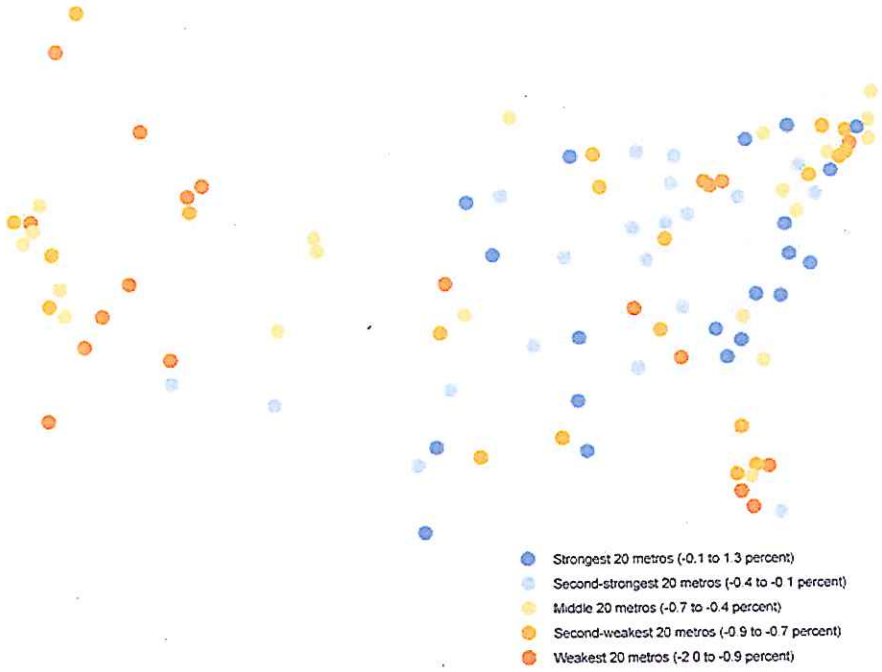
Percent change in employment, peak quarter to 3rd quarter 2009



Percent change in employment, 2nd quarter 2009 to 3rd quarter 2009



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Recent Employment Change by Industry

Rates of job loss in the 100 largest metro areas slowed in most sectors during the third quarter. Between the first and second quarters of 2009, the 100 largest metro areas shed jobs in 17 of the 20 major industry categories. Between the second and third quarters, rates of job loss slowed in 14 of those 17 industries, and turned into job growth in two industries (arts, entertainment, and recreation; and accommodation and food services). Indeed, leisure and hospitality services rebounded strongly in the third quarter, with about half of the 100 largest metro areas adding jobs in those sectors. Other large improvements occurred in construction and manufacturing, two of the most battered industries over the course of the recession, although both continued to post significant rates of job loss in the third quarter. Job growth accelerated in educational services and was stable in health care.

Retail and government employment performance weakened in the third quarter. Retail job losses accelerated during the third quarter of 2009, after modest losses in the second quarter. The number of metro areas adding retail jobs halved from quarter to quarter, from 26 to 13. This was a widespread phenomenon, with metro areas in every region of the country—from Worcester, to Tampa, to Youngstown, to Fresno—watching retail job changes turn from positive to negative. Government employment in the 100 largest metro areas, after posting modest gains during the second quarter, essentially flatlined during the third quarter. Especially noteworthy were relatively steep job losses in a number of metro areas that include state capitals, such as Boise, Boston, Hartford, Honolulu, Nashville, Phoenix, and Providence. Those losses may represent the leading edge of forthcoming weakness in this sector resulting from sizeable state and local budget deficits.

Change in employment by industry for the 100 largest metro areas during the last two quarters

Major Industry	Change, 2009Q1 to 2009Q2 (%)	Change, 2009Q2 to 2009Q3 (%)	Metros Experiencing Growth, 2009Q1 to 2009Q2	Metros Experiencing Growth, 2009Q2 to 2009Q3
Educational Services	0.3	1.4	55	77
Arts, Entertainment, and Recreation	-2.2	0.5	34	50
Health Care and Social Assistance	0.3	0.3	73	71
Accommodation and Food Services	-0.8	0.1	22	52
Government	0.2	0.0	60	47
Utilities	-0.2	-0.1	51	50
Other Services	-0.4	-0.2	34	40
Professional, Scientific, Technical Services	-1.0	-0.3	34	32
Administrative Services	-2.6	-0.5	9	34
Agriculture, Forestry, Fishing, Hunting	-1.8	-0.6	3	11
Real Estate and Rental and Leasing	-1.4	-0.7	16	39
Management of Companies and Enterprises	-1.1	-0.8	29	27
Finance and Insurance	-1.2	-0.9	18	25
Wholesale Trade	-1.4	-0.9	17	26
Information	-1.9	-0.9	5	24
Transportation and Warehousing	-1.7	-1.0	12	23
Retail Trade	-0.6	-1.1	26	13
Manufacturing	-3.0	-1.3	1	8
Mining	-2.6	-1.3	16	20
Construction	-4.4	-2.2	2	10
Total Payroll Employment	**-1.1**	**-0.5**	**6**	**13**

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Unemployment Rate

Major metropolitan area unemployment rates in September 2009 ranged from 4.6 percentage points below the national average to 7.8 percentage points above the national average. California and Florida contained ten of the 15 metro areas with the highest unemployment rates in September. Those California and Florida metro areas, along with the manufacturing-oriented metro areas of Detroit, Grand Rapids, Providence, and Youngstown, had unemployment rates of at least 12 percent. The metro areas that continued to post unemployment rates below 7 percent were located in the country's mid-section and in the Intermountain West, with the exception of Honolulu, Portland (ME), Virginia Beach, and Washington, D.C.

Unemployment rates rose in all metro areas in the year ending September 2009. Most metro areas experiencing modest increases in unemployment over the previous year also boasted among the lowest unemployment rates that month. Cleveland, Colorado Springs, Minneapolis, and Rochester posted low year-over-year increases in unemployment rates despite not registering among the lowest rates in September. Meanwhile, three Florida metro areas—Bradenton, Lakeland, and Orlando—joined the list of those with the largest annual unemployment increases, reflecting the state's continued labor market weakness following the housing market crash.

Unemployment rate, September 2009

Rank	Metro	Unemployment rate, Sep. 2009
1	Omaha-Council Bluffs, NE-IA	4.9%
2	Provo-Orem, UT	5.4%
3	Madison, WI	5.6%
4	Little Rock-North Little Rock-Conway, AR	5.9%
5	Salt Lake City, UT	6.0%
6	Oklahoma City, OK	6.0%
7	Des Moines-West Des Moines, IA	6.1%
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	6.1%
9	Ogden-Clearfield, UT	6.2%
10	Honolulu, HI	6.2%
11	Virginia Beach-Norfolk-Newport News, VA-NC	6.7%
12	Portland-South Portland-Biddeford, ME	6.9%
13	Baton Rouge, LA	7.0%
14	Denver-Aurora-Broomfield, CO	7.1%
15	Tulsa, OK	7.1%
86	Los Angeles-Long Beach-Santa Ana, CA	11.9%
87	Grand Rapids-Wyoming, MI	11.9%
88	Sacramento--Arden-Arcade--Roseville, CA	11.9%
89	Providence-New Bedford-Fall River, RI-MA	12.1%
90	Youngstown-Warren-Boardman, OH-PA	12.3%
91	Bradenton-Sarasota-Venice, FL	12.5%
92	Lakeland-Winter Haven, FL	12.8%
93	Cape Coral-Fort Myers, FL	13.9%
94	Las Vegas-Paradise, NV	13.9%
95	Bakersfield, CA	14.0%
96	Fresno, CA	14.0%
97	Riverside-San Bernardino-Ontario, CA	14.3%
98	Modesto, CA	15.2%
99	Stockton, CA	15.4%
100	Detroit-Warren-Livonia, MI	17.3%
	100 Largest Metros	9.6%
	United States	9.5%

Change in unemployment rate, September 2008 to September 2009

Rank	Metro	Change in unemployment rate, Sep. 2008 to Sep. 2009
1	Jackson, MS	1.3%
2	Baton Rouge, LA	1.3%
3	Omaha-Council Bluffs, NE-IA	1.4%
4	New Orleans-Metairie-Kenner, LA	1.5%
5	Colorado Springs, CO	1.6%
6	Little Rock-North Little Rock-Conway, AR	1.6%
7	Cleveland-Elyria-Mentor, OH	1.9%
8	Minneapolis-St. Paul-Bloomington, MN-WI	2.0%
9	Denver-Aurora-Broomfield, CO	2.1%
10	Albany-Schenectady-Troy, NY	2.1%
11	Honolulu, HI	2.2%
12	Des Moines-West Des Moines, IA	2.2%
13	San Antonio, TX	2.2%
14	Washington-Arlington-Alexandria, DC-VA-MD-WV	2.2%
15	Rochester, NY	2.3%
86	Fresno, CA	4.6%
87	Bradenton-Sarasota-Venice, FL	4.6%
88	Bakersfield, CA	4.9%
89	Lakeland-Winter Haven, FL	4.9%
90	Portland-Vancouver-Beaverton, OR-WA	5.0%
91	Modesto, CA	5.0%
92	Orlando-Kissimmee, FL	5.0%
93	Charlotte-Gastonia-Concord, NC-SC	5.0%
94	Youngstown-Warren-Boardman, OH-PA	5.1%
95	Riverside-San Bernardino-Ontario, CA	5.2%
96	Birmingham-Hoover, AL	5.2%
97	Stockton, CA	5.3%
98	San Jose-Sunnyvale-Santa Clara, CA	5.4%
99	Las Vegas-Paradise, NV	6.2%
100	Detroit-Warren-Livonia, MI	8.4%
	100 Largest Metros	3.6%
	United States	3.5%

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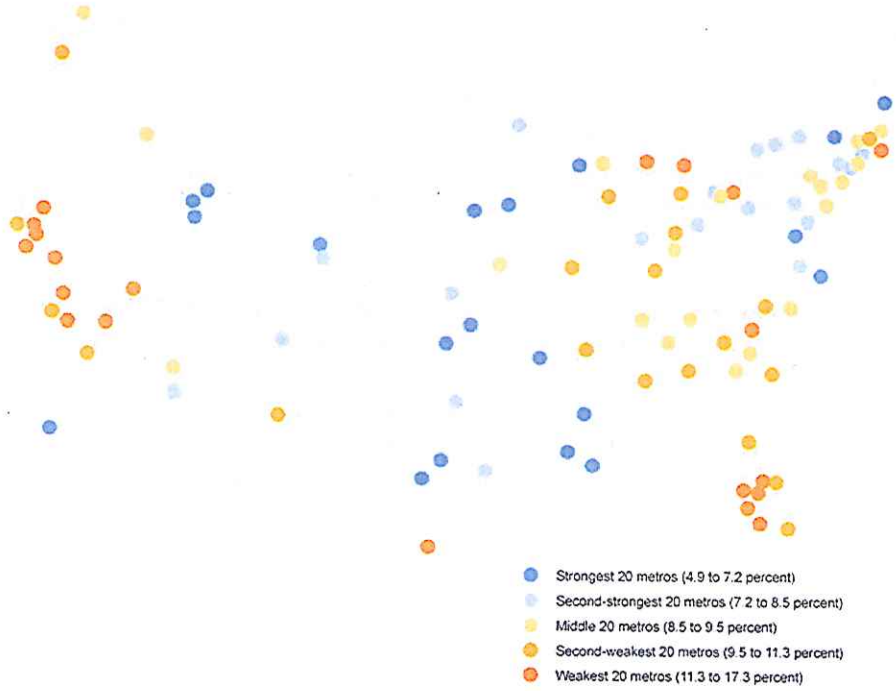
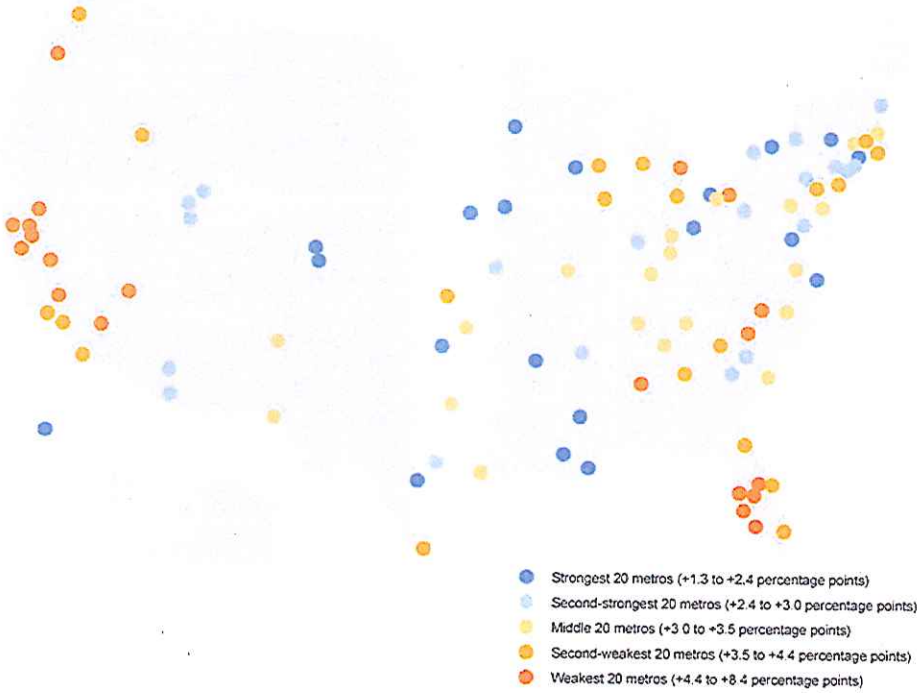
Unemployment rate, September 2009



Change in unemployment rate, September 2008 to September 2009



Gross Metropolitan Product

Six metro areas posted new highs in output in the third quarter of 2009. Albuquerque, Austin, McAllen, San Antonio, Virginia Beach, and Washington, D.C. reached or exceeded their pre-recession peak output levels in the third quarter, Twelve additional metro areas registered output levels less than 1 percent below their pre-recession peaks, suggesting that several additional metro areas may move into expansionary territory if they experience similar economic growth in the fourth quarter. Meanwhile, GMP in 21 metro areas—15 of which are in California, Florida, or Ohio—remained at least 5 percent below its pre-recession peak. Detroit and Cape Coral experienced much greater output declines than all other metro areas, reflecting the continuing toll that the recession has taken on both Sun Belt metro areas and auto manufacturing centers.

Output expanded in 92 of the 100 largest metro areas in the third quarter, up from just 20 in the second quarter. Gains in GMP were geographically widespread in the third quarter, in line with moderate GDP growth nationally. Several of the strongest performers were in Texas, the lower Mid-Atlantic, and Ohio, owing to the impact of expanded auto industry output in response to the cash-for-clunkers program. (Detroit, however, experienced more modest GMP growth in the third quarter.) Seattle and Providence also rebounded strongly. Slow growth or declines in GMP were evident in metro areas throughout New York, Pennsylvania, Louisiana, and Colorado. Atlanta, Chicago, and Portland (OR) also posted anemic growth or small declines in output in the third quarter.

Percent change in real GMP, Peak quarter to 3rd quarter 2009

Rank	Metro	Percent GMP change, metro peak to 2009Q3
1	Austin-Round Rock, TX	2.0%
2	Washington-Arlington-Alexandria, DC-VA-MD-WV	1.6%
3	McAllen-Edinburg-Mission, TX	1.0%
4	Virginia Beach-Norfolk-Newport News, VA-NC	0.7%
5	San Antonio, TX	0.5%
6	Albuquerque, NM	0.0%
7	Baltimore-Towson, MD	-0.1%
8	Houston-Sugar Land-Baytown, TX	-0.1%
9	Dallas-Fort Worth-Arlington, TX	-0.2%
10	Kansas City, MO-KS	-0.3%
11	Seattle-Tacoma-Bellevue, WA	-0.4%
12	Raleigh-Cary, NC	-0.4%
13	Tulsa, OK	-0.4%
14	Honolulu, HI	-0.4%
15	El Paso, TX	-0.5%
86	Stockton, CA	-5.6%
87	Sacramento--Arden-Arcade--Roseville, CA	-5.7%
88	Greensboro-High Point, NC	-6.0%
89	Youngstown-Warren-Boardman, OH-PA	-6.1%
90	New Orleans-Metairie-Kenner, LA	-6.1%
91	Jacksonville, FL	-6.3%
92	Tampa-St. Petersburg-Clearwater, FL	-6.5%
93	Bradenton-Sarasota-Venice, FL	-6.7%
94	Oxnard-Thousand Oaks-Ventura, CA	-6.8%
95	Palm Bay-Melbourne-Titusville, FL	-6.9%
96	Cleveland-Elyria-Mentor, OH	-7.2%
97	Dayton, OH	-8.2%
98	Toledo, OH	-9.3%
99	Detroit-Warren-Livonia, MI	-15.2%
100	Cape Coral-Fort Myers, FL	-16.2%
	100 Largest Metros	-2.4%
	United States	-2.5%

Percent change in real GMP, 2nd quarter 2009 to 3rd quarter 2009

Rank	Metro	Percent GMP change, 2009Q2 to 2009Q3
1	Baltimore-Towson, MD	2.1%
2	Houston-Sugar Land-Baytown, TX	1.8%
3	Austin-Round Rock, TX	1.7%
4	Ogden-Clearfield, UT	1.7%
5	Cleveland-Elyria-Mentor, OH	1.7%
6	Columbus, OH	1.7%
7	Cincinnati-Middletown, OH-KY-IN	1.6%
8	Seattle-Tacoma-Bellevue, WA	1.6%
9	Providence-New Bedford-Fall River, RI-MA	1.6%
10	Washington-Arlington-Alexandria, DC-VA-MD-WV	1.6%
11	McAllen-Edinburg-Mission, TX	1.6%
12	Toledo, OH	1.5%
13	Dallas-Fort Worth-Arlington, TX	1.5%
14	Youngstown-Warren-Boardman, OH-PA	1.5%
15	Jackson, MS	1.5%
86	Atlanta-Sandy Springs-Marietta, GA	0.3%
87	New Orleans-Metairie-Kenner, LA	0.2%
88	Oklahoma City, OK	0.2%
89	Baton Rouge, LA	0.2%
90	Buffalo-Niagara Falls, NY	0.1%
91	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	0.1%
92	New York-Northern New Jersey-Long Island, NY-NJ-PA	0.1%
93	Portland-Vancouver-Beaverton, OR-WA	-0.1%
94	Chicago-Naperville-Joliet, IL-IN-WI	-0.1%
95	Harrisburg-Carlisle, PA	-0.1%
96	Albany-Schenectady-Troy, NY	-0.2%
97	Scranton--Wilkes-Barre, PA	-0.5%
98	Allentown-Bethlehem-Easton, PA-NJ	-0.5%
99	Pittsburgh, PA	-0.6%
100	Cape Coral-Fort Myers, FL	-0.7%
	100 Largest Metros	0.8%
	United States	0.8%

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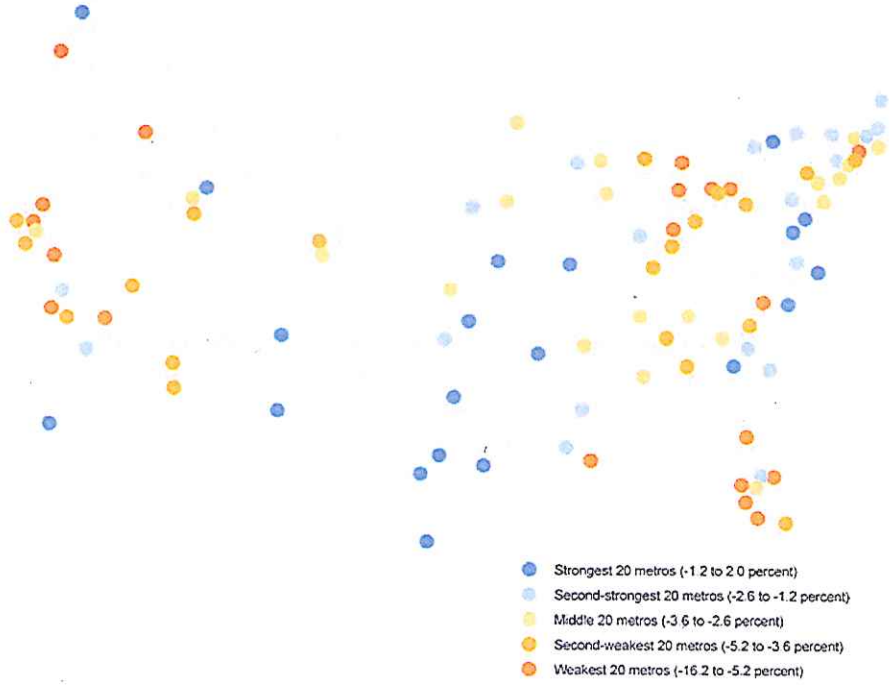
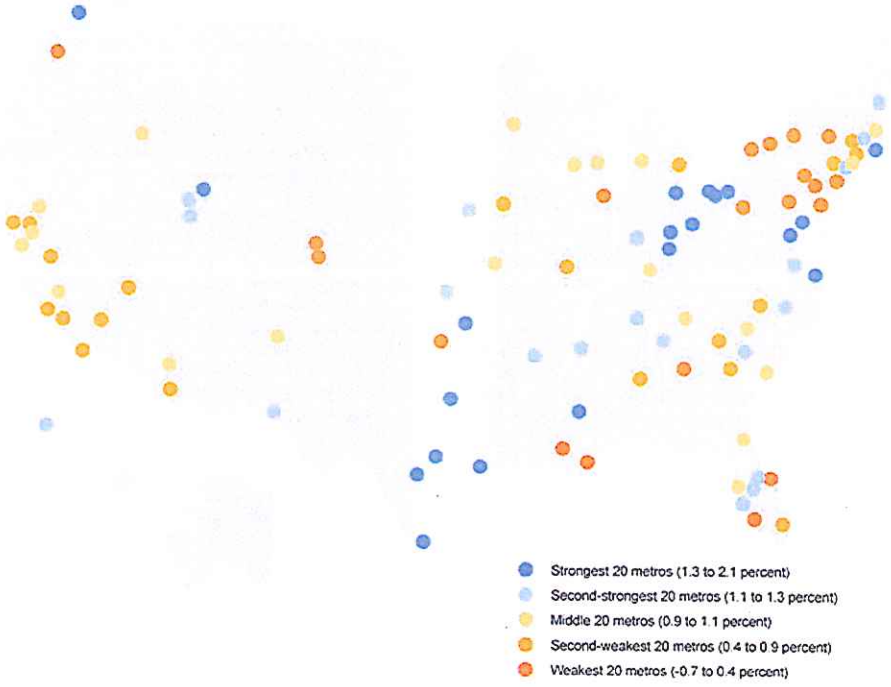
Percent change in real GMP, peak quarter to 3rd quarter 2009



Percent change in real GMP, 2nd quarter 2009 to 3rd quarter 2009



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Recent Trends in Overall Employment and Output Change

In line with national aggregates, two-thirds of major metropolitan areas saw output (GMP) grow faster in the third quarter than the second quarter, while job losses continued but at a reduced rate. Of the remaining metro areas, 13 experienced GMP growth alongside job growth, most at a faster rate than in the second quarter. Another 13 experienced output growth but suffered faster job losses than in the second quarter, a category that included some of the strongest metropolitan performers over the course of the recession—Des Moines, Little Rock, El Paso, Baton Rouge. Seven of the eight metro areas that experienced output declines in the third quarter experienced slowing job losses, including four in Pennsylvania alone. Among those, only Portland (OR) saw a greater GMP decline in the third quarter. Only Cape Coral experienced both a decline in output and accelerating job losses.

Output and jobs grew in third quarter (13)		
Buffalo, NY*	McAllen, TX	Raleigh, NC
Columbia, SC*	New Orleans, LA	Syracuse, NY
Greenville, SC	New York, NY	Washington, DC
Jackson, MS	Omaha, NE	Worcester, MA
Madison, WI*		
Output grew, jobs declined at slower rate in third quarter than second quarter (66)		
Albuquerque, NM	Houston, TX	Poughkeepsie, NY
Atlanta, GA	Indianapolis, IN	Providence, RI
Augusta-Richmond County, GA	Kansas City, MO	Provo, UT
Austin, TX	Knoxville, TN	Richmond, VA
Bakersfield, CA	Lakeland, FL	Riverside, CA
Birmingham, AL	Las Vegas, NV	Rochester, NY
Boise, ID	Los Angeles, CA	Sacramento, CA
Boston, MA	Louisville, KY	Salt Lake City, UT
Bridgeport, CT	Memphis, TN	San Diego, CA
Charlotte, NC-SC	Miami, FL	San Francisco, CA
Chattanooga, TN	Milwaukee, WI	San Jose, CA
Cincinnati, OH	Minneapolis, MN	Seattle, WA
Cleveland, OH	Modesto, CA	Springfield, MA
Colorado Springs, CO	Nashville, TN	St. Louis, MO
Columbus, OH	New Haven, CT	Stockton, CA
Dallas, TX	Ogden, UT	Tampa, FL
Denver, CO	Oklahoma City, OK	Toledo, OH
Detroit, MI	Orlando, FL	Tucson, AZ
Fresno, CA	Oxnard, CA	Tulsa, OK
Grand Rapids, MI	Philadelphia, PA	Virginia Beach, VA
Greensboro, NC	Phoenix, AZ	Wichita, KS
Hartford, CT	Portland, ME	Youngstown, OH
Output grew, jobs declined at faster rate in third quarter than second quarter (13)		
Akron, OH	Dayton, OH	Jacksonville, FL
Baltimore, MD	Des Moines, IA	Little Rock, AR
Baton Rouge, LA	El Paso, TX	Palm Bay, FL
Bradenton, FL	Honolulu, HI	San Antonio, TX
Charleston, SC		
Output and jobs fell in third quarter (8)		
Albany, NY	Chicago, IL-IN-WI	Scranton, PA
Allentown, PA-NJ	Harrisburg, PA	Portland, OR-WA***
Cape Coral, FL**	Pittsburgh, PA	

*In Buffalo, Columbia, and Madison, the rate of employment growth declined from the second quarter to the third quarter.
**In Cape Coral, the rate of job loss accelerated from the second quarter to the third quarter.
***In Portland (OR), GMP decline accelerated from the second quarter to the third quarter.

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Recent Trends in Output Change in the Auto Industry

Output in auto and transportation equipment manufacturing increased in 59 large metro areas in the third quarter, probably in part as a result of the cash-for-clunkers program. In only three of these metro areas did auto and transportation equipment output (GMP) grow at a slower rate in the third quarter than in the second. In all 40 metro areas where auto and transportation equipment output fell in the third quarter, it fell at a slower rate than in the second quarter. Although it is impossible to attribute these facts solely to the cash-for-clunkers program, this evidence suggests that that program boosted auto and auto-related production in nearly every large metro area.

The metro areas that specialize in the production of autos and auto parts experienced a boost in economic growth in the third quarter, further evidence of the likely impact of the cash-for-clunkers program. Auto and transportation equipment GMP grew at a faster rate in the third quarter than in the second in seven of the 12 metro areas that specialize most strongly in auto and auto parts manufacturing (Columbus, Dayton, Indianapolis, Jackson, Knoxville, Toledo, and Youngstown) and fell at a slower rate in the third quarter than in the second in the remaining five (Charleston, Detroit, Grand Rapids, Louisville, and Nashville). The increased growth rate of auto and transportation equipment output was partly responsible for an improvement in the auto-specialized metro areas' standing in our rankings of overall GMP growth, both in the third quarter of this year and since the beginning of the recession. In the third quarter, none of the 12 auto-specialized metro areas were in the bottom 20 in overall GMP growth, compared to eight in the second quarter. Moreover, only four of the auto-specialized metro areas ranked among the bottom 20 in overall GMP growth between their peak output quarter and the third quarter of 2009, compared to five as of the second quarter. All this suggests that the cash-for-clunkers program made a difference in the auto and parts manufacturing centers that the recession hit hardest.

Auto and transportation equipment manufacturing output grew in third quarter at faster rate than in second quarter (56)		
Akron, OH	Jackson, MS*	Providence, RI
Allentown, PA	Jacksonville, FL	Provo, UT
Austin, TX	Kansas City, MO	Raleigh, NC
Baltimore, MD	Knoxville, TN*	Richmond, VA
Bakersfield, CA	Lakeland, FL	Riverside, CA
Birmingham, AL	Little Rock, AR	Sacramento, CA
Boston, MA	Los Angeles, CA	Salt Lake City, UT
Bradenton, FL	Madison, WI	San Antonio, TX
Charlotte, NC	Memphis, TN	Scranton, PA
Chattanooga, TN	Miami, FL	Seattle, WA
Chicago, IL	Milwaukee, WI	St. Louis, MO
Colorado Springs, CO	Modesto, CA	Stockton, CA
Columbus, OH*	New York, NY	Tampa, FL
Dallas, TX	Ogden, UT	Toledo, OH*
Dayton, OH*	Oxnard, CA	Washington, DC
Greensboro, NC	Philadelphia, PA	Wichita, KS
Harrisburg, PA	Phoenix, AZ	Worcester, MA
Honolulu, HI	Pittsburgh, PA	Youngstown, OH*
Indianapolis, IN*	Portland, ME	
Auto and transportation equipment manufacturing output grew in third quarter at slower rate than in second quarter (3)		
Las Vegas, NV	Palm Bay, FL	Virginia Beach, VA

METROMONITOR: 3RD QUARTER 2009

Auto and transportation equipment manufacturing output fell in third quarter but at slower rate than in second quarter (40)		
Albany, NY	Des Moines, IA	New Orleans, LA
Albuquerque, NM	Detroit, MI*	Oklahoma City, OK
Atlanta, GA	El Paso, TX	Omaha, NE
Augusta, GA	Fresno, CA	Orlando, FL
Baton Rouge, LA	Grand Rapids, MI*	Portland, OR
Boise, ID	Greenville, SC	Poughkeepsie, NY
Bridgeport, CT	Hartford, CT	Rochester, NY
Buffalo, NY	Houston TX	San Diego, CA
Cape Coral, FL	Louisville, KY*	San Francisco, CA
Charleston, SC*	McAllen, TX	San Jose, CA
Cleveland, OH	Minneapolis, MN	Springfield, MA
Cincinnati, OH	Nashville, TN*	Syracuse, NY
Columbia, SC	New Haven, CT	Tulsa, OK
Denver, CO		

*Metropolitan area specializes in the production of autos and/or auto parts. The employment location quotient for those two industries combined is 2.0 or higher.

Notes: Auto and transportation equipment manufacturing includes the following sub-industries: motor vehicle manufacturing, motor vehicle body and trailer manufacturing, motor vehicle parts manufacturing, railroad rolling stock manufacturing, and other transportation equipment manufacturing. Data are not available for Tucson, AZ.

METROMONITOR: 3RD QUARTER 2009

Housing Prices

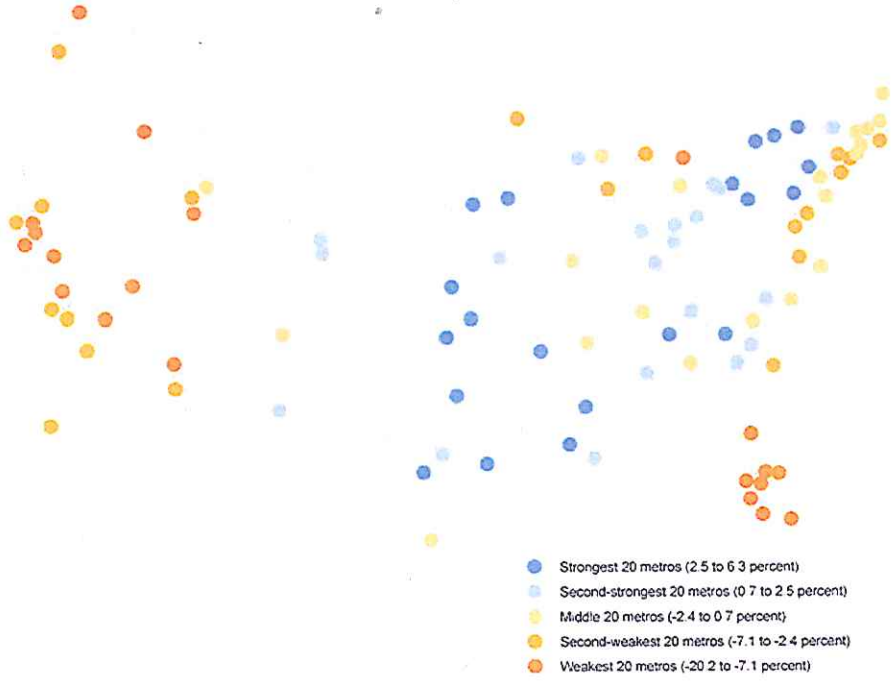
Nearly half of large metro areas posted an inflation-adjusted increase in house prices between the third quarters of 2008 and 2009. Overall, prices fell by 3 percent in the 100 largest metro areas over the preceding year, an improvement from their 4.3 percent drop between the second quarters of 2008 and 2009. Forty-nine metro areas experienced an annual increase in inflation-adjusted home prices. The Upstate New York areas of Rochester and Syracuse climbed the list of strongest performers, while the positions of Dallas and Houston dropped relative to last quarter. House-price recovery remained elusive in overbuilt metro areas in Florida, inland California, and portions of the Intermountain West, where prices were down at least 7 percent from the third quarter of 2008. Las Vegas continued to post the most severe price decreases of any major metro area.

Percent change in the real House Price Index, 3rd quarter 2008 to 3rd quarter 2009

Rank	Metro	Percent change in the real HPI, 2008Q3 to 2009Q3
1	Wichita, KS	6.3%
2	Jackson, MS	4.4%
3	Rochester, NY	4.3%
4	Syracuse, NY	4.3%
5	Buffalo-Niagara Falls, NY	4.3%
6	Pittsburgh, PA	4.1%
7	San Antonio, TX	3.9%
8	Tulsa, OK	3.9%
9	Houston-Sugar Land-Baytown, TX	3.7%
10	Omaha-Council Bluffs, NE-IA	3.6%
11	Baton Rouge, LA	3.5%
12	Oklahoma City, OK	3.4%
13	Little Rock-North Little Rock-Conway, AR	3.3%
14	Greenville-Mauldin-Easley, SC	3.1%
15	Harrisburg-Carlisle, PA	3.1%
86	Boise City-Nampa, ID	-8.8%
87	Tampa-St. Petersburg-Clearwater, FL	-8.9%
88	Stockton, CA	-8.9%
89	Riverside-San Bernardino-Ontario, CA	-9.1%
90	Bakersfield, CA	-9.8%
91	Palm Bay-Melbourne-Titusville, FL	-10.0%
92	Cape Coral-Fort Myers, FL	-10.4%
93	Bradenton-Sarasota-Venice, FL	-10.4%
94	Fresno, CA	-11.3%
95	Modesto, CA	-11.4%
96	Orlando-Kissimmee, FL	-12.2%
97	Lakeland-Winter Haven, FL	-13.8%
98	Miami-Fort Lauderdale-Pompano Beach, FL	-14.3%
99	Phoenix-Mesa-Scottsdale, AZ	-14.5%
100	Las Vegas-Paradise, NV	-20.2%
	100 Largest Metros	-3.0%
	United States	-1.3%

METROMONITOR: 3RD QUARTER 2009

Percent change in real House Price Index, 3rd quarter 2008 to 3rd quarter 2009



METROMONITOR: 3RD QUARTER 2009

Real Estate Owned (REO) Properties

Metro areas in Florida, California, and portions of the Intermountain West continue to be plagued by the highest concentrations of bank-owned homes. Eight metro areas carried at least 10 real-estate-owned (REO) properties for every 1,000 mortgageable properties in September 2009—the same eight as in June. Many traditionally manufacturing-based economies in the inland Northeast and Midwest, including those in Pennsylvania and Upstate New York, still boasted low REO rates, as did Madison, Portland (ME), El Paso, Baton Rouge, and Honolulu. Washington, Atlanta, and Minneapolis again registered concentrations of REO properties more characteristic of their Sun Belt counterparts.

REO rates continued to rise overall, and in most large metropolitan areas, in the third quarter. Despite stabilizing home prices, REOs rose in 79 of the 100 largest metropolitan areas between June and September of 2009, though the overall rate of increase for the 100 largest metro areas halved from its March-to-June 2009 pace. Part of the slowdown may be attributable to the enactment of the California Foreclosure Prevention Act in March, which effectively delayed the timing of foreclosure sales in that state for three months. Since June, California metro areas have experienced precipitous recent declines in REO rates. Meanwhile, metro areas in Florida, the Pacific Northwest, and the Intermountain West confronted rising REOs in the third quarter, possibly clouding recovery prospects in their housing markets and broader regional economies.

REOs per 1,000 mortgageable properties, September 2009

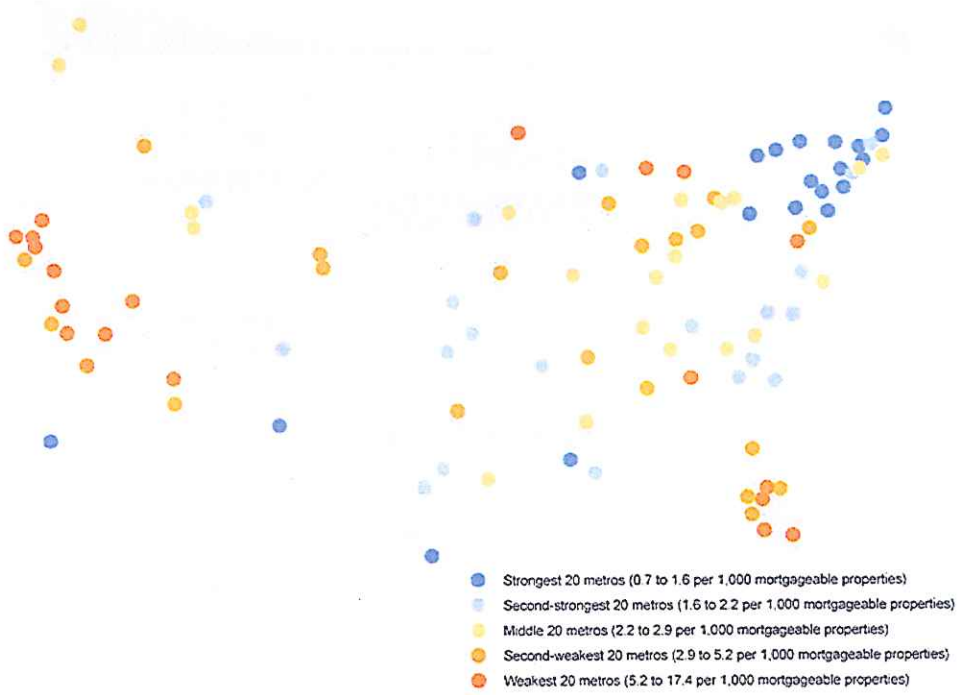
Rank	Metro	REOs per 1,000 mortgageable properties, Sep 2009
1	Syracuse, NY	0.65
2	Albany-Schenectady-Troy, NY	0.75
3	Harrisburg-Carlisle, PA	0.75
4	Scranton--Wilkes-Barre, PA	0.95
5	Buffalo-Niagara Falls, NY	1.01
6	Madison, WI	1.08
7	Pittsburgh, PA	1.18
8	Portland-South Portland-Biddeford, ME	1.21
9	El Paso, TX	1.22
10	Baton Rouge, LA	1.22
11	Rochester, NY	1.24
12	Honolulu, HI	1.27
13	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1.34
14	Springfield, MA	1.35
15	Hartford-West Hartford-East Hartford, CT	1.40
86	Fresno, CA	6.65
87	Miami-Fort Lauderdale-Pompano Beach, FL	6.82
88	Washington-Arlington-Alexandria, DC-VA-MD-WV	7.04
89	Atlanta-Sandy Springs-Marietta, GA	7.09
90	Minneapolis-St. Paul-Bloomington, MN-WI	7.53
91	Sacramento--Arden-Arcade--Roseville, CA	7.85
92	Orlando-Kissimmee, FL	8.20
93	Bakersfield, CA	10.43
94	Detroit-Warren-Livonia, MI	10.59
95	Phoenix-Mesa-Scottsdale, AZ	12.19
96	Riverside-San Bernardino-Ontario, CA	13.85
97	Modesto, CA	13.91
98	Stockton, CA	14.93
99	Cape Coral-Fort Myers, FL	17.18
100	Las Vegas-Paradise, NV	17.40
	100 Largest Metros	4.32
	United States	3.51

Change in REOs per 1,000 mortgageable properties, June 2009 to September 2009

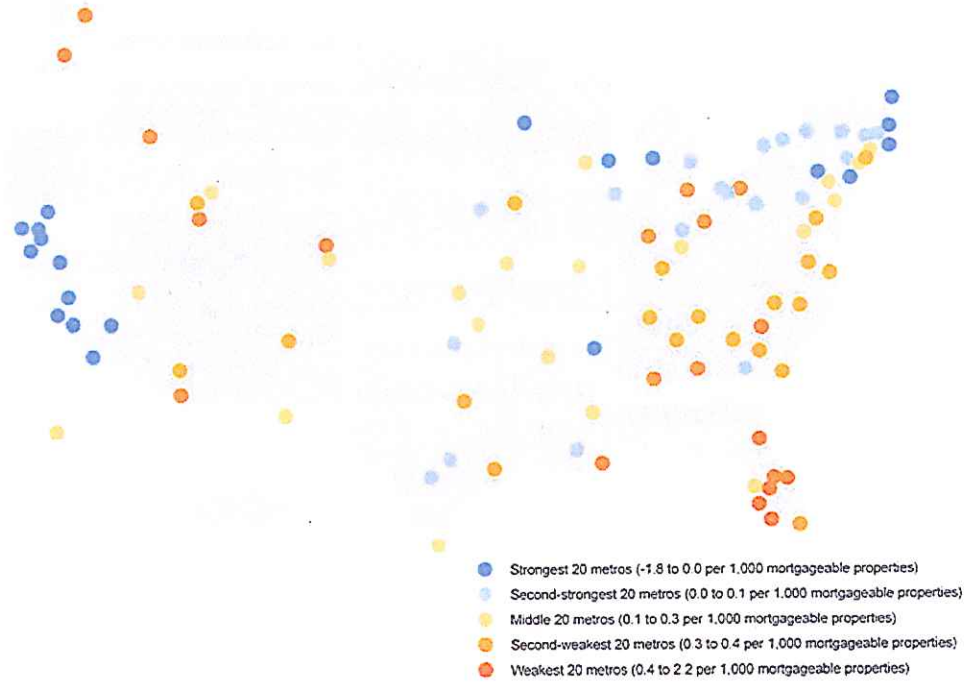
Rank	Metro	Change in REOs per 1,000 mortgageable properties, Jun 2009 to Sep 2009
1	Modesto, CA	-1.81
2	Stockton, CA	-1.46
3	Bakersfield, CA	-1.19
4	Riverside-San Bernardino-Ontario, CA	-0.90
5	Fresno, CA	-0.78
6	San Francisco-Oakland-Fremont, CA	-0.34
7	San Jose-Sunnyvale-Santa Clara, CA	-0.33
8	Oxnard-Thousand Oaks-Ventura, CA	-0.32
9	Sacramento--Arden-Arcade--Roseville, CA	-0.29
10	Los Angeles-Long Beach-Santa Ana, CA	-0.23
11	Grand Rapids-Wyoming, MI	-0.17
12	San Diego-Carlsbad-San Marcos, CA	-0.14
13	Memphis, TN-MS-AR	-0.13
14	Providence-New Bedford-Fall River, RI-MA	-0.11
15	Scranton--Wilkes-Barre, PA	-0.11
86	Birmingham-Hoover, AL	0.54
87	Seattle-Tacoma-Bellevue, WA	0.55
88	Denver-Aurora-Broomfield, CO	0.55
89	Provo-Orem, UT	0.56
90	Toledo, OH	0.57
91	Portland-Vancouver-Beaverton, OR-WA	0.57
92	Boise City-Nampa, ID	0.58
93	Tucson, AZ	0.61
94	Bradenton-Sarasota-Venice, FL	0.62
95	Palm Bay-Melbourne-Titusville, FL	0.76
96	Jacksonville, FL	0.82
97	Lakeland-Winter Haven, FL	0.92
98	Orlando-Kissimmee, FL	0.98
99	Atlanta-Sandy Springs-Marietta, GA	1.01
100	Cape Coral-Fort Myers, FL	2.20
	100 Largest Metros	0.17
	United States	0.20

METROMONITOR: 3RD QUARTER 2009

REOs per 1,000 mortgageable properties, September 2009



Change in REOs per 1,000 mortgageable properties, June 2009 to September 2009



Appendix. Metro performance across four key indicators

	Metro	Percent change in employment, metro peak to 2009Q3	Rank	Percentage point change in the unemployment rate, Sep 2008 to Sep 2009	Rank	Percent change in real GMP, metro peak to 2009Q3	Rank	Percent change in the real HPI, 2008Q3 to 2009Q3	Rank
Strongest 20 metros	Austin, TX	-0.8%	2	2.6%	28	2.0%	1	2.2%	22
	Baton Rouge, LA	-1.5%	6	1.3%	2	-1.2%	22	3.5%	11
	Buffalo, NY	-2.8%	24	2.5%	24	-1.4%	24	4.3%	5
	Columbia, SC	-1.7%	8	2.8%	32	-1.6%	28	1.7%	25
	Dallas, TX	-2.0%	13	3.1%	43	-0.2%	9	2.9%	17
	Des Moines, IA	-1.8%	10	2.2%	12	-3.2%	49	2.6%	19
	El Paso, TX	-1.1%	4	3.2%	48	-0.5%	15	0.9%	35
	Houston, TX	-3.3%	30	3.4%	55	-0.1%	8	3.7%	9
	Jackson, MS	-2.1%	14	1.3%	1	-1.4%	23	4.4%	2
	Kansas City, MO-KS	-2.3%	18	2.8%	35	-0.3%	10	1.5%	29
	Little Rock, AR	-2.0%	11	1.6%	6	-1.0%	20	3.3%	13
	Madison, WI	-2.5%	21	2.3%	16	-1.5%	26	1.7%	26
	Oklahoma City, OK	-2.0%	12	2.3%	18	-1.2%	21	3.4%	12
	Omaha, NE-IA	-1.6%	7	1.4%	3	-2.3%	37	3.6%	10
	Rochester, NY	-2.1%	15	2.3%	15	-0.5%	16	4.3%	3
	San Antonio, TX	-0.9%	3	2.2%	13	0.5%	5	3.9%	7
	Syracuse, NY	-1.8%	9	2.4%	21	-1.4%	25	4.3%	4
	Tulsa, OK	-2.3%	17	3.4%	53	-0.4%	13	3.9%	8
	Virginia Beach, VA-NC	-2.2%	16	2.4%	20	0.7%	4	-2.0%	57
	Washington, DC-VA-MD-WV	-1.1%	5	2.2%	14	1.6%	2	-3.4%	65
Second-strongest 20 metros	Albany, NY	-3.0%	26	2.1%	10	-2.2%	36	1.4%	31
	Albuquerque, NM	-3.8%	39	3.3%	50	0.0%	6	-2.3%	59
	Augusta, GA-SC	-2.6%	22	2.8%	36	-1.0%	19	0.8%	39
	Baltimore, MD	-3.2%	28	2.7%	30	-0.1%	7	-3.4%	66
	Colorado Springs, CO	-4.2%	44	1.6%	5	-3.1%	48	0.8%	37
	Columbus, OH	-2.3%	19	2.4%	19	-4.4%	71	1.8%	24
	Denver, CO	-4.6%	57	2.1%	9	-4.3%	70	1.6%	28
	Greenville, SC	-3.1%	27	4.1%	73	-3.0%	47	3.1%	14
	Harrisburg, PA	-3.9%	40	3.1%	42	-2.1%	35	3.1%	15
	Honolulu, HI	-3.5%	33	2.2%	11	-0.4%	14	-3.9%	71
	Indianapolis, IN	-4.4%	51	2.8%	34	-1.8%	32	1.5%	30
	McAllen, TX	1.4%	1	3.7%	65	1.0%	3	0.4%	45
	Memphis, TN-MS-AR	-3.4%	31	3.0%	39	-2.8%	45	0.6%	42
	Pittsburgh, PA	-2.9%	25	2.7%	31	-4.4%	72	4.1%	6
	Portland, ME	-4.1%	43	2.7%	29	-2.5%	40	-0.9%	52
	Poughkeepsie, NY	-2.8%	23	2.5%	25	-1.8%	31	-4.2%	72
	Raleigh, NC	-3.7%	36	3.5%	57	-0.4%	12	0.0%	49
	Scranton, PA	-3.9%	41	3.0%	38	-3.9%	66	3.0%	16
	St. Louis, MO-IL	-3.8%	37	3.2%	44	-0.6%	17	0.4%	46
	Wichita, KS	-3.8%	38	4.0%	72	-3.4%	54	6.3%	1
Middle 20 metros	Akron, OH	-4.8%	58	3.2%	47	-4.1%	68	0.8%	38
	Allentown, PA-NJ	-3.9%	42	3.7%	62	-3.2%	50	-1.4%	54
	Boston, MA-NH	-3.6%	34	3.5%	58	-1.7%	30	-0.6%	51
	Bridgeport, CT	-5.2%	62	2.5%	26	-3.4%	53	-3.7%	68
	Charleston, SC	-3.5%	32	3.5%	56	-2.0%	33	-3.1%	64
	Chattanooga, TN-GA	-4.3%	48	3.1%	41	-3.9%	65	2.6%	20
	Cincinnati, OH-KY-IN	-4.9%	59	3.2%	45	-4.2%	69	0.7%	40
	Hartford, CT	-4.4%	53	2.3%	17	-5.4%	83	-0.3%	50
	Knoxville, TN	-4.2%	46	3.2%	46	-3.5%	60	1.9%	23
	Louisville, KY-IN	-4.4%	52	3.3%	52	-4.9%	79	2.5%	21
	Minneapolis, MN-WI	-4.4%	49	2.0%	8	-2.6%	41	-3.9%	70
	Nashville, TN	-5.6%	68	3.4%	54	-3.0%	46	0.7%	41
	New Haven, CT	-4.4%	50	2.5%	22	-4.8%	76	-2.1%	58
	New York, NY-NJ-PA	-2.3%	20	3.7%	64	-2.7%	42	-2.8%	62
	Ogden, UT	-5.7%	69	2.8%	33	-0.9%	18	-1.6%	55
	Philadelphia, PA-NJ-DE-MD	-3.6%	35	3.3%	51	-3.5%	56	-1.1%	53
	Richmond, VA	-4.2%	45	3.2%	49	-1.7%	29	-3.0%	63
	Seattle, WA	-4.2%	47	4.0%	70	-0.4%	11	-7.5%	83
	Springfield, MA	-4.5%	54	3.5%	60	-2.7%	43	0.4%	44
	Worcester, MA	-3.3%	29	4.0%	68	-2.5%	39	-1.8%	56

Appendix. Metro performance across four key indicators (cont.)

	Metro	Percent change in employment, metro peak to 2009Q3	Rank	Percentage point change in the unemployment rate, Sep 2008 to Sep 2009	Rank	Percent change in real GMP, metro peak to 2009Q3	Rank	Percent change in the real HPI, 2008Q3 to 2009Q3	Rank
Second-weakest 20 metros	Atlanta, GA	-7.3%	84	3.7%	63	-4.7%	75	-2.4%	60
	Bakersfield, CA	-5.3%	65	4.9%	88	-1.6%	27	-9.8%	90
	Birmingham, AL	-4.6%	55	5.2%	96	-2.7%	44	1.2%	32
	Charlotte, NC-SC	-7.0%	81	5.0%	93	-3.8%	64	0.2%	47
	Chicago, IL-IN-WI	-5.4%	66	3.9%	67	-3.5%	58	-4.8%	74
	Cleveland, OH	-7.2%	83	1.9%	7	-7.2%	96	0.8%	36
	Dayton, OH	-7.5%	88	3.5%	59	-8.2%	97	0.9%	34
	Grand Rapids, MI	-6.8%	78	4.3%	77	-4.9%	77	-2.4%	61
	Greensboro, NC	-7.3%	87	4.5%	82	-6.0%	88	1.6%	27
	Los Angeles, CA	-5.5%	67	4.2%	75	-4.0%	67	-5.6%	77
	Milwaukee, WI	-6.4%	75	3.9%	66	-3.5%	57	0.2%	48
	New Orleans, LA	-16.0%	99	1.5%	4	-6.1%	90	1.1%	33
	Providence, RI-MA	-6.6%	77	4.4%	79	-3.2%	51	-3.8%	69
	Provo, UT	-6.2%	73	2.5%	23	-3.6%	62	-8.3%	85
	Salt Lake City, UT	-4.6%	56	2.9%	37	-3.5%	59	-5.8%	78
	San Diego, CA	-4.9%	60	4.0%	71	-2.4%	38	-4.5%	73
	San Francisco, CA	-5.2%	64	4.4%	81	-3.7%	63	-5.1%	75
	Toledo, OH	-10.2%	94	3.6%	61	-9.3%	98	0.5%	43
	Tucson, AZ	-6.2%	72	2.5%	27	-4.6%	73	-6.5%	80
	Youngstown, OH-PA	-9.9%	92	5.1%	94	-6.1%	89	2.8%	18
Weakest 20 metros	Boise City, ID	-10.1%	93	4.1%	74	-5.5%	85	-8.8%	86
	Bradenton, FL	-14.4%	97	4.6%	87	-6.7%	93	-10.4%	93
	Cape Coral, FL	-16.3%	100	4.5%	83	-16.2%	100	-10.4%	92
	Detroit, MI	-14.9%	98	8.4%	100	-15.2%	99	-7.1%	81
	Fresno, CA	-5.1%	61	4.6%	86	-5.3%	82	-11.3%	94
	Jacksonville, FL	-6.9%	79	4.4%	78	-6.3%	91	-7.1%	82
	Lakeland, FL	-7.0%	80	4.9%	89	-3.4%	55	-13.8%	97
	Las Vegas, NV	-8.1%	90	6.2%	99	-4.9%	78	-20.2%	100
	Miami, FL	-6.1%	71	4.4%	80	-5.1%	80	-14.3%	98
	Modesto, CA	-6.3%	74	5.0%	91	-3.4%	52	-11.4%	95
	Orlando, FL	-7.2%	82	5.0%	92	-2.1%	34	-12.2%	96
	Oxnard, CA	-7.3%	85	4.2%	76	-6.8%	94	-3.6%	67
	Palm Bay, FL	-9.8%	91	4.0%	69	-6.9%	95	-10.0%	91
	Phoenix, AZ	-10.6%	96	3.0%	40	-4.6%	74	-14.5%	99
	Portland, OR-WA	-5.9%	70	5.0%	90	-5.5%	84	-6.0%	79
	Riverside, CA	-10.2%	95	5.2%	95	-5.2%	81	-9.1%	89
	Sacramento, CA	-7.3%	86	4.5%	84	-5.7%	87	-5.6%	76
	San Jose, CA	-5.2%	63	5.4%	98	-3.6%	61	-7.8%	84
	Stockton, CA	-6.4%	76	5.3%	97	-5.6%	86	-8.9%	88
	Tampa, FL	-8.0%	89	4.5%	85	-6.5%	92	-8.9%	87
	100 Largest Metros	-4.3%		3.6%		-2.4%		-3.0%	
	United States	-4.6%		3.5%		-2.5%		-1.3%	

Overall metropolitan performance, and performance on each component indicator, is shown for groups of metro areas (with 20 metro areas in each group) and indicated by the following shading:

Strongest	Second-strongest	Middle	Second-weakest	Weakest

About the Metropolitan Policy Program at the Brookings Institution

Created in 1996, the Brookings Institution's Metropolitan Policy Program provides decision makers with cutting-edge research and policy ideas for improving the health and prosperity of cities and metropolitan areas including their component cities, suburbs, and rural areas. To learn more visit: www.brookings.edu/metro

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The *Blueprint for American Prosperity* is a multi-year initiative to promote an economic agenda for the nation that builds on the assets and centrality of America's metropolitan areas. Grounded in empirical research and analysis, the Blueprint offers an integrated policy agenda and specific federal reforms designed to give metropolitan areas the tools they need to generate economically productive growth, to build a strong and diverse middle class, and to grow in environmentally sustainable ways. Learn more at www.blueprintprosperity.org

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The *Blueprint* initiative is supported and informed by a network of leaders who strive every day to create the kind of healthy and vibrant communities that form the foundation of the U.S. economy. The Metropolitan Policy Program Leadership Council—a bipartisan network of individual, corporate, and philanthropic investors—comes from a broad array of metropolitan areas around the nation. Council members provide us financial support but, more importantly, are true intellectual and strategic partners in the *Blueprint*. While many of these leaders act globally, they retain a commitment to the vitality of their local and regional communities, a rare blend that makes their engagement even more valuable. To learn more about the members of our Leadership Council, please visit www.blueprintprosperity.org

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The authors thank Chad Shearer for superb research assistance.

Casey

Metropolitan Policy Program at BROOKINGS

Blueprint for American Prosperity
Unleashing the Potential of a Metropolitan Nation

MetroMonitor: Madison, WI

Tracking Economic Recovery in the Madison, WI Metropolitan Area

Third Quarter, 2009

This profile tracks recent economic performance in the Madison metropolitan area compared to America's 100 largest metro areas and the nation through the third quarter of 2009. For an analysis of economic conditions in all 100 metro areas, please see **"MetroMonitor: Tracking Economic Recession and Recovery in America's 100 Largest Metropolitan Areas."** This and other metropolitan profiles are accessible via interactive maps at www.brookings.edu/metromonitor.

	Madison	Rank*	100-metro average	U.S. average
Employment				
Change in employment from peak (2005Q4)	-2.5 %	21	-4.3 %	-4.6 %
One-quarter change in employment	0.1 %	10	-0.5 %	-0.5 %
Unemployment				
Unemployment rate	5.6 %	3	9.6 %	9.5 %
One-year percentage point change in unemployment rate	2.3 points	16	3.6 points	3.5 points
Gross metropolitan product (GMP)				
Change in GMP from peak (2008Q2)	-1.5 %	26	-2.4%	-2.5%
One-quarter change in GMP	1.0 %	51	0.8%	0.8 %
Housing prices				
One-year change in housing prices	1.7 %	26	-3.0 %	-1.3 %
Real estate owned properties (REOs)				
REOs per 1,000 mortgageable properties	1.08	6	4.32	3.51
One-quarter change in REOs per 1,000 mortgageable properties	0.14	41	0.17	0.20

*For all indicators, a rank of 1 signifies the strongest-performing metro while a rank of 100 signifies the weakest-performing metro.

McKinsey Quarterly

Public-private partnerships as a development engine

Business and government should be partners, not rivals—let alone enemies.

I have spent much of my life participating in a dialogue among business, government, and civil society. I speak to you as a true believer in the ideal that when these three work together in public-private partnerships, our world works better. But mistrust and misunderstanding prohibit us from working together more often, and when that happens we all lose: business loses opportunity, government loses credibility, but society loses most of all.

Let me therefore begin by expressing, in the strongest possible terms, my belief that economic growth and our ambitions for the eradication of poverty depend upon the energy and drive of business and commerce. In fact, I cannot envision an effective development strategy that is free of or uninformed by the private sector. When we examine instances where development has succeeded, in every case business was the engine of development.

That is true because business kick-starts a virtuous economic cycle: new enterprises are formed, new jobs are created, new skills are gained, and incomes begin to rise. Soon growth and productivity follow, spurring more innovation and efficiency and generating the products and services that people want and need. And in parallel, people gain opportunity, empowerment, and dignity.

Of course it does not always work that way, and there are many reasons —well-chronicled reasons. But I want to suggest that what underpins all the causes of failure is partisanship, partisanship that prevents all of us from opening our minds to the possibilities of what each party can and must bring to achieve the goals of Monterrey.[1] Although government, society, and business must be completely linked in reaching these goals, in reality we operate as partisans.

Partisanship is a failure of mind-sets: because we are too often at odds,

we fail to explore avenues of cooperation, fail to work together. In short, we fail to see the simple truth that there is no hope for development without business, and in the long term there is no hope for business without development.

Let me start with business. The very vitality of the business sector is growth. Growth is demanded by shareholders, but, more important than that, it's what inspires workers. Today companies are relentless in pursuing new technologies, new product markets, and new economies. But as many of these product markets and countries are still developing, a new approach is required.

Companies that take a shortsighted view make fundamental mistakes. They make the moral mistake of seeing profits but not people. But they also make a management mistake, of investing only where there is a short-term return. They fail to build long-term markets and long-term opportunities—the crux of business success.

Enlightened self-interest should send business leaders to the development table to be co-architects of development strategies, to join in public-private partnerships, and, as may be appropriate, to engage in philanthropy. And I say to business leaders, don't do this under pressure; do it because you will be building stronger communities filled with prosperous citizens soon to be your employees and your customers.

As for governments, they cannot hope for development without business, and business needs *them* to be successful. Whenever we see evidence of the private sector driving development, in every single case government got the conditions right. Governments, and they alone, get to set these conditions—conditions that promote prosperity.

First of all, in the most underdeveloped economies, the aid and innovative financing provided by the rich countries can create the minimum threshold required for the private sector to truly prosper. It is only when these basic requirements are met that the virtuous cycle of development can take hold.

Then, too, in every country, government leaders set the framework for local entrepreneurship: for setting up businesses and closing them down, for formalizing economies. Further, governments set the framework for national competitiveness, protect workers, enforce contracts, and protect intellectual and other property rights.

And I believe that government also needs a mind-set shift. There is too much mistrust of the intentions of business and misunderstanding of the

role it can play. I urge governments to have higher expectations of what business is capable of delivering: of how it can bring not only investment but also expertise and capabilities, of how it can not only provide enterprise but also help governments build infrastructure and deliver public goods. These may sound like excessively high aspirations, but development that fails to leverage the best of business is development that aims too low.

All of us need to raise our game. I know that many of the government reforms I speak of require courage and political risk. But I also know that most of the CEOs I meet are aware of that. There are many political statesmen, but in my encounters with corporate clients around the world I see more and more businessmen becoming statesmen, too. Growing evidence suggests that the partisan mind-sets threatening cooperation can become something of the past. So I urge governments, as well as my fellow business leaders, to embrace the opportunity to act in our enlightened self-interest and to work together in the spirit of real partnership.

About the Author

Rajat Gupta, McKinsey's senior partner, served as managing director from 1994 to 2003. This article is adapted from a speech he gave at the United Nations on September 14, 2005.

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Notes

[1] An international conference (held in Monterrey, Mexico, in March 2002) on financing economic development.

BROOKINGS

SATURDAY JANUARY 2, 2010

A Rollercoaster Decade for Migration

Migration, Demographics, Cities, Regions and States, Housing

William H. Frey, Senior Fellow, Metropolitan Policy Program

The Brookings Institution

DECEMBER 29, 2009 — New Census numbers released last week underscore an often unnoticed consequence of the what Time magazine called the "Decade from Hell": a topsy-turvy pattern of population movement both across the U.S. and into its borders over a 10 year period which is ending with the greatest migration slowdown since the end of World War II.

These migration shifts were affected by a series of events that include a mid-decade housing bubble, followed by the financial crises and Great Recession, in addition to the mobility implications of Katrina and the 9-11 terrorist attacks. They led to boom, and then bust experiences for much of the South and West as the decade began, and windfall gains for northern and coastal states that were major donors to the earlier Sun Belt surge. The sharp migration shifts will also have implications for the 2010 Census based reapportionment of Congress.

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The new Census numbers show migration and population shifts for states, through July 2009, along with revised annual estimates for earlier years in the decade. The most dramatic migration turnaround story is the decline of Florida as the nation's pre-eminent migration magnet. Florida led all states in domestic migration for each of the first five years of this decade, falling to 2nd in 2005-06, 15th in 2006-7, and down to 44th and 45th respectively in each of the last two years — during which it lost more migrants than it gained, for the first time in recent history. (Table 1)

Clearly a poster child for the foreclosure crises, Florida was not the only state that shed its mid decade growth image. Stunningly Nevada also showed a net domestic migration loss in 2008-9 while Arizona gained only 15,000 migrants compared with 132,000 in 2004-5.

Among the 17 Sun Belt states with the greatest migration gains in 2005-6, the last year of the housing bubble, all but four (Texas, Virginia, Washington and Colorado) registered lower migration gains in each of the next three years. Texas stands as most prominent Sun Belt survivor of the last half of the decade. With a more diversified economy and smaller run-ups in housing prices (as well as fewer foreclosures), Texas emerged as the domestic migration leader in the U.S. for each of the past four years. Yet even with that, Texas' net gain stood at 143,000

in 2008-9, well below Florida's gain of 265,000 when it was the leader in 2004-5. Domestic migration gains are only part of overall population gains, which also include natural increase and international migration. But the impact of these migration trends are clearly reflected in relative population shifts for states like Florida, Arizona, Nevada and Texas, with the former three showing precipitous declines in the last three years, while Texas held its own. (Figure 1)

The other side of the migration equation concerns large migration donor states like New York and California. These states were major contributors to the mid-decade Sun Belt surge. Lower housing prices and easy mortgages lured many would be homeowners and upwardly mobile families to the bubble states of the Mountain West and the Southeast to escape states with high housing cost like New York and California. While still losing domestic migrants, each of these states have shown far slower drains.

New York's loss of 98,000 domestic migrants in 2008-9 was its smallest in this decade, down from nearly a quarter million in 2004-6. California's 2008-9 loss of 98,000 migrants is less than one third of its loss of 313,000 in 2005-6. Much of New York's mid decade migration loss was to Florida, while much of California's loss was to Arizona and Nevada, according to a separate analysis of IRS migration data. Moreover of the 9 largest Northeast and Midwest out migration states in 2005-6, all but one (Michigan) lost fewer out migrants in each of the past three years.

The new Census numbers also showed noticeable declines in immigration to the U.S. over the past three years. (Figure 2) As with domestic migrants, immigrants have also responded to the recent economic downturns by "staying put" or in some cases returning home. The 2008-9 net international migration figure of 855,000 was the lowest since 2002-3 when the events of 9-11 reduced in-flows to the U.S. International migrant gains only topped one million in 2005-6.

Although these shifts associated with the recent migration slowdown hold important economic consequences for states and regions, they also have significant political consequences as the reapportionment of Congress will be based on the results of the 2010 census. To examine the impact of the recent migration slowdown, I calculated two alternative reapportionment scenarios. The first assumes that the 2004-5 domestic migration patterns continued until Census day, 2010. The second assumes that actual migration patterns continue until the same date. The results of each are shown in Table 2.

If the mid-decade boom migration patterns would have continued for another five years, Florida and Texas would have each gained 3 Congressional seats, Arizona would have gained 2, and Georgia, Nevada and Utah would have each picked up one. On the negative side, New York and Ohio would have each lost two seats in Congress. Other losers of one seat would be Pennsylvania, New Jersey, Minnesota, Michigan, Massachusetts, Iowa and Illinois.

In contrast, the more likely scenario, by projecting current migration patterns, would change the former by awarding Florida only 1 seat rather than 3, Arizona 1 seat rather then 2, and add 4 to Texas Congressional delegation rather than 3. In this scenario as well, South Carolina and Washington would each add a Congressional seat. Also in this scenario, New York would lose only one seat rather than two, and Louisiana would lose a seat. (Note: the earlier scenario was based on pre-Katrina migration)

Overall, the migration slowdown makes Texas the dominant Sun Belt winner and Florida a loser in that it picks up only one seat while Arizona also loses a potential gain of an additional Congressional seat. And because New York only loses one seat, rather than two — it retains a congressional advantage over Florida (28 seats versus 26). In

the earlier scenario, Florida would have overtaken New York (28 seats versus 27).

So the rollercoaster migration decade has raised and dashed the hopes of some states, while others have fared better than they feared. But it's clear that just as we are in a low point economically, we are also in an abnormal lull with respect to migration. When the housing and job markets eventually recover, so too will migration recover to levels and to destinations more in keeping with our recent past. But the "boom then bust" decade of 2000-2010 will leave some scars — economically and politically that will not soon be forgotten.

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METRO ECONOMY SERIES FOR THE METROPOLITAN POLICY PROGRAM AT BROOKINGS

Job Sprawl Revisited:
The Changing Geography of Metropolitan Employment

Elizabeth Kneebone

"Understanding the changing location of jobs within U.S. regions represents a necessary step toward implementing policies for high-performing and prosperous metropolitan areas."

Findings

An analysis of the spatial location of private-sector jobs in 98 of the largest metropolitan areas by employment reveals that:

- **Only 21 percent of employees in the top 98 metro areas work within three miles of downtown, while over twice that share (45 percent) work more than 10 miles away from the city center.** The larger the metro area, the more likely people are to work more than 10 miles away from downtown; almost 50 percent of jobs in larger metros like Detroit, Chicago, and Dallas locate more than 10 miles away on average compared to just 27 percent of jobs in smaller metros like Lexington-Fayette, Boise, and Syracuse.

- **Job location within metropolitan areas varies widely across industries.** More than 30 percent of jobs in utilities, finance and insurance, and educational services industries locate within three miles of downtowns, while at least half of the jobs in manufacturing, construction, and retail are more than 10 miles away from central business districts.

- **Employment steadily decentralized between 1998 and 2006: 95 out of 98 metro areas saw a decrease in the share of jobs located within three miles of downtown.** The number of jobs in the top 98 metro areas increased overall during this time period, but the outer-most parts of these metro areas saw employment increase by 17 percent, compared to a gain of less than one percent in the urban core. Southern metro areas were particularly emblematic of the outward shift of job share with a 2.6 percentage-point decline in urban core job share and a 4.8 point gain in the outermost ring, outpacing the 98 metro average (a 2.1 point decline and a 2.6 point gain, respectively).

- **In almost every major industry, jobs shifted away from the city center between 1998 and 2006.** Of 18 industries analyzed, 17 experienced employment decentralization. Transportation and warehousing, finance and insurance, utilities, and real estate and rental and leasing showed the greatest increases in the share of jobs located more than 10 miles away from downtown.

Amid changing economic conditions–expansion, contraction, and recovery–during the late 1990s and early 2000s, employment in metropolitan America steadily decentralized. The spatial distribution of jobs has implications for a range of policy issues–from housing to transportation to economic development–and should be taken into account as metro areas work to achieve more productive, inclusive, and sustainable growth and, in the near term, economic recovery.

Introduction

The movement of people and jobs away from city centers into increasingly distant suburbs represents a long-standing trend in metropolitan America.[1] The ongoing decentralization of population and employment has implications for the overall health and productivity of metro areas across the country. While "people sprawl" has been well-recognized and documented, this paper focuses specifically on "job sprawl," exploring recent trends in the spatial distribution of employment in 98 of the nation's largest metropolitan areas and how those trends differ across major industries.

Jobs may decentralize within a metro area for a variety of reasons, and can signal very different development patterns. But whether decentralization occurs due to the emergence of secondary downtowns in a booming region or because of diffuse, low-density sprawl in distressed metro areas, the changing location of employment is inextricably linked to a range of policy issues critical to a metro area's success.[2] From transportation to workforce development to regional innovation and the provision of social services, the spatial distribution of a metro area's jobs can ultimately influence its economic productivity, environmental sustainability, and social inclusion and equity.

To help frame the analysis presented in this paper, the following section provides a brief overview of the research literature that explores the potential implications of job sprawl.

Infrastructure

In metro areas experiencing diffuse, low-density development, costs for building and maintaining infrastructure to support that development can be high. For residential development, Burchell and colleagues find that the costs of providing water and sewer infrastructure to new low-density development exceed the costs of servicing the same number of people in more compact development by 20 to 40 percent. Meanwhile, as people and firms move away from the urban core to the metropolitan fringe, they often leave behind a depleted tax base insufficient to maintain existing infrastructure and services.[3]

Transportation

If new residential development keeps pace with commercial and industrial development, then employment decentralization need not mean that people become further geographically separated from their jobs. However, as Lang demonstrates, a predominant form of new development in major metro areas is "edgeless," where new offices spread out along interstates and other commercial corridors, and not in "edge cities" that can truly integrate residential and business uses.[4] The resulting separation may exact costs by raising commuting times and congestion, and by limiting the range of transportation options that can serve low-density job development.

Spatial Mismatch

When overlaid onto existing patterns of residential segregation, employment decentralization can result in different levels of geographic access to employment opportunities for different demographic groups. Stoll finds that metro areas with higher rates of employment decentralization exhibit greater rates of "spatial mismatch" between the relative locations of jobs and black residents.[5] In a study of selected large metro areas, Holzer and Stoll find that even as low-income and minority populations suburbanize, job growth is fastest in higher-income suburbs, perpetuating patterns of spatial mismatch within suburbia.[6] High levels of employment decentralization may thus impede efforts to connect historically under-employed workers to job opportunities.

Innovation

The decentralization of employment, by lowering density and interaction among proximate firms and workers, may also lower the rate of innovation. Carlino and colleagues find that across metro areas patenting rates are strongly associated with employment densities in the urbanized portion of those metro areas.[7] Highly dispersed job growth may reduce the likelihood for the sort of inter-firm interactions that have proven valuable for creating knowledge spillovers and high-value innovative activity.

Energy Consumption

The density of development and employment location also impact the amount of Vehicle Miles Traveled (VMT) in a region, in turn affecting the consumption of energy and amount of emissions produced. Researchers have found that the "carbon footprint" of metropolitan areas can be related to the density and concentration of development, with lower-density regions consuming higher amounts of carbon per capita.[8] Though research in this area has been limited, Ewing and his colleagues estimate that shifting 60 to 90 percent of new growth to more compact forms of development would reduce VMT by 30 percent and decrease carbon dioxide emissions from transportation by 7 to 10 percent over the next 40 years.[9]

Each of these issues affects individual metro areas differently, depending on their mix of employment and the extent to which they have addressed these challenges through policy and planning. Nevertheless, these findings underline the importance of understanding the changing dynamics of employment location within regions. Clearly, job loss or gain is not the only indicator of a metro area's economic wellbeing. Where jobs locate, where job growth or decline occurs within a metro area, and how these patterns vary across industries also affects metropolitan performance and prosperity, these questions form the focus of the remainder of the paper.

Methodology

Beginning near the peak of an economic cycle in the late 1990s (1998 and 2000), continuing through the brief recession that followed, and ending during the relative recovery of middle part of this decade (2004 and 2006), this analysis tracks the geographic development of urban employment trends in the major economic hubs of the country. It builds on the work of Glaeser, Khan, and Chu who documented the extent of employment decentralization in major metropolitan areas using 1996 ZIP code employment data.[10] This report offers a descriptive analysis based on the summary indicators of job decentralization used by Glaeser and his colleagues. It refines their original methods for allocating jobs across regions, brings forward the analysis to 2006, and looks at trends over time. It assesses patterns and trends in the location of jobs within 98 of the largest metropolitan areas in the country based on employment. These 98 metro areas contained 68 percent of U.S. jobs in 2005.[11]

About the Data

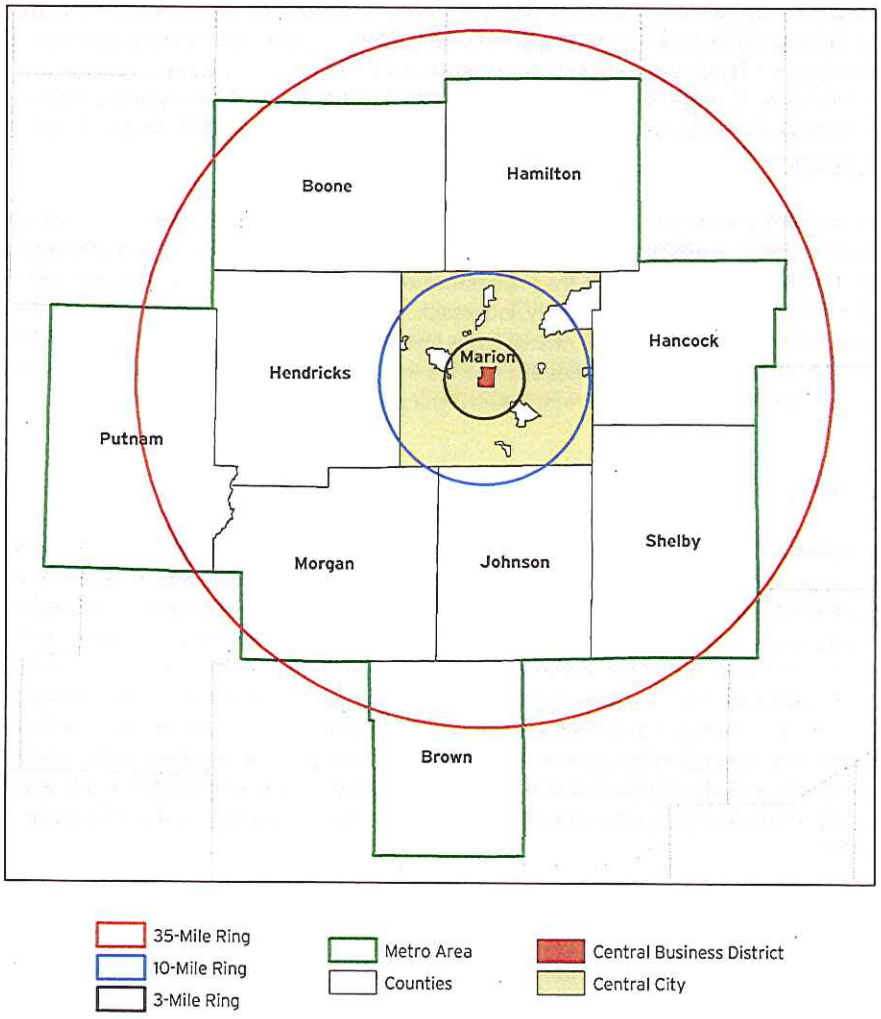
This analysis uses ZIP Business Patterns (ZBP) data for 1998, 2000, 2002, 2004, and 2006. These data are derived from the U.S. Census Bureau's Business Register, a file of all known single and multi-establishment companies.[12] ZBP data include business counts by employment size and industry as well as employment totals at the ZIP code level. The data exclude information on the self-employed population, employees of private households, railroad employees, agricultural production workers, and most government employees.[13] Because government jobs tend to be more centralized, excluding most government employees from the analysis may lead to an incomplete picture of job location patterns in metro areas with high shares of jobs in the government sector.[14] Additional techniques are employed to account for employment totals that are suppressed in the public ZBP data.[15] Similar methods permit the estimation of ZIP code employment totals for each major industry.[16]

Identifying Central Business Districts

This analysis uses the 2003 Office of Management and Budget definitions of metropolitan statistical areas as the standard geographic unit of measurement across years. Within each metro area, the central business district (CBD) anchors analysis of the spatial distribution of employment across the region.

The CBD(s) in each metro area is determined by the 1982 Census of Retail Trade, a survey of local leaders that designated the geographic business center of cities across the country. [17] Though dated, the 1982 designations represent the most recent and systematic definitions of CBDs across metro areas. Moreover, the 1982 CBDs still largely correspond to the densest job centers in these metro

Map 1. Indianapolis, IN Metro Area Employment Rings

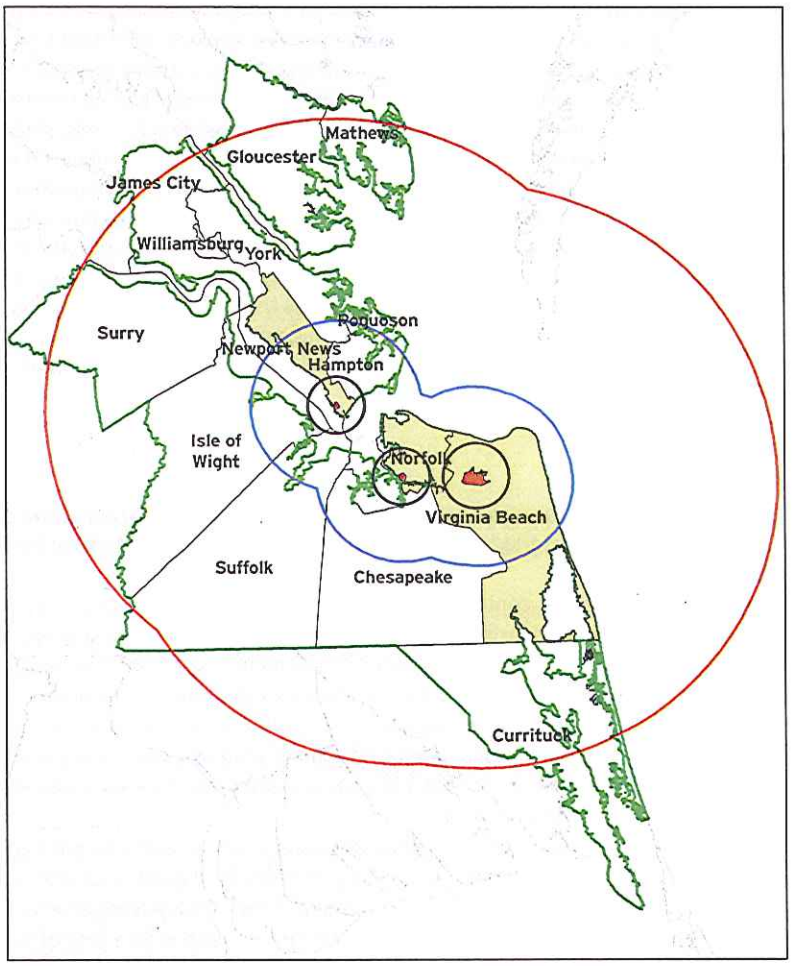


Source: Brookings Institution analysis of U.S. Census Bureau layer files

areas. In 75 of the 98 metros, the CBD overlaps the ZIP code with the highest job density in the metro area (as measured by employees per square mile), while 14 other metros have CBDs that overlap with the second most job-dense ZIP codes. Thus the 1982 designations remain relevant for identifying dense employment centers in these regions.

Some metro areas have more than one major employment center, often located in the second or third city listed in the official metro area name, after the primary city in the region. To account for all significant regional business hubs, this analysis identifies as CBDs those in all primary cities (i.e., those listed first in the official metro area name), as well those in any other city listed in the metro area name that meets three conditions: The city must have a population over 100,000, contain a CBD identified in the 1982 Census of Retail Trade, and the ZIP code(s) that overlap the CBD must contain at least half the number of jobs found in the primary central city's downtown ZIP code(s).[18] Using these criteria, this paper identifies 105 "downtowns" within the 98 metro areas analyzed.[19]

Map 2. Virginia Beach-Norfolk-Newport News, VA-NC Metro Area Employment Rings



Source: Brookings Institution analysis of U.S. Census Bureau layer files

Spatial Location of Employment

To identify the geographic distribution of jobs throughout each metro area, this assessment uses Geographic Information Systems (GIS) software to map the CBDs.[20] Three rings are drawn around each CBD: one at a distance of three miles, the second at ten miles, and the third at 35 miles from the CBD (**Maps 1 and 2**).[21] The three-mile ring typically represents the central city "core," including the downtown and surrounding neighborhoods, while the 10-mile ring generally captures activity out to the "beltway" of larger metro areas, including much if not all of the central city as well as portions of the inner suburbs. As noted by Glaeser, Khan, and Chu, the three-mile ring characterizes the extent to which the metro area has a well-defined employment center, while the share of employment between the 10- and 35-mile rings demarcates the extent of job sprawl in the metro area.[22] Given the wide variation in the land area covered by different metro areas, the 35-mile ring serves to bound the analysis for metros that extend beyond 35 miles from the CBD.[23] Thus, a metro area's measure of job

centralization (or decentralization) is based on job location within the 35-mile radius, and not a function of land mass.[24]

The analysis next determines which ZIP codes lay inside each ring, considering only those ZIP codes or portions of ZIP codes that fall within the boundaries of the 98 metro areas.[25] ZIP code boundaries rarely conform to metro area boundaries, and are even less likely to align with the constructed rings (or "buffers"). They also change from year to year, making time series analysis a challenge. In response to these issues this assessment uses a combination of GIS and statistical software to allocate employment from ZIP codes that cross metro area and buffer boundaries. To "split" these ZIP codes, this analysis uses block-level data from Census 2000 to calculate the proportion of the ZIP code's households that falls within the relevant geographic areas.[26] For instance, if 25 percent of a ZIP code's households are located within the metro area's three-mile ring, while the remaining 75 percent fall in the 10-mile ring, 25 percent of the ZIP code's total employment is allocated to the three-mile ring, and the remainder to the 10-mile ring. Separate allocation factors are created for each year of the analysis, taking into account any ZIP code boundary changes that occur over time.[27] Finally, total jobs are summed for each buffer and the share of metropolitan employment within the inner ring (zero to three miles, including the CBD), the middle ring (three to 10 miles), and the outer ring (10 to 35 miles) is calculated.[28]

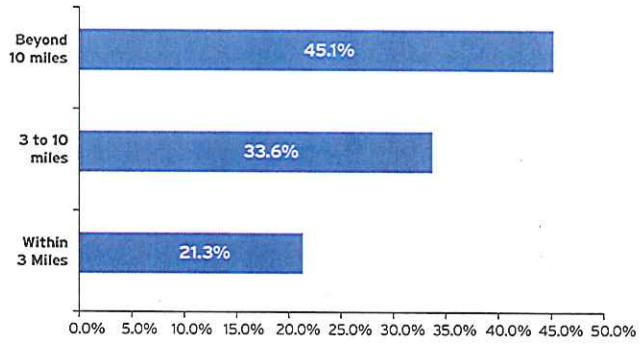
Findings

A. Only 21 percent of employees in the largest 98 metro areas work within three miles of downtown, while over twice that share (45 percent) work more than 10 miles away from the city center.

As of 2006, the top 98 metro areas contain over 77 million jobs within 35 miles of their downtowns. More than 16 million of these jobs fall within three miles of the central business district, while more than twice that number—almost 35 million—are more than 10 miles away from downtown. **Figure 1** illustrates the geographic distribution of jobs in 2006 for the 98 metro areas, and depicts the increase in employment share as the distance from downtown grows. Over 21 percent of jobs locate within three miles of downtown, while the middle ring contains one-third of employment in the top 98 metro areas. At just over 45 percent, the outer ring contains the largest share of metro area jobs and more than twice the proportion located in the inner ring.

Notwithstanding the aggregate pattern, striking differences in the spatial location of jobs arise among individual metropolitan areas (**Map 3**). In particular, the total number of jobs in a metro area relates to the spatial location of employment in the region.[29] To assess job location among metro areas of different size, this analysis uses two categories based on total metro area employment: *small* metro areas with fewer than 500,000 jobs, and *large* metro areas with 500,000 or more jobs.[30]

Figure 1. Geographic Distribution of Jobs Within 35 Miles of the CBD, 98 Metro Areas, 2006

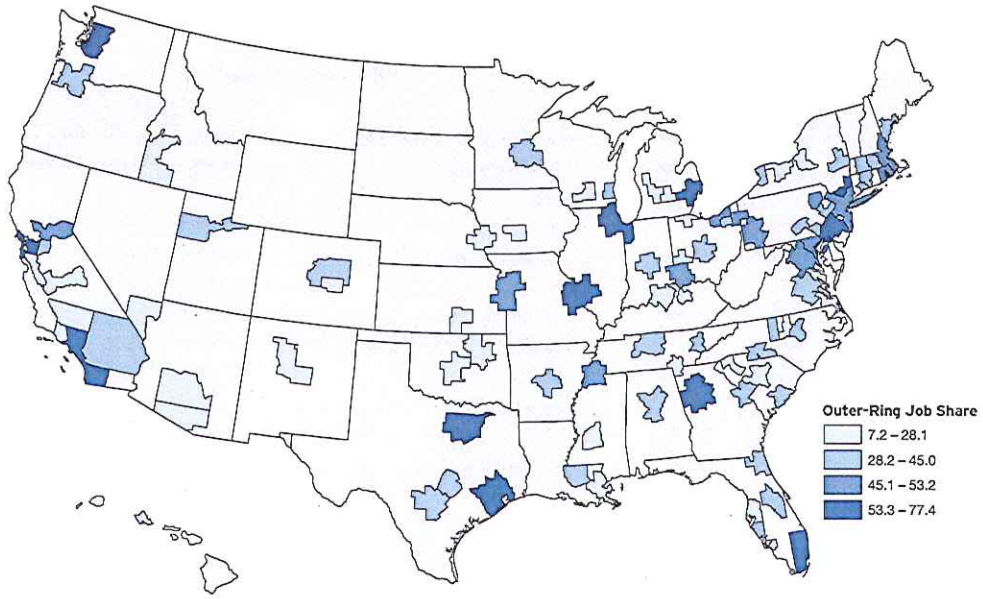


Source: Brookings Institution analysis of ZIP Code Business Patterns data

With these distinctions in place, the relationship between job decentralization and metro area size becomes apparent. **Table 1** presents the average employment distribution across the two types of metro areas and reveals that larger metro areas demonstrate more decentralized employment patterns, while regions with fewer jobs show a more centralized employment distribution. Small metro areas locate more than 28 percent of jobs in the inner ring and a slightly smaller share (27 percent) in the most distant ring beyond 10 miles. In contrast, larger metro areas have only one in five jobs in the urban core, while the bulk of their employment—50 percent—lies more than 10 miles from downtown.

Employment location patterns within individual metro areas bear out these findings by size. **Table 2** identifies the metro areas within each type that are the most centralized (i.e., have the highest concentrations

Map 3. Share of Employment 10 to 35 Miles from Downtown, 98 Metro Areas, 2006



Source: Brookings Institution analysis of ZIP Code Business Patterns data

Table 1. Distribution of Jobs Within 35 Miles of the CBD by Metro Area Employment Size, 98 Metro Areas, 2006

Employment Class Size	Number of Metro Areas	Total Number of Jobs within 35 Miles of CBD	Share of Jobs Within 3 Miles of CBD	Share of Jobs Within 3 to 10 Miles of CBD	Share of Jobs Beyond 10 Miles from the CBD
Large (>500,000 jobs)	45	62,453,654	19.6%	30.9%	49.5%
Small (<500,000 jobs)	53	14,957,838	28.3%	45.1%	26.6%
All Metro Areas	**98**	**77,411,492**	**21.3%**	**33.6%**	**45.1%**

Source: Brookings Institution anlaysis of ZIP Code Business Patterns data

of jobs in the inner ring) and the most decentralized (i.e., have the highest job shares in the outer ring). Each of the metros listed with the highest urban core job shares have three-mile job shares above the 98-metro average; however, smaller metro areas show even higher concentrations of employment in the inner ring compared to large metro areas.

Honolulu and Lexington lead the list for inner ring job share among all 98 metro areas, with each metro locating more than twice the average share of jobs in the urban core. Geographic constraints play a role in Honolulu's centralized employment pattern, but it is also notable that both of these regions were early adapters of policies to contain urban sprawl in the late 1950s, which may help explain their current spatial patterns of employment. Honolulu has had urban containment policies in place since Hawaii officially became a state, while Lexington and Fayette County have been credited with the nation's first urban containment effort—an urban service line that limited development in the green fields surrounding the urban area.[31]

Table 2. Most Centralized and Decentralized Metro Areas by Employment Share, by Metro Area Employment Size, 2006

Most Centralized				Most Decentralized			
	Share of Jobs				Share of Jobs		
Highest shares within 3 miles	Within 3 Miles	3 to 10 Miles	More Than 10 Miles	Highest shares more than 10 miles away	Within 3 Miles	3 to 10 Miles	More Than 10 Miles
Large Employment Centers							
Virginia Beach, VA-NC	36.4%	46.4%	17.1%	Detroit, MI	7.0%	15.7%	77.4%
New York, NY-NJ-PA	34.8%	19.0%	46.2%	Chicago, IL-IN-WI	17.9%	13.4%	68.7%
Salt Lake City, UT	32.8%	38.9%	28.3%	Dallas, TX	10.6%	22.5%	66.9%
Las Vegas, NV	29.9%	62.8%	7.2%	Los Angeles, CA	8.2%	26.2%	65.6%
Boston, MA-NH	28.0%	24.2%	47.9%	Philadelphia, PA-NJ-DE-MD	15.5%	20.8%	63.7%
Louisville, KY-IN	27.8%	50.5%	21.7%	Atlanta, GA	9.3%	27.5%	63.2%
Pittsburgh, PA	25.9%	29.1%	45.1%	Miami, FL	9.3%	28.2%	62.6%
Phoenix, AZ	25.8%	50.0%	24.2%	St. Louis, MO-IL	14.1%	25.0%	60.9%
Tampa, FL	24.9%	56.5%	18.6%	San Francisco, CA	23.7%	19.0%	57.3%
Nashville, TN	24.8%	31.9%	43.3%	Seattle, WA	19.1%	24.8%	56.0%
Small Employment Centers							
Honolulu, HI	55.6%	29.5%	14.8%	Poughkeepsie, NY	18.3%	14.3%	67.4%
Lexington-Fayette, KY	48.0%	25.9%	26.1%	Scranton–Wilkes-Barre, PA	24.0%	24.0%	52.0%
Bakersfield, CA	43.0%	42.9%	14.1%	Youngstown, OH-PA	17.1%	37.3%	45.6%
Boise City, ID	42.6%	33.0%	24.4%	Worcester, MA	31.4%	23.8%	44.8%
Des Moines, IA	40.2%	50.6%	9.2%	Knoxville, TN	19.5%	36.2%	44.3%
Oxnard, CA	39.4%	51.0%	9.6%	*Portland, ME	36.1%	21.1%	42.7%
Lansing, MI	39.0%	44.6%	16.4%	New Haven, CT	25.2%	32.5%	42.3%
Syracuse, NY	37.7%	40.4%	21.9%	Greensboro, NC	21.1%	39.0%	39.9%
Wichita, KS	36.9%	48.7%	14.4%	Augusta, GA-SC	22.0%	40.9%	37.1%
*Portland, ME	36.1%	21.1%	42.7%	Albany, NY	24.0%	39.8%	36.2%

**"Centralized" measures inner ring job share. "Decentralized" measures outer ring job share. Compared to other small metros, Portland, ME appears in both categories because its employment concentrates in both the core and metro fringe (Its middle-ring share is less than half the small metro average).*

Source: Brookings Institution anlaysis of ZIP Code Business Patterns data

Note: Official metro names are shortened; see Appendix for full OMB designations

Among larger metro areas, the Virginia Beach-Norfolk-Newport News metro area contains the highest inner ring employment share, followed by the New York metro area. With employment hubs in each of the primary central cities in its region, the polycentric structure of the Virginia Beach-Norfolk-Newport News metro concentrates higher shares of employment around the CBDs. A different pattern emerges in the New York metro area, the nation's largest by employment. More than a third of jobs within 35 miles of its CBD lie in the inner ring, while the outer ring share contains a higher-than-average share of metropolitan jobs (46 percent). Clearly, the job centers of Lower and Midtown Manhattan serve to anchor employment for the entire region. Boston, the nation's seventh-largest metro area by employment, also emerges among those with a high share of jobs around the downtown.

As for the most decentralized metro areas, each of the large metro areas locate more than half of jobs in the outer ring, and eight have outer-ring employment shares at least 15 points above the 98 metro average. The Detroit metro area has the highest incidence of job decentralization by far. The current spatial location of employment in this region in part reflects shifts in population and firms dating back several decades. Starting in the 1960s, people and businesses left Detroit's central city for the

surrounding suburbs, reducing the city's population by half, and in the years since, the central city has not managed to recapture its previous level of population or employment.[32]

Atlanta and Los Angeles also top the list for decentralized employment. Atlanta has never historically been a dense urban center, and it lacks any geographic barriers to check its outward growth.[33] As for the Los Angeles metro area, the passage of Proposition 13 in 1978, which limited local property tax revenues, may have helped shape employment distribution patterns in the region. In the two decades after its passage, the metro area saw the number of newly incorporated cities expand by 20 percent as jurisdictions competed for employers that could produce sales taxes.[34] Previous research has shown that metro areas containing higher numbers of political units are more likely to demonstrate decentralized employment patterns.[35] Large patches of un-developable land coupled with political fragmentation and a lack of regional cohesion may thus have contributed to job decentralization within the Los Angeles region.[36]

The small metros that make the list, most in the Northeast and Midwest, have outer-ring jobs shares that exceed the small metro average by almost 10 percentage points or more, with the top three outpacing the 98 metro average. Several of these metro areas also have above-average shares of employment in the manufacturing industry, and four—Scranton, Youngstown, New Haven, and Albany—are home to Older Industrial Cities.[37] On the whole, the 33 Older Industrial metro areas in this study tend to exhibit higher-than-average levels of employment decentralization. The following section explores the relationship between industries and job decentralization in more detail.

B. Job location within metropolitan areas varies widely across industries.

Land use and zoning, topography, transportation investments, and governance arrangements can all influence the spatial location of jobs in a metro area. The metro area's underlying industrial structure may be an important factor as well. Some industries are land-intensive, while others tend toward denser urban locations. Thus, a metro area's specializations may also help to explain its degree of employment decentralization.

Table 3 shows the spatial distribution of jobs for each major industry in 2006. In keeping with the overall employment share pattern in the top 98 metro areas, almost every industry has the highest share of jobs in the outer ring, the next-highest share in the middle ring, and lowest share in the inner ring. The finance and insurance and utilities industries, however, locate almost one-third of their jobs in the inner ring—well above average across all jobs of 21 percent.

In addition to these two industries, several other human capital-intensive sectors demonstrate a more centralized employment distribution than average. At least one-quarter of all information; professional, scientific, and technical services; and health care and social assistance jobs locate within the urban core. Educational services jobs distribute relatively evenly across each ring.

At the other end of the spectrum, the industries exhibiting the greatest decentralization of employment in 2006 were more land-intensive sectors that often locate towards the metropolitan fringe. Forestry, fishing and hunting, and agriculture support; manufacturing; and mining top the industry list for share of employment located more than 10 miles from downtown, with jobs shares above 50 percent in the outer ring. At least half of construction and retail trade jobs also locate more than 10 miles from the CBD.

The types of industries in which a metro area specializes may thus relate to its spatial pattern of employment.[38] For instance, metro areas with a specialization in the manufacturing industry show higher-than-average levels of job decentralization. Large metro areas in this category—like Detroit or Chicago—locate less than 16 percent of jobs in the urban core and 56 percent of employment more than 10 miles away from downtown on average. Smaller manufacturing metro areas—including Youngstown and Poughkeepsie—locate almost 30 percent of jobs in the outer ring, three points higher than the small metro average.

In contrast, smaller metro areas with a specialization in information show higher levels of employment centralization on average. Larger metro areas in this category—like New York and Boston—locate more than 23 percent of jobs downtown, almost four points higher than the large metro average for total employment. Smaller metro areas—including Des Moines and Oxnard-Thousand Oaks—locate more than 31 percent of total employment in the urban core and just 21 percent in the outer ring, notably more centralized than the small metro average.

Table 3. Geographic Distribution of Jobs Within 35 Miles of the CBD by Industry, 98 Metro Areas, 2006

	Share of Jobs, 2006		
Industry	Within 3 Miles of CBD	3 to 10 Miles from CBD	More than 10 Miles from CBD
All Jobs	**21.3%**	**33.6%**	**45.1%**
Retail Trade	13.0%	36.5%	50.5%
Construction	13.8%	33.9%	52.3%
Manufacturing	14.0%	32.4%	53.7%
Forestry, Fishing, Hunting, and Agriculture Support	16.2%	18.8%	65.1%
Transportation and Warehousing	16.6%	39.2%	44.2%
Wholesale Trade	18.3%	33.8%	47.9%
Administrative, Support, Waste Management Services	20.3%	35.9%	43.8%
Mining	21.3%	25.8%	53.0%
Accommodation and Food Services	21.5%	33.9%	44.6%
Real Estate, Rental, and Leasing	22.5%	36.2%	41.3%
Management of Companies, Enterprises	23.2%	30.8%	46.0%
Health Care and Social Assistance	24.7%	34.8%	40.5%
Arts, Entertainment, and Recreation	24.7%	28.8%	46.5%
Professional, Scientific, and Technical Services	28.7%	29.3%	42.0%
Information	28.7%	31.9%	39.4%
Educational Services	31.2%	34.3%	34.5%
Finance and Insurance	31.7%	30.0%	38.3%
Utilities	32.7%	25.1%	42.2%

Source: Brookings Institution anlaysis of ZIP Code Business Patterns data

While industry structure may be one factor associated with the extent of employment decentralization within metro areas, causation remains unclear. For instance, is the finance and insurance industry relatively centralized because of something inherent in the industry (e.g., agglomeration benefits), or because so many finance jobs are located in New York? It is likely that both are factors, but further research will be needed to tease out the contribution each makes to the patterns seen here.

C. Employment steadily decentralized between 1998 and 2006: 95 out of 98 metro areas saw a decrease in the share of jobs located within three miles of the downtown.

Over the course of the 1990s, downtowns in major metro areas throughout the country experienced a sort of renaissance. The population living in downtowns grew by 10 percent over that decade, after 20 years of decline.[39]

While that upswing has continued to a certain extent in this decade, the "rebirth" of downtowns appears to have remained a residential rather than a jobs-based phenomenon.[40] From 1998 to 2006, the top 98 metro areas experienced a 10 percent increase in the number of jobs within 35 miles of downtown. However, the urban core saw an increase of less than one percent, compared to job growth of 9 percent in the middle ring and more than 17 percent growth in the outer ring. As a result, the geographic distribution of employment steadily decentralized in the top 98 metro areas over this time period.

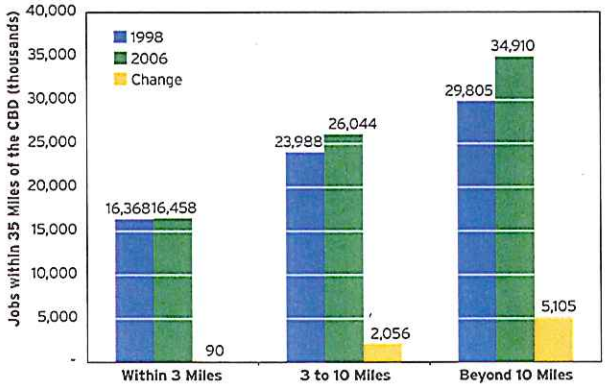
Figures 2A and **2B** depict the outward shift of job share. The outer ring added two and a half times the net number of jobs gained in the middle ring, and almost 57 times more jobs than the inner ring. Overall, the area within three miles of downtown lost 2.1 percentage points of metropolitan job share between 1998 and 2006. In contrast, the share of jobs located more than 10 miles from downtown grew by 2.6 percentage points.

This growth in outer-ring employment share matches the increase seen in the share of the population living more than 10 miles from downtown (2.7 percentage points); however, the decline in urban core job share over this time period outstripped the decrease in the share of households located downtown (2.1 versus 1.1 percentage points, respectively).[41] This "hollowing out" of jobs progressed gradually over the five points in time assessed, through a period of economic growth, contraction, and slow recovery.

The trend of declining job share in the inner core, and expanding job share outside the inner ring, was evident in 95 of the 98 metro areas analyzed (see Appendix A for detailed data on individual metro areas). However, the exact pattern of decentralization was not uniform across metro areas. Overall, four overarching patterns of change in the spatial distribution of jobs emerge (**Table 4**).

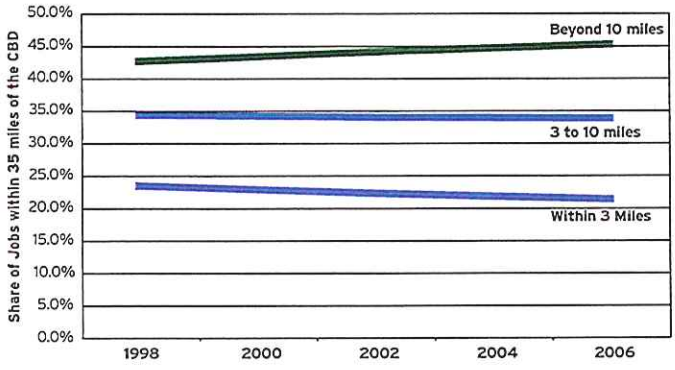
As shown in **Table 4**, more than half of the metro areas in the study experienced *rapid decentralization.* Together, these 53 metro areas, listed in **Table 5**, had a higher-than-average gain in the share of jobs beyond 10 miles, and losses in job share in both the urban core and 3- to 10-mile ring. For some metro areas, this outward shift came amidst net job gains shared across the region. Atlanta and Washington, D.C. experienced this type of growth, as did many of the metro areas that lead the list for largest gains in outer-ring job share overall, including Phoenix-Mesa, Austin, and Cape Coral (**Table 6**). For other metro areas, rapid decentralization occurred during a period of declining total employment. Metro areas like Sarasota, Cleveland, and Syracuse lost jobs overall between 1998 and 2006, but employment in their outer-ring areas either grew or declined less slowly relative to closer-in areas.

Figure 2A. Change in Employment, 98 Metro Areas, 1998 to 2006



Source: Brookings Institution analysis of ZIP Code Business Patterns data

Figure 2B. Geographic Distribution of Job Share, 98 Metro Areas, 1998 to 2006



Source: Brookings Institution analysis of ZIP Code Business Patterns data

Table 4. Change in the Geographic Distribution of Jobs by Metro Type, 98 Metro Areas, 1998 to 2006

		1998 Share of Jobs			2006 Share of Jobs			Change in Share of Jobs 1998 to 2006		
Number of Metros	Type	Within 3 Miles	3 to 10 Miles	More Than 10 Miles	Within 3 Miles	3 to 10 Miles	More Than 10 Miles	Within 3 Miles	3 to 10 Miles	More Than 10 Miles
53	Rapid Decentralization	20.7%	36.0%	43.4%	18.5%	34.3%	47.2%	-2.2%	-1.7%	3.9%
30	Moderate Decentralization	27.6%	30.3%	42.1%	25.5%	31.5%	43.0%	-2.0%	1.2%	0.9%
12	Shift to the Middle	28.8%	32.0%	39.2%	27.3%	34.9%	37.8%	-1.5%	2.9%	-1.4%
3	Gains in the Center	26.9%	44.5%	28.6%	28.1%	42.3%	29.6%	1.2%	-2.2%	1.0%
98	**Total**	**23.3%**	**34.2%**	**42.5%**	**21.3%**	**33.6%**	**45.1%**	**-2.1%**	**-0.5%**	**2.6%**

Source: Brookings Institution anlaysis of ZIP Code Business Patterns data

Table 5. 98 Metro Areas by Type of Change in the Spatial Location of Employment, 1998 to 2006

	Rapid Decentralization	Moderate Decentralization	Shift to the Middle	Gains in the Core
Total	*53 Metro Areas*	*30 Metro Areas*	*12 Metro Areas*	*3 Metro Areas*
Large	Atlanta-Sandy Springs-Marietta, GA Austin-Round Rock, TX Baltimore-Towson, MD Chicago-Naperville-Joliet, IL-IN-WI Cincinnati-Middletown, OH-KY-IN Cleveland-Elyria-Mentor, OH Columbus, OH Dallas-Fort Worth-Arlington, TX Denver-Aurora, CO Detroit-Warren-Livonia, MI Houston-Baytown-Sugar Land, TX Indianapolis, IN Jacksonville, FL Kansas City, MO-KS Louisville, KY-IN Memphis, TN-MS-AR Miami-Fort Lauderdale-Miami Beach, FL Minneapolis-St. Paul-Bloomington, MN-WI Nashville-Davidson–Murfreesboro, TN Orlando, FL Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Phoenix-Mesa-Scottsdale, AZ Pittsburgh, PA Portland-Vancouver-Beaverton, OR-WA Providence-New Bedford-Fall River, RI-MA Richmond, VA Riverside-San Bernardino-Ontario, CA Sacramento–Arden-Arcade–Roseville, CA Salt Lake City, UT San Antonio, TX San Diego-Carlsbad-San Marcos, CA San Jose-Sunnyvale-Santa Clara, CA Seattle-Tacoma-Bellevue, WA St. Louis, MO-IL Tampa-St. Petersburg-Clearwater, FL Washington-Arlington-Alexandria, DC-VA-MD-WV	Charlotte-Gastonia-Concord, NC-SC Hartford-West Hartford-East Hartford, CT Las Vegas-Paradise, NV Los Angeles-Long Beach-Santa Ana, CA New York-Northern New Jersey-Long Island, NY-NJ-PA San Francisco-Oakland-Fremont, CA Virginia Beach-Norfolk-Newport News, VA-NC	Boston-Cambridge-Quincy, MA-NH	Milwaukee-Waukesha-West Allis, WI
Small	Albany-Schenectady-Troy, NY Birmingham-Hoover, AL Cape Coral-Fort Myers, FL Colorado Springs, CO El Paso, TX Honolulu, HI Knoxville, TN Little Rock-North Little Rock, AR New Haven-Milford, CT New Orleans-Metairie-Kenner, LA Oklahoma City, OK Omaha-Council Bluffs, NE-IA Raleigh-Cary, NC Sarasota-Bradenton-Venice, FL Springfield, MA Syracuse, NY Tucson, AZ	Akron, OH Albuquerque, NM Augusta-Richmond County, GA-SC Baton Rouge, LA Boise City-Nampa, ID Buffalo-Niagara Falls, NY Charleston-North Charleston, SC Columbia, SC Dayton, OH Des Moines, IA Grand Rapids-Wyoming, MI Greenville, SC Jackson, MS Lancaster, PA Lansing-East Lansing, MI Lexington-Fayette, KY Poughkeepsie-Newburgh-Middletown, NY Rochester, NY Stockton, CA Toledo, OH Tulsa, OK Wichita, KS Worcester, MA	Allentown-Bethlehem-Easton, PA-NJ Bakersfield, CA Durham, NC Fresno, CA Greensboro-High Point, NC Harrisburg-Carlisle, PA Madison, WI Portland-South Portland-Biddeford, ME Scranton–Wilkes-Barre, PA Trenton-Ewing, NJ Youngstown-Warren-Boardman, OH-PA	Chattanooga, TN-GA Oxnard-Thousand Oaks-Ventura, CA

Table 6. Metro Areas with the Largest Increase in Share of Jobs More than 10 Miles from the CBD, 1998 to 2006

Metro Area	Change Within 3 Miles, 1998-2006	Change 3 to 10 Miles, 1998-2006	Change Beyond 10 Miles, 1998-2006
Phoenix, AZ	-7.0%	-1.5%	8.5%
Memphis, TN-MS-AR	-2.4%	-6.0%	8.4%
Jacksonville, FL	-5.5%	-2.2%	7.8%
Orlando, FL	-2.9%	-4.6%	7.5%
Austin, TX	-3.3%	-3.6%	6.9%
Houston, TX	-2.6%	-4.3%	6.9%
Salt Lake City, UT	-4.2%	-2.7%	6.9%
Sacramento, CA	-2.6%	-4.2%	6.8%
New Orleans, LA	-5.3%	-1.5%	6.8%
Cape Coral, FL	-5.7%	-1.0%	6.7%

Source: Brookings Institution anlaysis of ZIP Code Business Patterns data
Note: Official metro names are shortened; see Appendix for full OMB designations

The metro areas that experienced *moderate decentralization* over this time period distinguish themselves from the previous category in that, while losing job share around their downtowns, the 3- to 10-mile ring gained job share along with the outer ring. While jobs shifted outward in these regions between 1998 and 2006, metro areas like Las Vegas, San Francisco, and Buffalo did not experience the rapid pace of job decentralization that many other metro areas did.

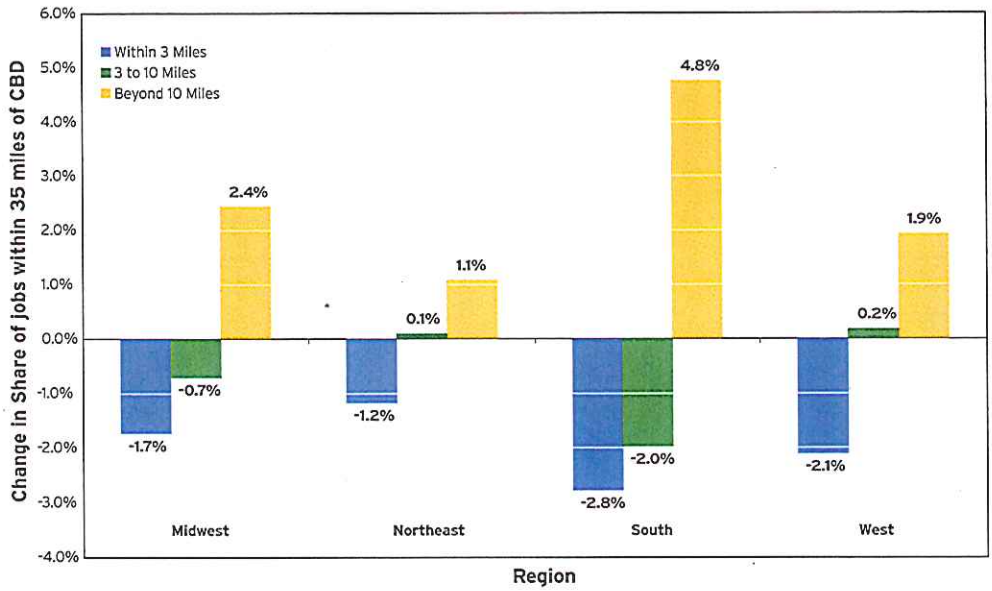
In contrast, metro areas experiencing a *shift to the middle* actually saw the share of their jobs located more than 10 miles from downtown drop during this period. Taken together, the 12 metro areas in this category experienced an increase in middle ring job share of almost 3 percentage points, coupled with a roughly one-and-a-half percentage point decline in the inner and outer rings. Between 1998 and 2006, the 3- to 10-mile ring gained employment, either at a faster rate than the urban core and outer ring (e.g., Boston, Allentown, and Bakersfield) or while downtown and outer-ring jobs declined (e.g., Greensboro and Youngstown).

The remaining three metro areas were the only ones to experience *gains in the core* ring between 1998 and 2006. Of these three, just one—Oxnard-Thousand Oaks—saw the share of metropolitan jobs in the urban core increase by more than one percentage point. Oxnard-Thousand Oaks experienced a two-point shift towards the inner ring coupled with declines in both the middle- and outer-ring job share. This is a fast-growing region anchored by two CBDs, in "boomburbs" that sustained double-digit population growth each decade between 1950 and 2000, and have continued to grow since 2000.[42] In addition, both cities are located in a county with strong urban containment policies regulating development.[43]

On the whole, while almost every major metro area experienced decentralizing employment trends, differences in the magnitude of that decentralization emerge by region (**Figure 3**). Though all four regions saw employment share shift away from the urban core, the trends in the South are the most emblematic of the spatial changes in metropolitan employment that occurred between 1998 and 2006; southern metros experienced the largest decrease in urban core job share among the regions (2.8 percentage points), coupled with a 4.8 percentage-point increase in the outer-ring.

Moreover, total metropolitan employment also seems to play a role in the extent of job decentralization that took place over this period. As **Table 5** illustrates, smaller metro areas experienced the complete range of change in job distribution between 1998 and 2006, with significant representation in every category. Large metro areas, on the other hand, are much more likely to have undergone rapid decentralization. This may reflect the fact that larger metros started out more decentralized than smaller metros in 1998, and may therefore be at different points on their development continua. It may also reflect differing economic choices and strategies for land use and development.

Figure 3. Change in Distribution of Jobs by Region, 98 Metro Areas, 1998 to 2006



Source: Brookings Institution analysis of ZIP Code Business Patterns data

D. In almost every major industry, jobs shifted away from the city center between 1998 and 2006.

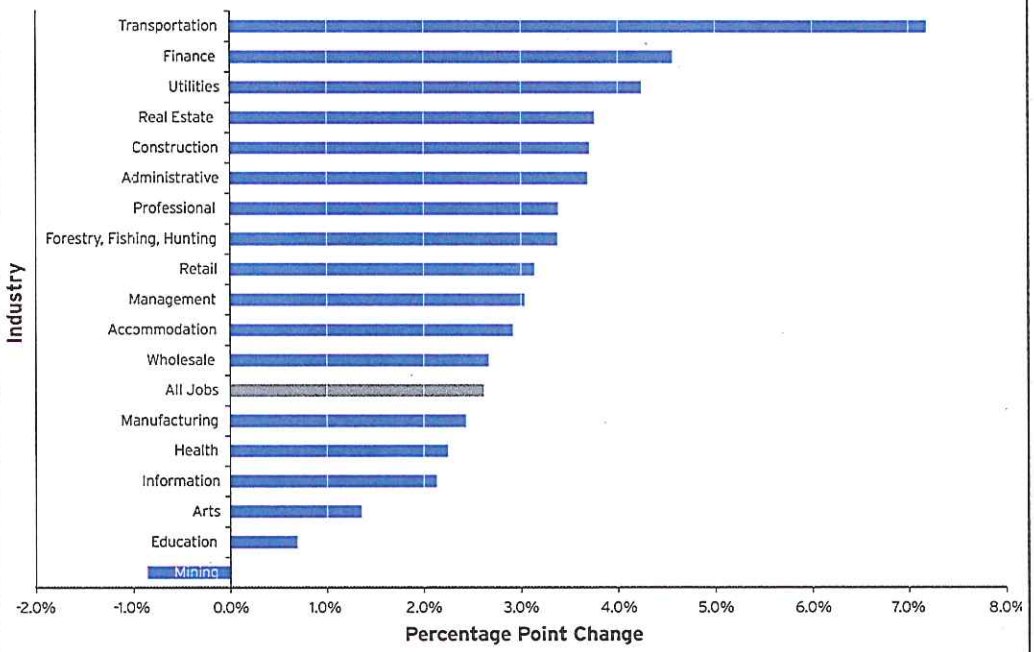
Similar to the overall trend of job decentralization during this period of economic growth, recession, and recovery, almost every major industry (17 out of 18) saw its share of jobs beyond 10 miles from downtown expand, and all but two saw job shares within 3 miles of downtown contract, between 1998 and 2006. **Figure 4** presents the change in outer ring employment share from 1998 to 2006 by industry. The construction industry experienced a boom in employment between 1998 and 2006, particularly in many Sun Belt metros in the South and West, and exhibited a marked shift toward outer-ring locations.[44] Forty-seven (47) of the 98 metro areas have a specialization in construction, and they saw an average gain of 3.9 percentage points in outer-ring job share. All but seven of these metro areas are located in the South and West, and several rank among those with the greatest outer-ring job share gains overall, including Orlando, Cape Coral, and Houston as well as Sacramento and Phoenix-Mesa. Consistent with the housing boom in the Sun Belt, as construction jobs increased overall in these metro areas, the fastest growth occurred in the metropolitan fringe.

Manufacturing employment decentralized, too, but in a very different context. Overall, this industry lost jobs between 1998 and 2006, with net decreases in each metropolitan ring. Because employment declines in the urban core outpaced those in the outer ring, manufacturing jobs continued to decentralize. As a group, the 38 metro areas with a specialization in manufacturing—most in the Rust Belt and South—followed this pattern, with an average gain of 1.9 percentage points in outer-ring job share.

Even industries that remain relatively rooted in and around downtowns, such as health care and social assistance; finance and insurance; and professional, scientific, and technical services saw job share spread outward over the eight-year period. For instance, the 31 metro areas that specialize in professional, scientific, and technical services, including Austin, Albuquerque, and Oklahoma City, experienced a shifting of job share away from downtown and the middle ring, resulting in an outer-ring gain of more than two points.

As these examples suggest, metropolitan-level and industry-level changes in employment location relate to one another. Of the 22 metro areas that saw their outer-ring job share increase by at least 5 percentage points from 1998 to 2006, all specialized in at least one industry that decentralized at an

Figure 4. Change in Share of Jobs beyond 10 Miles from CBD by Industry, Top 98 Metro Areas, 1998 to 2006



Source: Brookings Institution analysis of ZIP Code Business Patterns data

above-average rate, and 21 specialized in more than one such industry. Conversely, of the 25 metros that experienced a decline in outer-ring job share or a growth of less than one percentage point, all but one specialized in at least one industry that experienced a below-average rate of job decentralization.

These patterns help illustrate the association between industry structure and the spatial location of employment at the metro area level, though they raise questions about that relationship. For instance, did changes in the finance industry lead to decentralization of finance jobs within metro areas, or did developments across metro areas (growth in some metro areas, declines in others) lead to shifts in the overall spatial location patterns at the industry level? These trends also raise questions about what might be appropriate location decisions for certain industries as metro areas change over time. For instance, the transportation and warehousing industry leads the list for highest increases in outer-ring job share. It might be expected that, as metro areas grow, this industry would decentralize away from densely populated areas in the city center.[45]

While not all industry employment location trends map neatly to the experience of the individual metro areas that specialize in them, this analysis suggests that industry structure serves as one of a number of factors that shape the changing location of employment within metro areas.

Conclusion

This analysis sheds light on the decentralization of employment that took place in almost all of the leading metropolitan areas in the country between 1998 and 2006. While many once declining central-city downtowns have captured visible new residential and commercial vitality in recent years, the dominant trend across metropolitan areas and industries has produced further spreading out of jobs toward the metropolitan fringe.

By 2030, the United States will add over 90 billion square feet of commercial and industrial development—nearly twice as much as existed in 2000—to accommodate a projected 60 million new jobs.[46] Even if, as anticipated, only half of that new development occurs as low-density new construction, we can expect to see a continued shift of employment share away from downtowns across the country. In particular, the southern and western regions of the United States are projected to experience the most significant growth. As those regions grow, will jobs become even more decentralized, as in Dallas, Atlanta, and Charlotte; or will they shift to a more compact form, as in Albuquerque, San Jose, and Tucson?

This analysis also makes clear that job decentralization results not solely from growth. Metro areas that lost jobs between 1998 and 2006 also exhibited decentralizing patterns as net employment losses shifted job share away from the urban core. Clearly, the continued decentralization of jobs affects communities across the country, regardless of size or region, growth or decline.

Economic circumstances have shifted markedly since 2006, of course. Since the current recession began in December of 2007, the U.S. economy has shed almost 4.4 million jobs. Certain industries, such as construction, administrative and waste support services, and manufacturing have been hit especially hard over this period, though almost every industry—with exceptions in education services and health care and social services—has shared in the downturn.[47] Several of the harder-hit industries exhibited an above-average rate of metropolitan decentralization in 2006, indicating that the initial effects of the recession may slow further job sprawl over the short term (**Table 3**). The underlying industry specializations of each metro area will most likely affect the extent to which the current downturn impacts its job decentralization trend post-2006.

As this analysis has shown, however, job decentralization trends do not move in lock-step with the economic cycle; jobs continued to shift towards the fringe in almost every major metro area, regardless of overarching economic circumstances between 1998 and 2006. Therefore, though the current downturn may slow the long-term trend, it is unlikely on its own to reverse the patterns documented here. The more important question regards the eventual economic recovery of our nation and its metropolitan economies: When jobs begin to grow again in these regions, how and where will that growth occur?

Just as they have for the past several decades, policymakers are making decisions right now that will shape future development patterns across the country.[48] Currently, members of the 111th Congress and the new administration, along with leaders at the state and local level, are crafting policies with the potential to directly impact metropolitan development patterns and, by extension, the location of employment. The recently passed American Recovery and Reinvestment Act of 2009 will result in billions of dollars of new spending in areas including transportation and infrastructure, housing, energy, and job creation. If used wisely by federal, state, and local leaders, these investments could help spur cohesive planning and policies that connect decisions around affordable housing, transportation, and jobs to foster more compact and sustainable development. If not, these investments could accelerate low-density exurban development and exacerbate the range of challenges associated with unchecked sprawl.

Clearly, the spatial distribution of employment within a region intersects with a whole host of policy areas. These issues do not exist in independent silos, though too often policy decisions have been made as if they do. Understanding the changing location of jobs within U.S. regions represents a necessary step towards implementing more cohesive, comprehensive policies for economically productive, socially inclusive, and environmentally sustainable metropolitan growth.

Appendix A. Change in the Geographic Distribution of Jobs, 98 Metro Areas, 1998 to 2006

	1998				2006				Change, 1998 to 2006			
Metro Area	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles
98 Metro Area Total	**70,159,860**	**23.3%**	**34.2%**	**42.5%**	**77,411,492**	**21.3%**	**33.6%**	**45.1%**	**7,251,632**	**-2.1%**	**-0.5%**	**2.6%**
Akron, OH	290,022	28.8%	43.2%	28.0%	300,323	25.1%	44.0%	30.9%	10,301	-3.7%	0.8%	2.9%
Albany-Schenectady-Troy, NY	299,181	25.2%	40.8%	34.0%	333,252	24.0%	39.8%	36.2%	34,071	-1.2%	-1.0%	2.2%
Albuquerque, NM	272,383	29.7%	59.6%	10.7%	307,753	25.9%	59.7%	14.4%	35,370	-3.9%	0.2%	3.7%
Allentown-Bethlehem-Easton, PA-NJ	270,026	28.3%	42.2%	29.5%	289,827	26.4%	44.1%	29.4%	19,801	-1.9%	1.9%	-0.1%
Atlanta-Sandy Springs-Marietta, GA	1,662,324	11.4%	31.5%	57.1%	2,062,147	9.3%	27.5%	63.2%	399,824	-2.1%	-4.0%	6.1%
Augusta-Richmond County, GA-SC	166,750	25.0%	39.0%	36.1%	179,579	22.0%	40.9%	37.1%	12,829	-3.0%	2.0%	1.0%
Austin-Round Rock, TX	469,147	27.8%	45.5%	26.7%	601,731	24.4%	41.9%	33.7%	132,584	-3.3%	-3.6%	6.9%
Bakersfield, CA	125,404	45.7%	37.3%	17.0%	163,687	43.0%	42.9%	14.1%	38,284	-2.7%	5.6%	-3.0%
Baltimore-Towson, MD	966,460	20.2%	36.6%	43.2%	1,118,673	18.0%	33.6%	48.4%	152,213	-2.2%	-3.0%	5.2%
Baton Rouge, LA	265,483	18.5%	52.5%	29.0%	314,285	16.0%	54.4%	29.6%	48,802	-2.4%	1.8%	0.6%
Birmingham-Hoover, AL	429,542	36.6%	36.8%	26.6%	453,079	33.7%	35.7%	30.6%	23,537	-3.0%	-1.1%	4.0%
Boise City-Nampa, ID	178,876	52.6%	24.7%	22.7%	232,882	42.6%	33.0%	24.4%	54,006	-10.0%	8.3%	1.7%
Boston-Cambridge-Quincy, MA-NH	1,924,748	29.5%	21.9%	48.6%	2,131,017	28.0%	24.2%	47.9%	206,269	-1.6%	2.3%	-0.8%
Buffalo-Niagara Falls, NY	464,622	21.3%	50.4%	28.3%	478,466	19.5%	51.1%	29.5%	13,844	-1.8%	0.6%	1.2%
Cape Coral-Fort Myers, FL	132,568	34.6%	49.6%	15.9%	196,557	28.8%	48.5%	22.6%	63,988	-5.7%	-1.0%	6.7%
Charleston-North Charleston, SC	200,682	29.0%	40.4%	30.6%	234,697	21.6%	44.1%	34.3%	34,015	-7.4%	3.7%	3.7%
Charlotte-Gastonia-Concord, NC-SC	654,995	25.8%	37.3%	36.8%	750,702	20.5%	38.8%	40.7%	95,707	-5.3%	1.4%	3.9%
Chattanooga, TN-GA	202,089	31.0%	43.6%	25.5%	220,826	31.9%	42.1%	26.1%	18,737	0.9%	-1.5%	0.6%
Chicago-Naperville-Joliet, IL-IN-WI	3,517,263	18.7%	14.5%	66.8%	3,631,387	17.9%	13.4%	68.7%	114,124	-0.9%	-1.1%	2.0%
Cincinnati-Middletown, OH-KY-IN	876,497	20.4%	31.4%	48.2%	917,480	17.1%	30.6%	52.3%	40,984	-3.3%	-0.8%	4.1%
Cleveland-Elyria-Mentor, OH	1,000,374	18.0%	38.9%	43.1%	959,388	16.2%	38.1%	45.7%	-40,986	-1.8%	-0.8%	2.5%
Colorado Springs, CO	199,907	38.6%	53.5%	7.9%	224,430	34.9%	53.2%	11.9%	24,523	-3.7%	-0.3%	4.0%
Columbia, SC	257,204	35.9%	39.0%	25.2%	281,198	32.0%	40.0%	28.0%	23,995	-3.9%	1.0%	2.8%
Columbus, OH	729,986	23.2%	47.2%	29.5%	774,127	19.3%	45.0%	35.7%	44,141	-3.9%	-2.3%	6.1%
Dallas-Fort Worth-Arlington, TX	2,229,454	12.2%	25.5%	62.4%	2,399,155	10.6%	22.5%	66.9%	169,701	-1.6%	-2.9%	4.5%
Dayton, OH	371,829	26.1%	52.8%	21.1%	361,810	23.8%	54.4%	21.9%	-10,019	-2.3%	1.5%	0.8%
Denver-Aurora, CO	978,571	24.3%	46.9%	28.9%	1,076,423	22.1%	44.9%	33.0%	97,852	-2.2%	-2.0%	4.1%
Des Moines, IA	243,099	46.9%	44.3%	8.8%	280,041	40.2%	50.6%	9.2%	36,942	-6.7%	6.2%	0.4%
Detroit-Warren-Livonia, MI	1,787,063	7.3%	18.5%	74.2%	1,679,362	7.0%	15.7%	77.4%	-107,701	-0.3%	-2.8%	3.1%
Durham, NC	198,339	29.1%	53.4%	17.5%	222,312	27.5%	55.7%	16.8%	23,973	-1.6%	2.3%	-0.7%
El Paso, TX	199,202	23.5%	58.8%	17.7%	204,004	20.2%	56.5%	23.3%	4,801	-3.3%	-2.3%	5.6%
Fresno, CA	198,854	25.9%	60.2%	14.0%	251,219	23.1%	63.7%	13.2%	52,365	-2.7%	3.5%	-0.8%
Grand Rapids-Wyoming, MI	342,456	30.4%	55.5%	14.1%	344,745	27.8%	56.9%	15.2%	2,288	-2.6%	1.4%	1.2%

Appendix A. Change in the Geographic Distribution of Jobs, 98 Metro Areas, 1998 to 2006 (continued)

	1998				2006				Change, 1998 to 2006			
Metro Area	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles	Total Jobs Within 35 Miles of Downtown	Share of Jobs Within 3 Miles	Share of Jobs 3 to 10 Miles	Share of Jobs Beyond 10 Miles
Greensboro-High Point, NC	329,946	23.0%	36.7%	40.3%	330,791	21.1%	39.0%	39.9%	845	-1.9%	2.3%	-0.4%
Greenville, SC	285,612	38.2%	39.7%	22.1%	279,776	35.2%	41.2%	23.6%	-5,837	-2.9%	1.5%	1.4%
Harrisburg-Carlisle, PA	253,325	30.3%	40.9%	28.8%	263,917	29.4%	41.9%	28.7%	10,592	-0.9%	1.0%	-0.1%
Hartford-West Hartford-East Hartford, CT	538,211	25.3%	39.6%	35.1%	554,537	23.6%	40.0%	36.4%	16,326	-1.7%	0.4%	1.3%
Honolulu, HI	309,729	56.1%	31.6%	12.3%	358,873	55.6%	29.5%	14.8%	49,144	-0.5%	-2.0%	2.5%
Houston-Baytown-Sugar Land, TX	1,750,155	14.2%	36.8%	49.1%	1,975,566	11.6%	32.4%	56.0%	225,411	-2.6%	-4.3%	6.9%
Indianapolis, IN	720,297	24.0%	48.3%	27.8%	797,418	21.0%	45.4%	33.6%	77,121	-3.0%	-2.9%	5.9%
Jackson, MS	203,586	35.9%	50.1%	14.0%	212,194	29.4%	50.2%	20.4%	8,608	-6.6%	0.1%	6.4%
Jacksonville, FL	431,769	23.9%	46.6%	29.5%	514,466	18.3%	44.4%	37.3%	82,697	-5.5%	-2.2%	7.8%
Kansas City, MO-KS	793,737	19.1%	33.7%	47.2%	887,724	17.3%	32.4%	50.3%	93,987	-1.8%	-1.3%	3.1%
Knoxville, TN	263,519	22.1%	36.3%	41.6%	306,166	19.5%	36.2%	44.3%	42,647	-2.7%	-0.1%	2.8%
Lancaster, PA	201,082	31.6%	36.6%	31.8%	221,687	29.7%	37.9%	32.4%	20,606	-1.9%	1.2%	0.7%
Lansing-East Lansing, MI	166,471	44.6%	39.9%	15.5%	165,542	39.0%	44.6%	16.4%	-929	-5.6%	4.8%	0.8%
Las Vegas-Paradise, NV	519,003	37.1%	58.1%	4.9%	825,279	29.9%	62.8%	7.2%	306,276	-7.1%	4.8%	2.3%
Lexington-Fayette, KY	196,297	50.6%	24.0%	25.4%	214,579	48.0%	25.9%	26.1%	18,282	-2.6%	1.9%	0.7%
Little Rock-North Little Rock, AR	268,471	28.0%	46.3%	25.8%	287,175	26.6%	44.8%	28.6%	18,705	-1.3%	-1.5%	2.8%
Los Angeles-Long Beach-Santa Ana, CA	4,466,943	8.8%	26.0%	65.2%	4,887,307	8.2%	26.2%	65.6%	420,364	-0.6%	0.2%	0.5%
Louisville, KY-IN	521,835	30.6%	50.9%	18.5%	539,783	27.8%	50.5%	21.7%	17,948	-2.8%	-0.4%	3.2%
Madison, WI	228,574	34.5%	47.1%	18.4%	266,716	30.5%	52.3%	17.2%	38,142	-3.9%	5.2%	-1.3%
Memphis, TN-MS-AR	514,443	14.4%	44.7%	40.9%	537,027	12.0%	38.6%	49.3%	22,584	-2.4%	-6.0%	8.4%
Miami-Fort Lauderdale-Miami Beach, FL	1,323,346	9.9%	29.6%	60.5%	1,476,060	9.3%	28.2%	62.6%	152,714	-0.7%	-1.4%	2.0%
Milwaukee-Waukesha-West Allis, WI	763,429	22.6%	42.5%	34.9%	785,979	23.0%	39.2%	37.8%	22,549	0.3%	-3.2%	2.9%
Minneapolis-St. Paul-Bloomington, MN-WI	1,478,847	19.7%	45.3%	35.0%	1,618,645	16.9%	42.7%	40.5%	139,798	-2.8%	-2.7%	5.5%
Nashville-Davidson--Murfreesboro, TN	599,072	29.4%	33.5%	37.2%	684,063	24.8%	31.9%	43.3%	84,991	-4.6%	-1.6%	6.2%
New Haven-Milford, CT	331,644	26.2%	33.1%	40.7%	337,753	25.2%	32.5%	42.3%	6,109	-1.0%	-0.7%	1.6%
New Orleans-Metairie-Kenner, LA	506,189	34.0%	47.4%	18.6%	408,242	28.7%	46.0%	25.4%	-97,947	-5.3%	-1.5%	6.8%
New York-Northern New Jersey-Long Island, NY-NJ-PA	6,389,858	35.5%	19.0%	45.6%	6,864,003	34.8%	19.0%	46.2%	474,145	-0.7%	0.1%	0.6%
Oklahoma City, OK	406,324	30.8%	49.9%	19.3%	455,552	26.7%	49.4%	23.9%	49,229	-4.1%	-0.5%	4.6%
Omaha-Council Bluffs, NE-IA	360,258	26.2%	57.4%	16.4%	388,351	23.6%	56.4%	20.0%	28,093	-2.6%	-1.0%	3.6%
Orlando, FL	739,582	16.3%	47.9%	35.8%	958,240	13.4%	43.3%	43.3%	218,659	-2.9%	-4.6%	7.5%
Oxnard-Thousand Oaks-Ventura, CA	226,636	37.6%	52.4%	10.1%	283,983	39.4%	51.0%	9.6%	57,346	1.8%	-1.3%	-0.5%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,313,044	16.8%	22.5%	60.7%	2,460,205	15.5%	20.8%	63.7%	147,161	-1.3%	-1.7%	3.0%
Phoenix-Mesa-Scottsdale, AZ	1,251,524	32.9%	51.5%	15.7%	1,622,947	25.8%	50.0%	24.2%	371,423	-7.0%	-1.5%	8.5%

Metro Area	1998 Total Jobs Within 35 Miles of Downtown	1998 Share of Jobs Within 3 Miles	1998 Share of Jobs 3 to 10 Miles	1998 Share of Jobs Beyond 10 Miles	2006 Total Jobs Within 35 Miles of Downtown	2006 Share of Jobs Within 3 Miles	2006 Share of Jobs 3 to 10 Miles	2006 Share of Jobs Beyond 10 Miles	Change, 1998 to 2006 Total Jobs Within 35 Miles of Downtown	Change, 1998 to 2006 Share of Jobs Within 3 Miles	Change, 1998 to 2006 Share of Jobs 3 to 10 Miles	Change, 1998 to 2006 Share of Jobs Beyond 10 Miles
Pittsburgh, PA	973,150	27.0%	29.7%	43.4%	1,008,801	25.9%	29.1%	45.1%	35,651	-1.1%	-0.6%	1.7%
Portland-South Portland-Biddeford, ME	189,037	37.8%	18.2%	44.0%	214,068	36.1%	21.1%	42.7%	25,031	-1.7%	3.0%	-1.3%
Portland-Vancouver-Beaverton, OR-WA	828,529	27.4%	48.7%	23.8%	907,052	24.3%	46.3%	29.4%	78,523	-3.1%	-2.4%	5.6%
Poughkeepsie-Newburgh-Middletown, NY	161,217	18.9%	14.1%	67.0%	194,171	18.3%	14.3%	67.4%	32,953	-0.7%	0.2%	0.5%
Providence-New Bedford-Fall River, RI-MA	584,309	23.4%	29.8%	46.8%	635,912	22.3%	29.7%	48.0%	51,603	-1.1%	-0.1%	1.1%
Raleigh-Cary, NC	332,364	17.5%	55.4%	27.1%	411,320	15.9%	53.6%	30.5%	78,956	-1.7%	-1.8%	3.5%
Richmond, VA	452,977	22.6%	48.6%	28.8%	521,322	20.0%	48.0%	32.1%	68,346	-2.6%	-0.7%	3.3%
Riverside-San Bernardino-Ontario, CA	605,706	23.6%	46.2%	30.3%	933,467	19.8%	44.7%	35.5%	327,760	-3.7%	-1.5%	5.2%
Rochester, NY	415,916	33.9%	46.9%	19.2%	416,823	32.0%	47.3%	20.7%	907	-1.9%	0.4%	1.5%
Sacramento–Arden-Arcade–Roseville, CA	525,230	21.2%	38.4%	40.4%	687,080	18.6%	34.1%	47.3%	161,850	-2.6%	-4.2%	6.8%
Salt Lake City, UT	478,964	37.0%	41.6%	21.4%	532,387	32.8%	38.9%	28.3%	53,423	-4.2%	-2.7%	6.9%
San Antonio, TX	584,024	17.8%	58.9%	23.3%	689,117	14.7%	55.7%	29.6%	105,092	-3.2%	-3.1%	6.3%
San Diego-Carlsbad-San Marcos, CA	928,424	13.6%	35.1%	51.3%	1,160,030	11.3%	34.5%	54.2%	231,605	-2.3%	-0.6%	2.9%
San Francisco-Oakland-Fremont, CA	1,802,750	26.3%	18.4%	55.3%	1,896,056	23.7%	19.0%	57.3%	93,305	-2.6%	0.6%	2.0%
San Jose-Sunnyvale-Santa Clara, CA	921,176	25.9%	55.2%	18.9%	885,520	24.4%	55.0%	20.6%	-35,656	-1.5%	-0.2%	1.7%
Sarasota-Bradenton-Venice, FL	235,751	27.4%	46.5%	26.2%	232,300	24.4%	45.6%	30.0%	-3,452	-2.9%	-0.9%	3.8%
Scranton–Wilkes-Barre, PA	211,023	24.7%	22.4%	52.9%	223,210	24.0%	24.0%	52.0%	12,187	-0.7%	1.6%	-0.9%
Seattle-Tacoma-Bellevue, WA	1,321,086	20.0%	26.9%	53.1%	1,461,291	19.1%	24.8%	56.0%	140,205	-0.8%	-2.1%	2.9%
Springfield, MA	241,098	34.8%	39.0%	26.2%	245,318	30.3%	37.3%	32.4%	4,220	-4.5%	-1.7%	6.2%
St. Louis, MO-IL	1,125,324	15.3%	27.0%	57.7%	1,178,589	14.1%	25.0%	60.9%	53,265	-1.2%	-2.0%	3.3%
Stockton, CA	142,044	35.7%	30.1%	34.3%	178,850	33.1%	31.4%	35.5%	36,806	-2.6%	1.3%	1.2%
Syracuse, NY	262,441	38.9%	40.8%	20.3%	253,476	37.7%	40.4%	21.9%	-8,965	-1.1%	-0.4%	1.6%
Tampa-St. Petersburg-Clearwater, FL	891,976	25.4%	58.2%	16.4%	1,020,205	24.9%	56.5%	18.6%	128,229	-0.5%	-1.7%	2.2%
Toledo, OH	279,086	26.8%	54.0%	19.3%	282,840	25.8%	54.3%	19.9%	3,755	-0.9%	0.3%	0.6%
Trenton-Ewing, NJ	155,135	24.1%	53.1%	22.9%	184,624	22.0%	57.7%	20.2%	29,489	-2.0%	4.7%	-2.7%
Tucson, AZ	263,181	24.1%	66.3%	9.6%	333,480	21.0%	64.7%	14.3%	70,300	-3.1%	-1.6%	4.7%
Tulsa, OK	353,033	24.8%	55.9%	19.4%	372,840	19.1%	57.7%	23.1%	19,807	-5.7%	1.9%	3.8%
Virginia Beach-Norfolk-Newport News, VA-NC	542,783	38.9%	45.0%	16.1%	630,246	36.4%	46.4%	17.1%	87,464	-2.4%	1.4%	1.1%
Washington-Arlington-Alexandria, DC-VA-MD-WV	1,825,203	22.8%	32.6%	44.5%	2,215,738	20.8%	30.1%	49.1%	390,535	-2.1%	-2.5%	4.6%
Wichita, KS	247,072	44.2%	42.8%	13.0%	255,204	36.9%	48.7%	14.4%	8,132	-7.3%	5.9%	1.4%
Worcester, MA	289,499	33.6%	22.0%	44.4%	288,378	31.4%	23.8%	44.8%	-1,121	-2.2%	1.8%	0.4%
Youngstown-Warren-Boardman, OH-PA	232,192	17.3%	34.3%	48.4%	214,663	17.1%	37.3%	45.6%	-17,528	-0.2%	3.1%	-2.8%

Source: Brookings Institution analysis of ZIP Code Business Patterns data

Note: Estimates of total jobs within 35 miles were tabulated based on GIS analysis and may not match metropolitan area totals from the U.S. Census County Business Patterns data.

Endnotes

1. See, e.g., Peter Mieszkowski and Edwin S. Mills, "The Causes of Metropolitan Suburbanization." *Journal of Economic Perspectives* 7(3)(1993): 135-147.

2. See Robert E. Lang, *Edgeless Cities: Exploring the Elusive Metropolis* (Washington: Brookings Institution, 2003), and Tara Watson, "New Housing, Income Inequality, and Distressed Metropolitan Areas" (Washington: Brookings Institution, 2007).

3. Robert Burchell, et al, *Sprawl Costs: Economic Impacts of Unchecked Development* (Washington: Island Press, 2005).

4 Lang, *Edgeless Cities*.

5. Michael A. Stoll, "Job Sprawl and the Spatial Mismatch between Blacks and Jobs" (Washington: Brookings Institution, 2005).

6. Harry Holzer and Michael Stoll, "Where Workers Go, Do Jobs Follow? Metropolitan Labor Markets in the U.S., 1990-2000" (Washington: Brookings Institution, 2007).

7. Gerald Carlino, Satyajit Chattergee, and Robert Hunt, "Urban Density and the Rate of Invention." Working Paper 06-14 (Federal Reserve Bank of Philadelphia, 2006).

8. Marilyn A. Brown, Frank Southworth, and Andrea Sarzynski, "Shrinking the Carbon Footprint of Metropolitan America" (Washington: Brookings Institution, 2008).

9. Reid Ewing and others, "Growing Cooler: The Evidence on Urban Development and Climate Change" (Washington: Urban Land Institute, 2007).

10. See Edward Glaeser and Matthew Kahn, "Decentralized Employment and the Transformation of the American City" (Cambridge: Harvard Institute of Economic Research, Discussion Paper Number 1912, 2001) and Edward Glaeser, Matthew Kahn, and Chenghuan Chu, "Job Sprawl: Employment Location in U.S. Metropolitan Areas" (Washington: Brookings Institution, 2001).

11. Brookings analysis of Bureau of Economic Analysis 2005 Wage and Salary Employment data. This analysis started with the top 100 metro areas based on 2005 employment figures. The Palm Bay-Melbourne-Titusville, FL metro area (ranked 100th) was excluded due to lack of a defined central business district, and Bridgeport-Stamford-Norwalk, CT metro area (ranked 55th) was excluded based on limitations in the ZIP code employment data.

12. The geographic classification of an establishment is based on its physical location. For multi-establishment firms, the Economic Census requests an address for each establishment in the firm. Administrative payroll and employment data are tabulated at the establishment level. See **www.census.gov/epcd/cbp/view/cbpmethodology.htm**, accessed December 30, 2008.

13. Counts include government employees working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals. Employees of publicly owned and operated schools are also included. See **www.census.gov/epcd/cbp/view/cbpfaq.html**, accessed November 30, 2007.

14. See e.g., Leah Platt Boustan and Robert Margo, "Job Decentralization and Postwar Suburbanization: Evidence from State Capitals" Prepared for the Brookings-Wharton Conference on Urban Affairs (Washington: Brookings, 2008). According to a Brookings analysis of 2006 U.S. Bureau of Economic Analysis data, six metros have at least 20 percent of metro area employment in the government sector, which includes Federal civilian, military, and state and local government jobs. The six metro areas include Columbia, SC, Sacramento, CA, Lansing, MI, and Honolulu, HI–all of which contain state capitals. El Paso, TX and Virginia Beach-Norfolk-Newport News, VA-NC also make this list, with the Virginia Beach metro showing the highest share of jobs in the government sector (25.3 percent).

15. In a given year between 14 and 15 percent of ZIP codes have their total employment figures suppressed for the sake of confidentiality. For ZIP codes with suppressed employment data, the Census Bureau sets total employment to zero and provides a suppression flag indicating the range within which actual total employment falls. For these ZIP codes, employment totals are estimated by multiplying national average employment figures for each employment size class by the number of ZIP code establishments in each size class. The size class results are then summed to arrive at the ZIP code employment total. For example, consider a ZIP code that contained two establishments in 2000. One establishment falls in the "20 to 49 employees" size class and the other falls in the "50 to 99 employees" size class. The average number of employees for establishments with 20 to 49 employees was 30.2 in 2004, while the average for establishments with 50 to 99 employees was 68.8. Thus, the 2004 imputed employment total for this ZIP is 99. If necessary, the imputed total is adjusted to align with the employment range indicated by the suppression flag. Beata Bajaj and Kathryn Pettit of the Urban Institute developed this imputation method for ZBP employment in their work with DataPlace by Knowledgeplex. See Beata Bajaj and Kathryn L.S. Pettit, "Business Patterns Data Set:

Technical Documentation" (Washington: DataPlace, 2006). This same method is used to estimate employment totals by industry at the ZIP code level; the data do not include these totals, but they do include the number of establishments in each size class by industry.

16. This assessment uses industry employment totals for each sector in the North American Industry Classification System (i.e., at the two-digit NAICS code level). Where employment figures have been suppressed at the two-digit NAICS level, national employment averages are substituted for the relevant establishment size class. One difference exists in the imputation methods used for ZIP code employment totals versus employment by industry. ZBP does not contain suppression flags for employment by industry, so there is no way to confirm that imputed industry totals fall within the correct range at the ZIP code level. However, imputed ZIP code industry numbers are summed to produce a metro level total, which is then tested against the actual County Business Patterns metro-level employment by industry figures. The imputed totals are robust in the aggregate (i.e., the sum of the 98 metro areas jobs by industry), though there is a higher incidence of variation at the individual metro level. Thus, this assessment only presents findings on employment by industry in the aggregate.

17. The Census Bureau defines a central business district as an "area of very high land valuation characterized by a high concentration of retail businesses, service businesses, offices, theaters, and hotels, and by a very high traffic flow." See **www.census.gov/geo/www/cbd.html**, accessed November 30, 2007.

18. Two central cities that appear first in the metro area name do not have CBDs listed in the 1982 Census of Retail Trade. The Virginia Beach, VA and Jacksonville, FL metros rank 33rd and 41st as employment centers, respectively. To exclude these central cities from the analysis would skew the metro-level results; therefore, this analysis designates a CBD in these cases. For Jacksonville, the CBD corresponds with the ZIP code with the highest employment density. The Virginia Beach CBD corresponds with the area officially zoned as the CBD by the city council in 1973. See **www.cbda.net/index.php?p=history.html**, accessed December 17, 2008.

19. The following metro areas have multiple CBDs: Oxnard-Thousand Oaks-Ventura, CA (Oxnard and Thousand Oaks contain CBDs); Phoenix-Mesa-Scottsdale, AZ (Phoenix and Mesa contain CBDs); Riverside-San Bernardino-Ontario, CA (Riverside and Ontario contain CBDs); Tampa-St. Petersburg-Clearwater, FL (all three cities contain CBDs); and Virginia Beach-Norfolk-Newport News, VA-NC (all three cities contain CBDs). Other metro areas, such as San Francisco-Oakland, CA and Minneapolis-St. Paul, MN-WI, contain secondary cities of regional importance (Oakland and St. Paul), yet their downtowns are small employment centers compared to those of the primary city (San Francisco and Minneapolis).

20. The 1982 Census of Retail Trade identified CBDs using 1980 census tracts. The GIS layer file of the 1980 census tract boundaries was obtained from the Minnesota Population Center. See **www.nhgis.org**. Minnesota Population Center, "National Historic Geographic Information System: Pre-Release Version 0.1" (Minneapolis: University of Minnesota, 2004).

21. Throughout the analysis, this paper often refers to the region within three miles of the CBD as the "inner ring" or "urban core," the region between three and 10 miles from the CBD as the "middle ring," and the region between 10 and 35 miles from the CBD as the "outer ring".

22. Glaeser, Kahn, and Chu, "Job Sprawl."

23. Of the 98 metro areas, 88 extend beyond the 35-mile ring to some extent. The metro areas completely contained by the 35-mile ring include: Akron, OH; Cape Coral, FL; Dayton, OH; Lancaster, PA; Lansing, MI; Lexington, KY; New Haven, CT; Sarasota, FL; Stockton, CA; and Trenton, NJ. Although the majority of metros extend beyond the 35-mile ring, that boundary actually captures the vast majority of metro area jobs in most regions. Exceptions include five metro areas that have 10 percent or more of their jobs beyond the 35-mile ring: Miami, FL; Riverside, CA; Chicago, IL; Bakersfield, CA; and New York, NY.

24. This approach appears successful in that there is no significant correlation between land area and decentralization in this analysis. The correlation coefficient for land area and share of employment beyond 10 miles equals 0.10.

25. For instance, a 35-mile radius around the downtown of New Haven, CT extends into the adjoining Hartford-West Hartford-East Hartford, CT and Bridgeport-Stamford-Norwalk, CT metropolitan areas. However, only employment in those ZIP codes that lie within the New Haven metro area (New Haven County, CT) is considered in calculating that metro area's job sprawl measures.

26. There is a strong correlation between total population and total employment at the metro area level. Previous research has also found a strong relationship between population decentralization and employment decentralization (a correlation of 0.79). See Glaeser and Kahn, "Decentralized Employment and the Transformation of the American City."

27. A comparison of the ZIP code allocation, aggregated to metro area level, and the actual County Business Patterns (CBP) metro area total employment figures reveals that this allocation method produces total employment estimates in line with CBP estimates. In 2006, for example, the individual metro area employment estimates for this analysis fall within 3.8 percent of CBP totals, with 88 metros within 1 percent or less of the CBP totals. In the aggregate, this study's estimate of total employment in the 98 metro areas is within 0.1 percent of the CBP total employment figure.

28. In 2006, 33 percent of ZIP codes were "split" within the three-mile ring, 22 percent of ZIP codes were split within the 3- to 10-mile ring, and 12 percent of ZIP codes were split within the 10- to 35-mile ring.

29. This analysis found no significant correlation between total land area and the extent of employment decentralization in the 98 metro areas, but a stronger relationship exists between the total number of jobs in a region and decentralization. The correlation coefficient for total jobs and the share of employment beyond 10 miles equals 0.54.

30. For the sake of categorizing metro areas by size, this assessment uses total metro area employment rather than just the number of jobs within 35 miles of the CBD.

31. Arthur C. Nelson, Casey J. Dawkins, and Thomas W. Sanchez, *The Social Impacts of Urban Containment* (Burlington, VT: Ashgate Publishing Company, 2007).

32. Ibid.

33. The Brookings Institution, "Moving Beyond Sprawl: The Challenge for Metropolitan Atlanta" (2000).

34. The Southern California Studies Center at the University of Southern California and the Brookings Institution, "Sprawl Hits the Wall: Confronting the Realities of Metropolitan Los Angeles" (2001).

35. Glaeser, Kahn, and Chu, "Job Sprawl."

36. Jennifer Wolch, et al, "Los Angeles: Region by Design." In Janet Rothenberg Pack, ed., *Sunbelt/Frostbelt: Public Policies and Market Forces in Metropolitan Development* (Washington: Brookings Institution, 2005).

37. Jennifer Vey, "Restoring Prosperity: The State Role in Revitalizing America's Older Industrial Cities" (Washington: Brookings Institution, 2007).

38. Metropolitan specialization in a particular industry is measured by the metro area having a location quotient of at least 1 in the industry; that is, the share of metropolitan employment in that industry exceeds the share of U.S. employment in that industry.

39. Eugenie Birch, "Who Lives Downtown?" (Washington: Brookings Institution, 2005).

40. Brookings Institution analysis of IRS tax return data.

41. Estimates of the change in the distribution of households across metro areas are based on Brookings Institution analysis of IRS ZIP code-level data on total tax returns filed in tax years 1997 and 2005. (Tax returns for those years would have been filed in calendar years 1998 and 2006, respectively.)

42. Robert E. Lang, *Boomburbs: The Rise of America's Accidental Cities* (Washington: Brookings Institution, 2007).

43. Nelson, Dawkins, and Sanchez, *The Social Impacts of Urban Containment.*

44. It should be noted that construction establishments have moved away from the urban core over this time period, but, like certain transportation and warehousing jobs, construction jobs are more mobile and may not be tied to establishment location.

45. Note that the transportation and warehousing industry includes fixed establishments–like those operating warehouses or bus, rail, or air terminals–but it also includes transportation operators–like bus or taxi drivers, airline pilots and truck drivers–whose jobs may take them throughout or beyond the metro area.

46. Arthur Nelson, "Toward a New Metropolis: The Opportunity to Rebuild America" (Washington: Brookings Institution, 2004).

47. Bureau of Labor Statistics, "The Employment Situation: February 2009" (Washington: U.S. Department of Labor, 2009).

48. See Joseph Gyourko and Richard Voith, "Does the U.S. Tax Treatment of Housing Promote Suburbanization and Central City Decline?" (Philadelphia, PA: Federal Reserve Bank of Philadelphia, Working Paper 97-13, 1997); Janet Rothenberg Pack, ed., *Sunbelt/Frostbelt: Public Policies and Market Forces in Metropolitan Development* (Washington: Brookings Institution, 2005); and Bruce Katz, "Smart Growth: The Future of the American Metropolis?" (London: Centre for Analysis of Social Exclusion, London School of Economics CASEpaper 58, 2002).

Acknowledgments

The author thanks Alan Berube for his guidance on this project, and Robert Puentes, Howard Wial, and Michael Stoll for their helpful comments on a draft of this paper. The Metropolitan Policy Program at Brookings thanks the Annie E. Casey Foundation, the John D. and Catherine T. MacArthur Foundation, the George Gund Foundation, the Rockefeller Foundation, and the Heinz Endowments, for their general support of the program.

Special thanks to the John D. and Catherine T. MacArthur foundation for its support of the Metropolitan Economy Initiative.

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About the Brookings Institution Metropolitan Economy Initiative

To inform debate about metropolitan economic development, the Brookings Institution has launched a series of analyses designed to promote understanding of the economic transformation underway in the nation's metropolitan areas. The Metropolitan Economy Initiative provides practical research and policy advice that state and local leaders can use to maximize their communities' economic potential and achieve prosperity.

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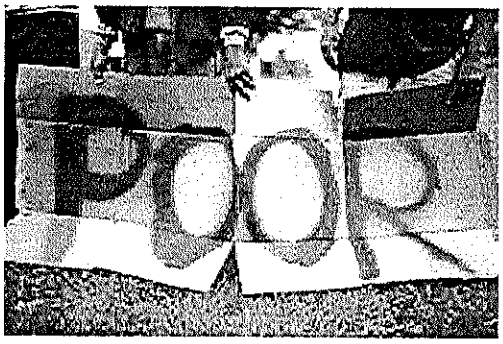
REUTERS

Bad economies in states to worsen: governors

1:57pm EST



WASHINGTON (Reuters) - The already gloomy conditions of states' economies are set to worsen, according to preliminary survey findings from the National Governors Association released on Saturday.

"The situation is fairly poor for a lot of states around the country. In fact, most states," Vermont Governor Jim Douglas, who is chairman of the association, said at a press conference at its annual meeting.

"What we're finding out from a fiscal standpoint is that the worst is yet to come," Douglas said.

In a survey conducted last week of 45 of the 50 states, the group found that states have $18.8 billion of budget gaps yet to be closed in fiscal 2010. This comes after they have already imposed measures to eliminate budget imbalances totaling $87 billion in the fiscal year, which for most started last summer.

In the budgets they are drafting for fiscal 2011, states foresee shortfalls of $53.6 billion and for fiscal 2012 $61.6 billion.

"Economists have declared the national recession over. But for those who are still unemployed, for those who have lost their homes, it's clear that as a nation we have a long way to go," said Douglas, who added that states' revenues have plummeted for four quarters in a row.

States' economic recoveries usually lag national recoveries because of state governments' increased spending on help for the unemployed and declines in tax payments.

All states except for one, Vermont, are required to balance their budgets, so during the recession they have drastically cut spending on basic programs, laid off workers and boosted revenue through raising taxes and fees.

The $787 billion stimulus plan the U.S. Congress passed a year ago included the largest transfer of money from the federal government to states in the nation's history. But for many states, most of its funding will run out by December.

New Jersey Governor Chris Christie, also at the press conference, said the stimulus had delayed problems but not solved them.

Douglas said the governors will press President Barack Obama for more help when they visit the White House on Monday.

The survey also found that this fiscal year 38 states are bringing in far less revenue than what they had estimated at the beginning of the year and 21 states had to cut their budgets by more than 5 percent.

Just as states are gasping for money, they are confronting a crisis in healthcare, said Montana Governor Brian Schweitzer.

Over the weekend the governors will discuss how to reduce healthcare costs as the federal push to reform the country's health insurance and medical treatment systems bogs down in Congress.

"I expected... we would be talking about implementing a new national health plan," Douglas said about preparing for the meeting. "Here we are. It hasn't happened."

The healthcare program for those with low incomes, Medicaid, is jointly administered by the states and the federal government and eats up large parts of most states' budgets. As people have lost their jobs and employee-sponsored health insurance during the longest and deepest recession since World War Two, they have turned to Medicaid and further strained the system.

(Reporting by Lisa Lambert, editing by Vicki Allen)

REUTERS

Jobless, price data fan concerns on economy

5:05pm EST

By Lucia Mutikani

WASHINGTON (Reuters) - The number of U.S. workers filing new applications for unemployment insurance unexpectedly surged last week, while producer prices increased sharply in January, raising potential hurdles for the economy's recovery.

Initial claims for state jobless benefits increased 31,000 to 473,000, the Labor Department said on Thursday. Financial markets had expected them to fall slightly to 430,000.

Another report from the department showed prices paid at the farm and factory gate rose a faster-than-expected 1.4 percent from December as higher gasoline prices and unusually cold temperatures helped boost energy costs.

The rise in jobless insurance claims dealt a setback to hopes the economy was on the verge of job growth and could increase political pressure on President Barack Obama, who has made tackling unemployment his number one priority.

"The recovery is still intact, but it's going to be a long slog. The labor market and housing remain problematic," said Ryan Sweet, senior economist at Moody's Economy.com in West Chester, Pennsylvania.

Disappointment over the claims and producer inflation data was partially offset by reports showing stronger gains in factory activity in the U.S. Mid-Atlantic region and a 10th straight monthly rise in a gauge of the economy's prospects.

The Philadelphia Federal Reserve Bank's business activity index rose to 17.6 in February from 15.2 the prior month, while the Conference Board's index of leading economic indicators rose 0.3 percent last month after December's 1.2 percent gain.

The Federal Reserve, citing improvement in financial market conditions, announced on Thursday it would raise the interest rate it charges banks for emergency loans. The discount rate rises to 0.75 percent from 0.50 percent, effective Friday.

U.S. stock indexes ended higher on a batch of reassuring corporate earnings. However, stock index futures fell on news of the discount rate hike, which came after market close.

Treasury debt prices tumbled, weighed down in part by an announcement that the government would auction a record $126 billion worth of notes next week. The U.S. dollar, which has gained steadily on a stream of improving economic data in recent months, initially fell on the weak claims report, but reversed course on the discount rate news.

JOBS LAG RECOVERY

The hard-hit labor market has lagged the economic recovery that started in the second half of 2009. Gross domestic product grew at a 5.7 percent annual rate in the fourth quarter, but still failed to ignite jobs growth.

"Initial claims have been flat over the last three months. That means the improvement in the labor market is much slower than suggested by the headline GDP figure," said Harm Bandholz an economist at Unicredit Research in New York.

"That shows GDP growth is artificially inflated by government stimulus and the inventory cycle rather than driven by final demand, which usually goes hand in hand with an improvement in the labor market."

The economy has lost 8.4 million jobs since recession struck in December 2007.

Analysts noted the claims data covered the survey week for the government's report on employment for February, due early next month. That, along with snow storms that blanketed much of the nation in recent weeks, offered another reason to expect a weak report, they said.

Concerns about employment affected sales at Wal-Mart during the holiday quarter and the world's largest retailer said on Thursday that U.S. sales would be more challenging in the first quarter. It said its forecasts for the current quarter could miss Wall Street estimates.

Economists were caught by surprise by the strong rise in producer prices, but most said they did not expect the upward trend to be sustained, pointing to spare factory capacity and sluggish wage growth.

About three-fourths of the increase in PPI last month was due to a 5.1 percent jump in prices for energy goods. Energy

"The PPI measurement of motor vehicle prices appears to be entirely disconnected from reality. It is a source of significant distortion in the monthly results that should be ignored," said David Greenlaw, an economist at Morgan Stanley in New York.

The department on Friday will release its consumer price report for January. Overall CPI is seen rising 0.3 percent from December and core CPI gaining 0.1 percent, according to a Reuters survey.

(Additional reporting by Lisa Lambert)

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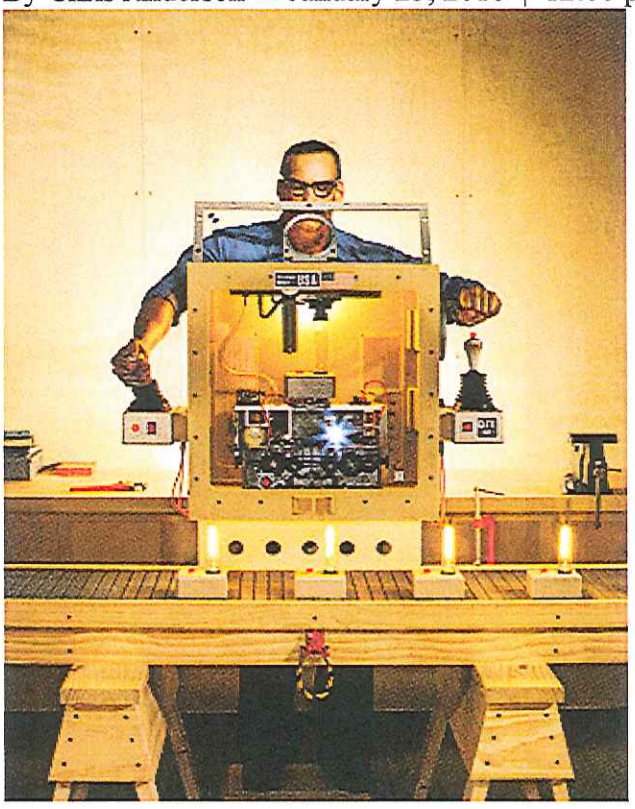
In the Next Industrial Revolution, Atoms Are the New Bits

By Chris Anderson ✉ January 25, 2010 | 12:00 pm | Wired Feb 2010



In an age of open source, custom-fabricated, DIY product design, all you need to conquer the world is a brilliant idea.
Photo: Dan Winters

The door of a dry-cleaner-size storefront in an industrial park in Wareham, Massachusetts, an hour south of Boston, might not look like a portal to the future of American manufacturing, but it is. This is the headquarters of Local Motors, the first open source car company to reach production. Step inside

and the office reveals itself as a mind-blowing example of the power of micro-factories.

In June, Local Motors will officially release the Rally Fighter, a $50,000 off-road (but street-legal) racer. The design was crowdsourced, as was the selection of mostly off-the-shelf components, and the final assembly will be done by the customers themselves in local assembly centers as part of a "build experience." Several more designs are in the pipeline, and the company says it can take a new vehicle from sketch to market in 18 months, about the time it takes Detroit to change the specs on some door trim. Each design is released under a share-friendly Creative Commons license, and customers are encouraged to enhance the designs and produce their own components that they can sell to their peers.

The Rally Fighter was prototyped in the workshop at the back of the Wareham office, but manufacturing muscle also came from Factory Five Racing, a kit-car company and Local Motors investor located just down the road. Of course, the kit-car business has been around for decades, standing as a proof of concept for how small manufacturing can work in the car industry. Kit cars combine hand-welded steel tube chassis and fiberglass bodies with stock engines and accessories. Amateurs assemble the cars at their homes, which exempts the vehicles from many regulatory restrictions (similar to home-built experimental aircraft). Factory Five has sold about 8,000 kits to date.

One problem with the kit-car business, though, is that the vehicles are typically modeled after famous racing and sports cars, making lawsuits and license fees a constant burden. This makes it hard to profit and limits the industry's growth, even in the face of the DIY boom.

Jay Rogers, CEO of Local Motors, saw a way around this. His company opted for totally original designs: They don't evoke classic cars but rather reimagine what a car can be. The Rally Fighter's body was designed by Local Motors' community of volunteers and puts the lie to the notion that you can't create anything good by committee (so long as the community is well managed, well led, and well equipped with tools like 3-D design software and photorealistic rendering technology). The result is a car that puts Detroit to shame.

It is, first of all, incredibly cool-looking — a cross between a Baja racer and a P-51 Mustang fighter plane. Given its community provenance, one might have expected something more like a platypus. But this process was no politburo. Instead, it was a competition. The winner was Sangho Kim, a 30-year-old graphic artist and student at the Art Center College of Design in Pasadena, California. When Local Motors asked its community to submit ideas for next-gen vehicles, Kim's sketches and renderings captivated the crowd. There wasn't supposed to be a prize, but the company gave Kim $10,000 anyway. As the community coalesced around his Rally Fighter, members competed to develop secondary parts, from the side vents to the light bar. Some were designers, some engineers, and others just car hobbyists. But what they had in common was a refusal to design just another car, compromised by mass-market needs and convention. They wanted to make something original — a fantasy car come to life.

While the community crafted the exterior, Local Motors designed or selected the chassis, engine, and transmission thanks to relationships with companies like Penske Automotive Group, which helped the firm source everything from dashboard dials to the new BMW clean diesel engine the Rally Fighter will use. This combination — have the pros handle the elements that are critical to performance, safety, and manufacturability while the community designs the parts that give the car its shape and style — allows crowdsourcing to work even for a product whose use has life-and-death implications.

Local Motors plans to release between 500 and 2,000 units of each model. It's a niche vehicle; it won't compete with the major automakers but rather fill in the gaps in the marketplace for unique designs. Rogers uses the analogy of a jar of marbles, each of which represents a vehicle from a major automaker. In between the marbles is empty space, space that can be filled with grains of sand — and those grains are Local Motors cars.

Local Motors has just 10 full-time employees (that number will grow to more than 50 as it opens build centers, the first of which will be in Phoenix), holds almost no inventory, and purchases components and prepares kits only after buyers have made a down payment and reserved a build date.

Local Motors CEO Jay Rogers combined the power of crowd sourced design and professional experience to develop the Rally Fighter.
Photo: Adrian Gaut

Rogers was practically destined for his job. His grandfather Ralph Rogers bought the Indian Motorcycle Company in 1945. When the light Triumph motorcycles began entering the US after World War II, the senior Rogers recognized that his market-leading Chief, a big road workhorse, was uncompetitive. The solution was to make a new light engine so Indian could produce its own cheap, nimble bikes. He went bust trying to develop the motor. It was just too hard to change direction — and eventually he lost the business.

Today, Rogers' grandson intends to do something even more radical — create a whole new way of making cars — on a shoestring budget. His company has raised roughly $7 million, and he thinks that's enough to take it to profitability. The difference between now and then? "They didn't have resources back then to enter the market, because the manufacturing process was so tightly held," he says. What's changed is that the supply chain is opening to the little guys.

The 36-year-old Rogers favors military-style flight suits, an echo of his time as a captain in the Marines, including action in Iraq, and he boasts both a Harvard MBA and a stint as an entrepreneur in China.

While at Harvard, Rogers saw a presentation on Threadless, the open-design T-shirt company, which showed him the power of crowdsourcing. Cars are more complicated than T-shirts, but in both cases there are far more people who can design them than are currently paid to do so — Rogers estimates that less than 30 percent of car design students get jobs at auto companies upon graduation. The rest become frustrated car designers, exactly the pool of talent that might respond to a well-organized vehicle design competition and community. Today, the Local Motors Web site has around 5,000 members. That's a 500-to-1 ratio of volunteer contributors to employees. This is how industries are reinvented.

Here's the history of two decades in one sentence: If the past 10 years have been about discovering post-institutional social models on the Web, then the next 10 years will be about applying them to the real world.

This story is about the next 10 years.

Transformative change happens when industries democratize, when they're ripped from the sole domain of companies, governments, and other institutions and handed over to regular folks. The Internet democratized publishing, broadcasting, and communications, and the consequence was a massive increase in the range of both participation and participants in everything digital — the long tail of bits.

Now the same is happening to manufacturing — the long tail of things.

The tools of factory production, from electronics assembly to 3-D printing, are now available to individuals, in batches as small as a single unit. Anybody with an idea and a little expertise can set assembly lines in China into motion with nothing more than some keystrokes on their laptop. A few days later, a prototype will be at their door, and once it all checks out, they can push a few more buttons and be in full production, making hundreds, thousands, or more. They can become a virtual micro-factory, able to design and sell goods without any infrastructure or even inventory; products can be assembled and drop-shipped by contractors who serve hundreds of such customers simultaneously.

Today, micro-factories make everything from cars to bike components to bespoke furniture in any design you can imagine. The collective potential of a million garage tinkerers is about to be unleashed on the global markets, as ideas go straight into production, no financing or tooling required. "Three guys with laptops" used to describe a Web startup. Now it describes a hardware company, too.

"Hardware is becoming much more like software," as MIT professor Eric von Hippel puts it. That's not just because there's so much software in hardware these days, with products becoming little more than intellectual property wrapped in commodity materials, whether it's the code that drives the off-the-shelf chips in gadgets or the 3-D design files that drive manufacturing. It's also because of the

availability of common platforms, easy-to-use tools, Web-based collaboration, and Internet distribution.

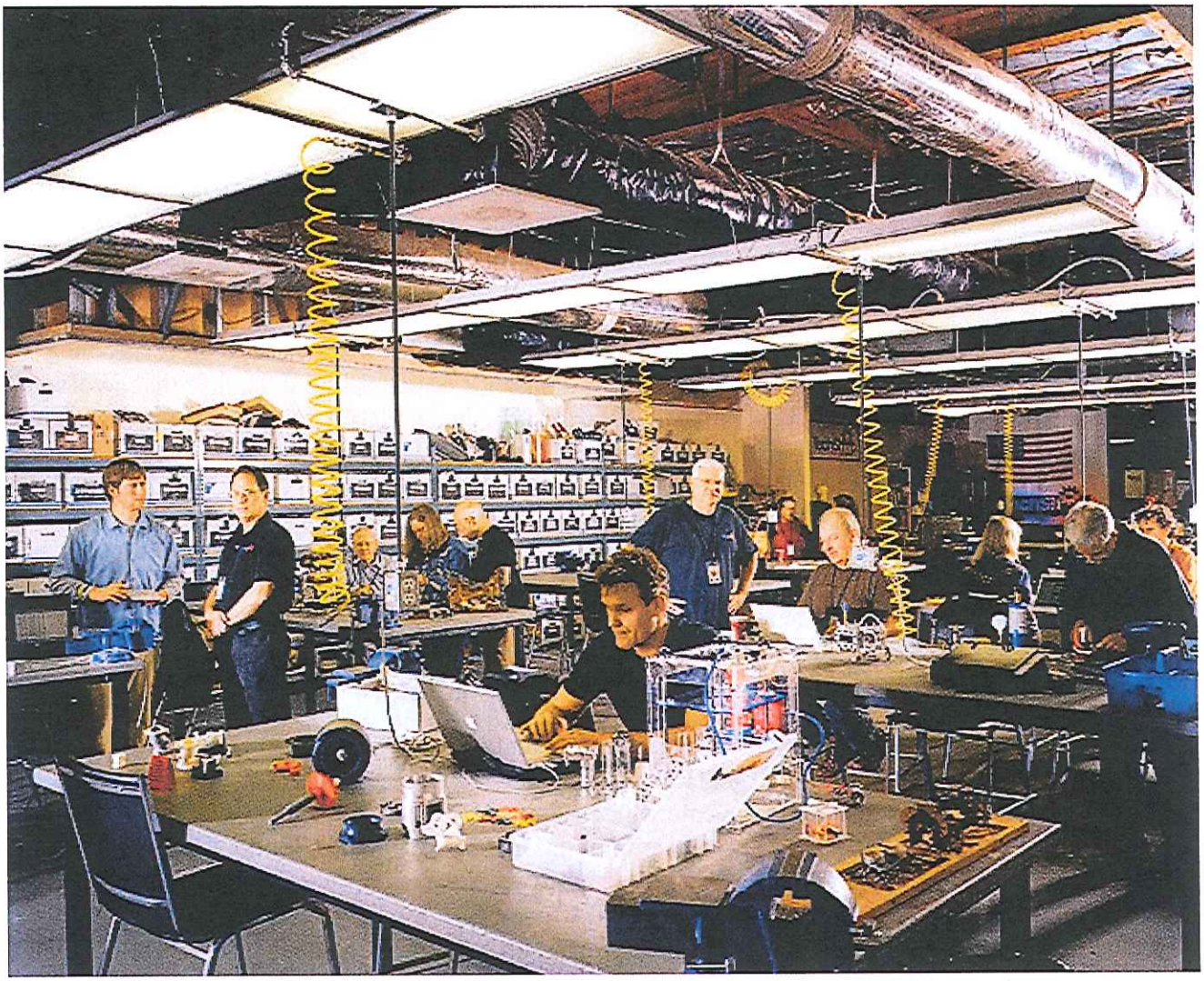
We've seen this picture before: It's what happens just before monolithic industries fragment in the face of countless small entrants, from the music industry to newspapers. Lower the barriers to entry and the crowd pours in.

The academic way to put this is that global supply chains have become scale-free, able to serve the small as well as the large, the garage inventor and Sony. This change is driven by two forces. First, the explosion in cheap and powerful prototyping tools, which have become easier to use by non-engineers. And second, the economic crisis has triggered an extraordinary shift in the business practices of (mostly) Chinese factories, which have become increasingly flexible, Web-centric, and open to custom work (where the volumes are lower but the margins higher).

The result has allowed online innovation to extend to the real world. As Cory Doctorow puts it in his new book, *Makers*, "The days of companies with names like 'General Electric' and 'General Mills' and 'General Motors' are over. The money on the table is like krill: a billion little entrepreneurial opportunities that can be discovered and exploited by smart, creative people."

A garage renaissance is spilling over into such phenomena as the booming Maker Faires and local "hackerspaces." Peer production, open source, crowdsourcing, user-generated content — all these digital trends have begun to play out in the world of atoms, too. The Web was just the proof of concept. Now the revolution hits the real world.

In short, atoms are the new bits.



Mark Hatch (standing center) and Jim Newton (far left, glasses) of Tech Shop, where members pay for access to sophisticated prototyping tools.
Photo: Leon Chew

It all starts with the tools. in a converted brewery in Brooklyn, Bre Pettis and his team of hardware engineers are making the first sub-$1,000 3-D printer, the open source MakerBot. Rather than squirting out ink, this printer builds up objects by squeezing out a 0.33-mm-thick thread of molten ABS plastic. Five years ago, you couldn't get anything like this for less than $125,000.

During a visit in late November, 100 boxes containing the ninth batch of MakerBots are lined up and ready to go out the door (as a customer, I'm thrilled to know that one of them is coming to me). Nearly 500 of these 3-D printers have been sold, and with every one, the community comes up with new uses and new tools to make them even better. For example, a prototype head delivers a resolution of 0.2 mm. Another head can hold a rotating cutter, turning the printer into a CNC router. (CNC is short for computer numerical control, which simply means that the machines are driven by software.) And yet another can print with icing, for desserts.

Out of the box, the MakerBot produces plastic parts from digital files. Want a certain gear right now? Download a design and print it out yourself. Want to modify an object you already have? Scan it (a researcher at the University of Cambridge has developed a technology that will allow you to create a

3-D file by rotating the object in front of your webcam), tweak the bits you want to change with the free SketchUp software from Google, and load it into the ReplicatorG app. Within minutes, you have a whole new physical object: a rip, mix, and burn of atoms.

Other tools offer additional tricks. The $18,000 ShopBot PRSalpha can work door-sized pieces of wood. Or buy a smaller kit for $1,500 at buildyourcnc.com. If metal is your material, try a CNC mill for around $2,000. Or, if you're more into electronics, use the free CadSoft Eagle software to create your own circuit boards, then upload the file to have it fabbed in a few days at places like Advanced Circuits.

So, too, for CNC laser cutters, plasma cutters, water-jet cutters, and lathes. You can make anything from fine jewelry to car chassis this way, and tens of thousands of people are doing just that. We've already seen this DIY creation movement boom around such simple platforms as T-shirts and coffee mugs, then expand into handcrafting at Etsy (which did about $200 million in sales last year). Now it's moving to more complex platforms — like 3-D models and plastic fabrication — and open source electronics hardware like the pioneering Arduino project.

With the tools in place, the second part of this new industrial age is how manufacturing has been opened up to individuals, letting them scale prototypes into full production runs. Over the past few years, Chinese manufacturers have evolved to handle small orders more efficiently. This means that one-person enterprises can get things made in a factory the way only big companies could before.

Two trends are driving this. First, there's the maturation and increasing Web-centrism of business practices in China. Now that the Web generation is entering management, Chinese factories increasingly take orders online, communicate with customers by email, and accept payment by credit card or PayPal, a consumer-friendly alternative to traditional bank transfers, letters of credit, and purchase orders. Plus, the current economic crisis has driven companies to seek higher-margin custom orders to mitigate the deflationary spiral of commodity goods.

For a lens into the new world of open-access factories in China, check out Alibaba .com, the largest aggregator of the country's manufacturers, products, and capabilities. Just search on the site (in English), find some companies producing more or less what you're looking to make, and then use instant messaging to ask them if they can manufacture what you want. Alibaba's IM can translate between Chinese and English in real time, so each person can communicate using their native language. Typically, responses come in minutes: We can't make that; we can make that and here's how to order it; we already make something quite like that and here's what it costs.

Alibaba's chair, Jack Ma, calls this "C to B" — consumer to business. It's a new avenue of trade and one ideally suited for the micro-entrepreneur of the DIY movement. "If we can encourage companies to do more small, cross-border transactions, the profits can be higher, because they are unique, non-commodity goods," Ma says. Since its founding in 1999, Alibaba has become a $12 billion company with 45 million registered users worldwide. Its $1.7 billion initial public offering on the Hong Kong Stock Exchange in 2007 was the biggest tech debut since Google. Over the past three years, Ma says, more than 1.1 million jobs have been created in China by companies doing ecommerce across Alibaba's platforms.

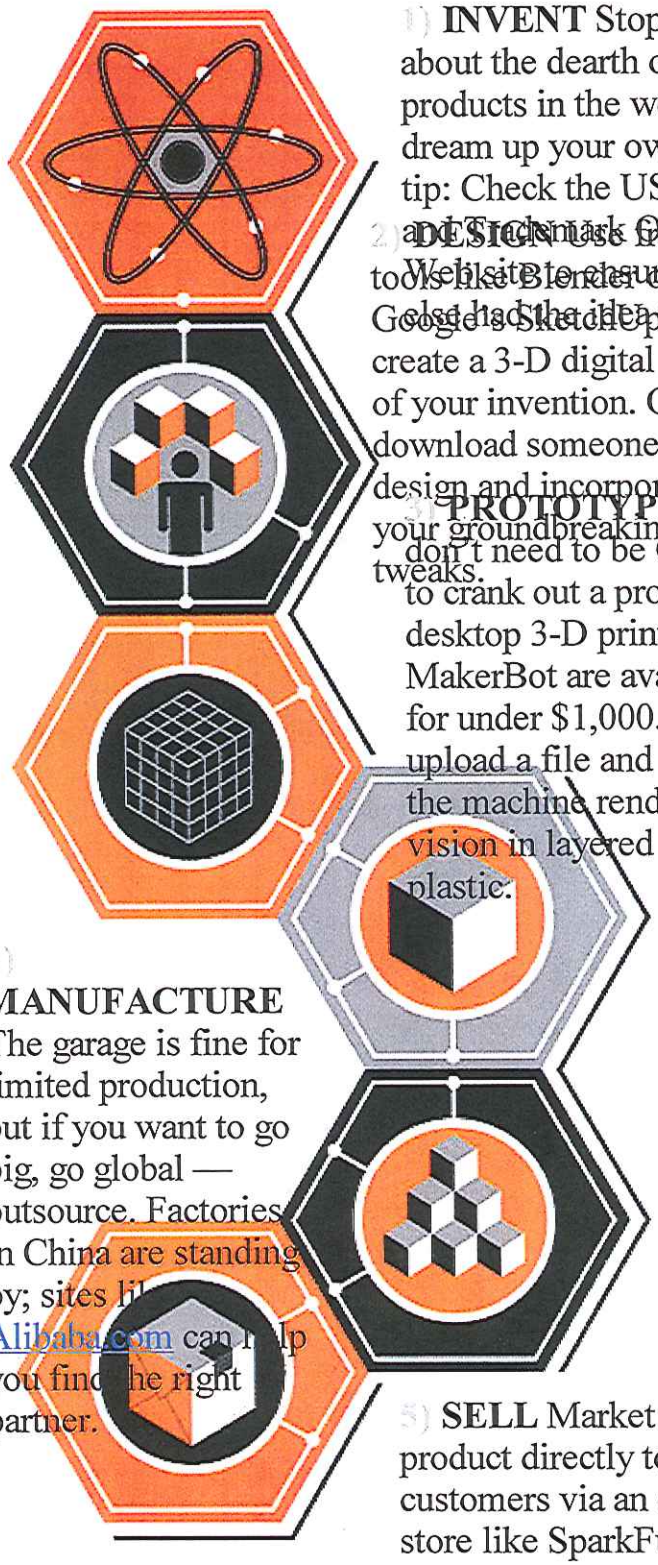
This trend is playing out in many countries, but it's happening fastest in China. One reason is the same cultural dynamism that led to the rise of *shanzhai* industries. The term shanzhai, which derives from the Chinese word for bandit, usually refers to the thriving business of making knockoffs of electronic products, or as Shanzai.com more generously puts it, "a vendor, who operates a business without

observing the traditional rules or practices often resulting in innovative and unusual products or business models." But those same vendors are increasingly driving the manufacturing side of the maker revolution by being fast and flexible enough to work with micro-entrepreneurs. The rise of shanzhai business practices "suggests a new approach to economic recovery as well, one based on small companies well networked with each other," observes Tom Igoe, a core developer of the open source Arduino computing platform. "What happens when that approach hits the manufacturing world? We're about to find out."

Not long ago, all this was impossible. To see how it used to be back in the 20th century, watch the movie *Flash of Genius*. The film, which is based on a true story, starts in the mid-1960s and tells the sad tale of the invention of the intermittent windshield wiper. A lone inventor — college professor Bob Kearns — tinkers in his basement until he finally creates a working prototype. Rather than sell the technology to a big car company, Kearns decides he wants to build his own company and make the wiper himself. Ford signs on to install Kearns' wipers in one of its new models. That means he needs to build a factory. He leases a huge warehouse and starts outfitting it with assembly lines, forklift loaders, and other heavy equipment — a classic industrial-age scene.

How to Build Your Dream

In the age of democratized industry, every garage is a potential micro-factory, every citizen a potential micro-entrepreneur. Here's how to transform a great idea into a great product.



1) **INVENT** Stop whining about the dearth of cool products in the world — dream up your own. Pro tip: Check the US Patent and Trademark Office Website to ensure no one else had the idea first.

2) **DESIGN** Use free tools like Blender or Google's SketchUp to create a 3-D digital model of your invention. Or download someone else's design and incorporate your groundbreaking tweaks.

3) **PROTOTYPE** You don't need to be Geppetto to crank out a prototype; desktop 3-D printers like MakerBot are available for under $1,000. Just upload a file and watch the machine render your vision in layered ABS plastic.

4) **MANUFACTURE** The garage is fine for limited production, but if you want to go big, go global — outsource. Factories in China are standing by; sites like Alibaba.com can help you find the right partner.

5) **SELL** Market your product directly to customers via an online store like SparkFun — or set up your own ecommerce outfit through a company like Yahoo or Web Studio. Then handle your golden goose to Maker Faire and become

As Kearns is getting close to firing up his factory, Ford abruptly backs out of the deal. With no revenue in sight, the factory shuts down before producing a single wiper.

Eighteen months later, Kearns is walking home in the rain and sees a brand new Ford Mustang turn

the corner. The windshield wiper switches that packed the sweeps again. His brilliant idea has been stolen. Kearns is ruined and will soon go mad, thus the rest of the movie. (The real-life Kearns eventually sued Ford and Chrysler for patent infringement and, after years of litigation, won nearly $30 million.)

the poster child for the DIY industrial revolution.

Today, Kearns would do it differently. As before, he would have made the first prototype in his basement. But rather than building a factory, he would have had the electronics fabbed by one company and the enclosure made by another. He then would have paid a wiper manufacturer in China to create a custom assembly with these components. They would have shipped straight to his customers, the car companies, and the whole process would have happened in months, not years — too fast for big companies to beat him. No factory, no lawsuits, no madness. He could have fulfilled his dream of turning his invention into a company without tilting at windmills.

To see this model emerging in the real world, you need only visit TechShop, a chain of DIY workspaces that offer access to state-of-the-art prototyping tools for around $100 a month.

On a recent afternoon at the facility in Menlo Park, California, Michael Pinneo, a successful former executive in the synthetic-diamond business, is machining a vapor- deposition chamber for his newest approach to creating colorless diamonds. Over in the corner stands the base of a rocket lander being developed by a team that's competing in the Google Lunar X Prize. At another table, Stephan Weiss, vice president of Interoptix, and one of his colleagues are assembling circuit boards used to manage electricity grids. They're doing 50-unit runs, which Weiss describes as "too small for a factory but too big for your garage." The devices carry the badge of ABB, a giant engineering firm; the utility customers may never know that they were made by hand in a hackerspace.

This is an incubator for the atoms age. When TechShop founder Jim Newton went looking for an executive to run it, he quickly decided on Mark Hatch, a former Kinko's executive. The analogy is apt: In the same way that Kinko's democratized printing and, in the process, created a national chain of service bureaus, TechShop wants to democratize manufacturing. It now has two additional locations, in Durham, North Carolina, and Beaverton, Oregon, and has plans for hundreds more. One of the spots being considered is San Francisco, within the facilities of the much-shrunken *San Francisco Chronicle*. The irony is delicious: the seeds of tomorrow's industry growing in the ashes of yesterday's.

Over lunch, Hatch reflects on the arc of manufacturing history. With the rise of the factory in the industrial age, Karl Marx fretted that a tradesman could no longer afford the tools to ply his trade. The economies of scale of industrial production crowded out the individual. Although the benefits of such industrialization were lower prices and better products, the cost was homogeneity. Combined with big-box retailers, the marketplace became increasingly dominated by the fruits of mass production: goods designed for everyone, with the resulting limited diversity and choice that implies.

But today those tools of production are getting so cheap that they are once again within the reach of many individuals. State-of-the-art milling machines that once cost $150,000 are now close to $4,000, thanks to Chinese copies. Everybody's garage is a potential high tech factory. Marx would be pleased.

Blogger Jason Kottke wrestled with what to call this new class of entrepreneurship, these cottage industries with global reach targeting niche markets of distributed demand. "Boutique" is too pretentious, and "indie" not quite right. He observed that others had suggested "craftsman, artisan, bespoke, cloudless, studio, atelier, long tail, agile, bonsai company, mom and pop, small scale, specialty, anatomic, big heart, GTD business, dojo, haus, temple, coterie, and disco business." But

none seemed to capture the movement.

So he proposed "small batch," a term most often applied to bourbon. In the spirits world, this implies handcrafted care. But it can broadly refer to businesses focused more on the quality of their products than the size of the market. They'd rather do something they were passionate about than go mass. And these days, when anyone can get access to manufacturing and distribution, that is actually a viable choice. Walmart, and all the compromise that comes with it, is no longer the only path to success.

For a final example of that, swing to the Seattle suburbs to meet Will Chapman of BrickArms. Out of a small industrial space, BrickArms fills gaps in the Lego product line, going where the Danish toy giant fears to tread: hardcore weaponry, from Lego-scale AK-47s to frag grenades that look like they came straight out of *Halo 3*. The parts are more complex than the average Lego component, but they're manufactured to an equal quality and sold online to thousands of Lego fans, kids and adults, who want to create cooler scenes than the standard kits allow.

Lego operates on an industrial scale, with a team of designers working in a highly secure campus in Billund, Denmark. Engineers model prototypes and have them fabricated in dedicated machine shops. Then, once they meet approval, they're manufactured in large injection molding plants. Parts are created for kits, and those kits have to be play-tested, priced for mass retail, and shipped and inventoried months in advance of their sale at Target or Walmart. The only parts that make it out of this process are those that will sell in the millions.

Chapman works at a different scale. He designs parts using SolidWorks 3-D software, which can create a reverse image that's used to produce a mold. He sends the file to his desktop CNC router, a Taig 2018 mill that costs less than $1,000, which grinds the mold halves out of aircraft-grade aluminum blocks. Then he puts them in his hand-pressed injection molding machine, melts some resin beads, and pumps them through. A few minutes later, he's got a prototype to show to fans. If they like it, he gets a local toolmaker to reproduce the mold out of steel and a US-based injection molding company to make batches of a few thousand.

Why not have the parts made in China? He could, he says, but the result would be "molds that take much longer to produce, with slow communication times and plastic that is subpar" (read: cheap). Furthermore, he says, "if your molds are in China, who knows what happens to them when you're not using them? They could be run in secret to produce parts sold in secondary markets that you would not even know existed."

Chapman's three sons package the parts, which he sells direct. Today, BrickArms also has resellers in the UK, Australia, Sweden, Canada, and Germany. The business grew so big that in 2008 he left his 17-year career as a software engineer; he now comfortably supports his family of five solely on Lego weapon sales. "I bring in more revenue on a slow BrickArms day than I ever did working as a software engineer." Life is good.

In the mid-1930s, Ronald Coase, then a recent London School of Economics graduate, was musing over what to many people might have seemed a silly question: Why do companies exist? Why do we pledge our allegiance to an institution and gather in the same building to get things done? His answer: to minimize "transaction costs." When people share a purpose and have established roles, responsibilities, and modes of communication, it's easy to make things happen. You simply turn to the person in the next cubicle and ask them to do their job.

But several years ago, Bill Joy, one of the cofounders of Sun Microsystems, revealed the flaw in

Coase's model. "No matter who you are, most of the smartest people work for someone else," he rightly observed. Of course, that had always been true, but before, it hardly mattered if you were in Detroit and someone better was in Dakar; you were here and they were there, and that was the end of it. But Joy's point was that this was changing. With the Internet, you didn't have to settle for the next cubicle. You could tap the best person out there, even if they were in Dakar.

Joy's law turned Coase's law upside down. Now, working within a company often imposes higher transaction costs than running a project online. Why turn to the person who happens to be in the next cubicle when it's just as easy to turn to an online community member from a global marketplace of talent? Companies are full of bureaucracy, procedures, and approval processes, a structure designed to defend the integrity of the organization. Communities form around shared interests and needs and have no more process than they require. The community exists for the project, not to support the company in which the project resides.

Thus the new industrial organizational model. It's built around small pieces, loosely joined. Companies are small, virtual, and informal. Most participants are not employees. They form and re-form on the fly, driven by ability and need rather than affiliation and obligation. It doesn't matter who the best people work for; if the project is interesting enough, the best people will find it.

Let me tell you my own story. Three years ago, out on a run, I started thinking about how cheap gyroscope sensors were getting. What could you do with them? For starters, I realized, you could turn a radio-controlled model airplane into an autonomous unmanned aerial vehicle, or drone. It turned out that there were plenty of commercial autopilot units you could buy, all based on this principle, but the more I looked into them, the worse they appeared. They were expensive ($800 to $5,000), hard to use, and proprietary. It was clear that this was a market desperate for competition and democratization — Moore's law was at work, making all the components dirt cheap. The hardware for a good autopilot shouldn't cost more than $300, even including a healthy profit. Everything else was intellectual property, and it seemed the time had come to open that up, trading high margins for open innovation.

To pursue this project, I started DIY Drones, a community site, and found and began working with some kindred spirits, led by Jordi Muñoz, then a 21-year-old high school graduate from Mexico living in Riverside, California. Muñoz was self-taught — with world-class skills in embedded electronics and aeronautics. Jordi turned me on to Arduino, and together we designed an autonomous blimp controller and then an aircraft autopilot board.

We designed the boards the way all electronics tinkerers do, with parts bought from online shops, wired together on prototyping breadboards. Once it worked on the breadboard, we laid out the schematic diagrams with CadSoft Eagle and started designing it as a custom printed circuit board (PCB). Each time we had a design that looked good onscreen, we'd upload it to a commercial PCB fab, and a couple of weeks later, samples would arrive at our door. We'd solder on the components, try them out, and then fix our errors and otherwise make improvements for the next version.

Eventually, we had a design we were happy with. How to commercialize it? We could do it ourselves, getting our PCB fab house to solder on the components, too, but we thought it might be better to partner with a retailer. The one that seemed culturally matched was SparkFun, which designs, makes, and sells electronics for the growing open source hardware community.

The SparkFun operation is in a newish two-story building in an office park outside Boulder, Colorado. The first floor is larger than three basketball courts, with racks of circuit boards waiting to be sold, packed, and shipped on one side and some machines attended by a few technicians on the other. The

first two machines are pick-and-place robots, which are available used for less than $5,000. They position tiny electronic components in exactly the right spot on a PCB. Once each batch of boards is done, technicians place them on a conveyor belt that goes into another machine, which is basically just a heater. Called a reflow oven, it cements the parts into place, essentially accomplishing what a worker could do with a soldering iron but with unmatched precision and speed.

The PCBs arrive from SparkFun's partner firm in China, which makes millions of them using automated etching, drilling, and cutting machines. At volume, they cost a few cents each.

That's it. With these elements you can make the basics of everything from a cell phone to a robot (structural elements, such as the case, can be made in low volume with a CNC machine or injection-molded if you need to do it cheaper at higher volume). You can sell these components as kits or find some college students on craigslist to spend a weekend assembling them for you. (I conscript my kids to assemble our blimps. They rotate roles, coveting the quality assurance task where they check the others' work.)

SparkFun makes, stocks, and sells our autopilot and a few other products that we designed; we get to spend our time working on R&D and bear no inventory risk. Some products we wanted to make were too time-intensive for SparkFun, so we made them ourselves. Now, in a rented Los Angeles garage, we have our own mini SparkFun. Rather than a pick-and-place robot, we have a kid with sharp eyes and a steady hand, and for a reflow oven we use what is basically a modified toaster oven. We can do scores of boards per day this way; when demand outstrips production, we'll upgrade to a small pick-and-place robot.

Every day our Web site takes orders and prints out the shipping labels. Muñoz or one of his workers heat-seals the products in protective electrostatic bags and puts them in shipping envelopes. The retail day ends at 3:30 pm with a run to the post office and UPS to send everything off. In our first year, we'll do about $250,000 in revenue, with demand rising fast and a lot of products in the pipeline. With luck, we'll be a million-dollar business by the third year, which would put us solidly in the ranks of millions of similarly successful US companies. We are just a tiny gear in the economic engine driving the US — on the face of it, this doesn't seem like a world- changing economic model.

But the difference between this kind of small business and the dry cleaners and corner shops that make up the majority of micro-enterprise in the country is that we're global and high tech. Two-thirds of our sales come from outside the US, and our products compete at the low end with defense contractors like Lockheed Martin and Boeing. Although we don't employ many people or make much money, our basic model is to lower the cost of technology by a factor of 10 (mostly by not charging for intellectual property). The effect is felt primarily by consumers; when you take an order of magnitude out of pricing in any market, you can radically reshape it, bringing in more and different customers. Lowering costs is a way to democratize technology, too.

Although it's shrinking, America's manufacturing economy is still the world's largest. But China's growing production sector is predicted to take the number one spot in 2015, according to IHS Global Insight, an economic-forecasting firm. Not all US manufacturing is shrinking, however — just the large part. A Pease Group survey of small manufacturers (less than $25 million in annual sales) shows that most expect to grow this year, many by double digits. Indeed, analysts expect almost all new manufacturing jobs in the US will come from small companies. Ones just like ours.

How big can these small enterprises get? Most of the companies I've described sell thousands of units — 10,000 is considered a breakout success. But one that has graduated to the big leagues is Aliph,

which makes the Jawbone noise-canceling wireless headsets. Aliph was founded in 1999 by two Stanford graduates, Alex Asseily and Hosain Rahman, and it now sells millions of headsets each year. But it has no factories. It outsources all of its production. And though more than a thousand people help to create Jawbone headsets, Aliph has just over 80 employees. Everyone else works for its production partners. It's the ultimate virtual manufacturing company: Aliph makes bits and its partners make atoms, and together they can take on Sony.

Welcome to the next Industrial Revolution.

Chris Anderson (canderson@wired.com) *is editor in chief of* Wired.

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Comments (19)

Posted by: thammerlund | 01/25/10 | 9:51 pm

The Rally Fighter looks like it would fit in nicely in a Batman movie. That's a cool car.

Posted by: B17 | 01/25/10 | 10:05 pm

"As Cory Doctorow puts it in his new book, Makers, "The days of companies with names like 'General Electric' and 'General Mills' and 'General Motors' are over."

Oh look, everyone. Doctorow is making another bombastic, over the top statement that journalists love to eat-up. Seriously, that guy has a fetish for the idea of the lone creator. Nevermind the fact that the article states earlier: "It's a niche vehicle; it won't compete with the major automakers". Then again, maybe I should get into the business of garnering fame and fortune by making over-the-top predictions that won't come true. It's worked pretty well for Cory Doctorow.

Posted by: hollasch | 01/26/10 | 2:34 am

"if your molds are in China, who knows what happens to them when you're not using them? They could be run in secret to produce parts sold in secondary markets that you would not even know existed."

This is how "small batch" operations canibalize other "small batch" operations. In the case above, the issue was custom parts interchangeable with Lego. However, if someone can 3D scan these parts and then churn out thousands of copies, then we're back to the question of how we're going to handle IP in the coming century. Barriers to copying are going through the floor (hence this article), which means that it's becoming more and more difficult to claim the rewards of your invention.

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SAN FRANCISCO #15

The Great Canadian North

The music business is a fascinating example of a creativity-driven industry. Advances in manufacturing and sound recording technology mean that only a small part of the value of the final product – a compact disc or digital download – is generated by manufacturing and distribution. Instead, most of the costs of the music business today are incurred by creative work: writing, producing and performing the music; designing the packaging and branding; and marketing via blogs, magazines, videos and more. This emphasis on creative inputs makes the music industry an excellent research subject for improving our understanding of the geography (and other dynamics) of a broad range of creative industries, from software to medicine to media.

While the public perception exists that Canada is a hot spot for music and musicians (from Neil Young to Shania Twain to Kardinal Offishall), a comparison with the global leader in music production – the United States – will help us to separate perception from reality. The most recent period for which detailed and directly comparable data are available is 2007. This Insight aims to improve our understanding of the dynamics of the business by focusing on one particular aspect: the differences between the music industries of Canada and the United States.

On a per capita basis, Canada's music industry dramatically outperforms the US when it comes to the presence of music business establishments (this category includes record labels, distributors, recording studios, and music publishers). Canada has 5.9 recording industry establishments per 100,000 residents, about five times the US figure of 1.2.

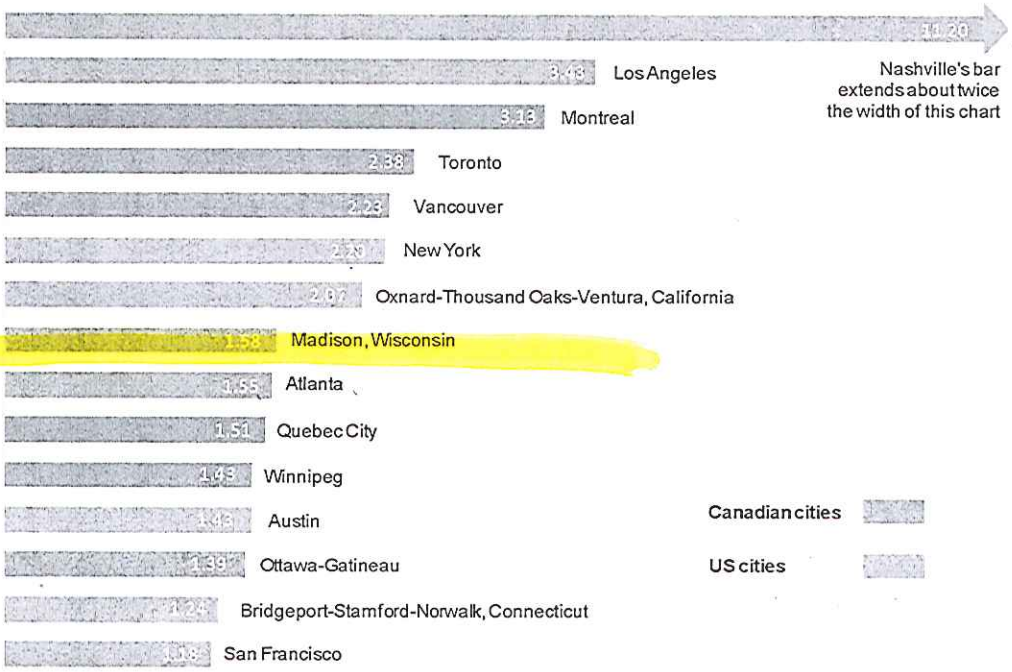
A detailed breakdown at the metropolitan level can help us to better understand what drives this disparity. To make the scope of our analysis more manageable, we focus on city-regions with populations over 500,000, as they are home to 85% of recording industry establishments and about 65% of the North American population.

Using location quotients, a standard industry measure of regional concentration, we find that almost half of the 15 cities with the highest music industry location quotients are Canadian (Exhibit 1). But despite its much lower per capita figure at the national level, the United States has the two top-ranking cities. The first, Nashville, boasts an incredibly high figure due to its heavy specialization in country and pop music. The second, Los Angeles, is the global giant of the entertainment business.

US dominance becomes more apparent when we look at size. Recording industry establishments in the US are slightly larger – they have an average of 5.9 employees each, compared to only 5.7 in Canada. But the difference is dramatically more pronounced when it comes to revenue. US establishments earn average receipts of $4.1 million per establishment, compared to only US$540,000 in Canada.

So Canada has considerably greater per capita musical activity than the United States in terms of record labels, recording studios, and licensing houses. But the data tell us that the United States has much higher-earning businesses that are more heavily clustered in fewer places – especially Nashville, Los Angeles, and to a lesser extent, New York.

Exhibit 1: Highest Concentrations of Music Industry in the U.S. and Canada by location quotient (Metro Areas with Population 500k+)



Source: Martin Prosperity Institute analysis of data from Statistics Canada (Annual Survey of Service Industries, 2007) and U.S. Census Bureau (County Business Patterns, 2007).

While this research is preliminary, we can speculate about what drives these differences. Economic geographers, from Jane Jacobs to Allen Scott to the Martin Prosperity Institute's own recent analysis, have long noted that growth in creative industries like music tends to be driven by clustering and economies of scope and scale. The concentration of the American music business in a few key cities likely encourages these forces. In Canada, the fact that the music business is more evenly distributed is certainly a positive thing for musicians looking for opportunities in smaller cities. But failure to cluster in a few key centres may be discouraging the Canadian music industry from growing larger and more internationally competitive.

Further Reading

Music & the Entertainment Economy Research Page
martinprosperity.org/projects/project/music-and-the-entertainment-economy

Music Blog
music.martinprosperity.org

The Detroit News www.detnews.com

February 25, 2010 http://detnews.com/article/20100225/METRO01/2250391

Detroit Mayor Bing emphasizes need to shrink city

Mayor says it's not 'an easy conversation,' but people, services must be focused to save city

CHRISTINE MACDONALD
The Detroit News

Detroit --Mayor Dave Bing said Wednesday he "absolutely" intends to relocate residents from desolate neighborhoods and is bracing for inevitable legal challenges when he unveils his downsizing plan.

In his strongest statements about shrinking the city since taking office, Bing told WJR-760 AM the city is using internal and external data to decide "winners and losers." The city plans to save some neighborhoods and encourage residents to move from others, he said.

"If we don't do it, you know this whole city is going to go down. I'm hopeful people will understand that," Bing said. "If we can incentivize some of those folks that are in those desolate areas, they can get a better situation."

"If they stay where they are I absolutely cannot give them all the services they require."

He said there's no timeline, price tag or estimate on the number of people who would have to be moved, but said federal funding would be needed. Bing said he plans to focus on the neighborhoods in which Detroit Public Schools plans to build schools with $500.5 million in bonds voters approved last year.

"You can't support every neighborhood," Bing told WJR's Frank Beckmann. "You can't support every community across this city. Those communities that are stable, we can't allow them to go down the tubes. That's not a good business decision from my vantage point."

Bing acknowledged it won't be "an easy conversation." And he's already facing opposition from activists such as Ron Scott, who said he is "adamantly opposed" and believes the business community is pushing Bing to get cheap access to large tracts of the city.

"Sounds like reservations to me, it sounds like telling people to move," Scott said. "The citizens of the city of Detroit who built this city, the working class, didn't create this situation. You are diminishing the constitutional options people have by contending you have a crisis."

Bing's staff is using its own data and a survey released last weekend by Data Driven Detroit. The block-by-block study of the 139 square-mile city showed that roughly one in three parcels are vacant lots or abandoned homes. The mayor's staff didn't elaborate on Bing's comments to WJR beyond a statement saying, "the mayor will utilize data from several sources including city departments, Data Driven Detroit, as well resident input, to prepare a viable land use plan."

Steven Ogden, executive director of Next Detroit Neighborhood Initiative, is using the group's data to come up with a plan for which neighborhoods his nonprofit should target in the next several years with time and money. He submitted a proposal to the Bing administration within the past several days on what areas he wants to

partner with the city to target.

Ogden said he supports Bing's direction, saying it's the only way the city can survive, but acknowledges it goes against past practice of the city putting money where the need is greatest or spreading funds equally city-wide.

"It's about where to invest the least amount of money to get the greatest impact," Ogden said. "We can't afford to lose another resident."

Detroit's population has shrunk to roughly 900,000 from 1.85 million in 1950.

John Mogk, a Wayne State law school professor, said Bing's on the right track but will face four major challenges: political support; money; creating a bureaucracy to administer the project and legal challenges.

Among the court challenges he sees ahead include the legality of cutting off city services to particular neighborhoods and using eminent domain to relocate residents. In 2006, voters approved a prohibition on government's ability to take property for economic development.

"It's a huge challenge," Mogk said. "No other city in terms of Detroit's scale ... has yet to face up to what it needs to do and has accomplished it."

"Detroit is really venturing into a new frontier."

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