



Back to the Future: Small Cities, Small Planes, Big Deal

A WDC White Paper by Charlie Grantham and Jim Ware

Introduction

We believe that the United States is on the verge of a radical transformation in the way that work gets done. But let's start with a little history that we believe is about to repeat itself:

“Many factors fueled industrial growth in the late 19th century: abundant resources, new technology, cheap energy, fast transport, and the availability of capital and labor. Mines, forests, and livestock in the west provided raw materials for major industries, as did iron in Ohio and oil in Pennsylvania. Railroad expansion enabled businesses to move raw materials to factories and to send products to urban markets. A steady stream of immigrants arrived to work in America's mines and factories.

Technological advances transformed production. The new machine-tool industry, which turned out drilling, cutting, and milling machines, sped up manufacturing. A trail of inventions, including the telephone, typewriter, linotype, phonograph, electric light, cash register, air brake, refrigerator car, and automobile, led to new industries. Finally, business leaders learned how to operate and coordinate many different economic activities across broad geographic areas. Businesses were thus able to become larger, and the modern corporation became an important form of business organization”¹.

This history needs to read very carefully. Abundant raw resources, fast transport, technological advances all combined to spur growth. Today, the means of wealth creation has shifted from industrial production to knowledge creation and dissemination. So, what are the parallel developments in today's world of resources, transportation and technology?

First the major component of raw material is people. Talent, knowledge workers, skilled labor, whatever, it goes by several names. But the base ingredient for the US economy is people and the abilities they carry with them. Large capital investments, plant and equipment are the engines of a time past. Transportation has moved from horseback, to railroads, to Interstate highways and now to the skies and air travel. Technology? That's the most pervasive force that we experience as the Internet and a convergence of all communication media.

So what does all this mean for business? No doubt railroads and the telegraph reshaped the entire landscape of the US. The late 19th century saw the opening of the West and a change in the very structure of the country. All of this driven by a feedback loop between industrial growth and urbanization. In brief, the simple analogy looks like this:

¹ http://encarta.msn.com/encyclopedia_1741500823_21/United_States_History.html

Table 1: The New Equation for Economic Success

	19 th Century	21 st Century
Resources	Raw materials	People
Transportation	Railroads	Air travel
Technology	Telegraph	Internet

Now we freely admit that the equation for growth is much more complex than three simple variables. But sometimes inherent patterns come into view more quickly in a simplified analysis—which is what we are offering here. Our working hypothesis is that these changes in the 21st Century will give rise to changes in our economic and social structure similar to what we experienced over a hundred years ago.

Let's examine each of these variables in turn and then weave them into a pattern of development we think is upon us.

Resources

The key business challenge in these early decades of the 21st century is access to intellectual capital. There simply isn't enough human talent to meet the needs of growing business enterprises—especially those that are knowledge-worker intensive.

The basic equation is that talent is drawn to particular geographic areas that already have more social capital than others. We believe that these areas that are attractive to knowledge workers are more likely to be "micropolises" than metropolises—which were the magnet for talent during the industrial era.

In 2003 the Census Bureau actually created a new geographic classification to capture a new kind of economic region. We have all heard of Standard Metropolitan Statistical Areas (SMSA's), rural areas, cities, and even megalopolises. Now there is a new designation: *Micropolitan areas*. The Census Bureau defines a micropolitan area as a geographic location that has at least one town of between 10,000 and 50,000 people, with proportionately few residents working outside the area.²

These are not suburbs. Micropolises are typically those areas lying slightly beyond the influence of the much larger SMSA's. Where are these micropolises? Actually, they're all over the country. Try Granbury, Texas; Defiance, Ohio; Alamogordo, New Mexico; and

² <http://www.census.gov/population/www/estimates/00-32997.pdf>

Elko, Nevada, to name just a few. There are 567 of these micropolitan areas in the United States today; 28 million people live in them.

Over the last decade the total population growth across those 567 micropolises was 8%, well below the 13% for the United States as a whole. But that average of 8% conceals some major differences among the micropolitan areas. 16% of them actually experienced negative growth rates. But a number of them were actually “boom towns.” 30%, or 215 of them, have had above-average population growth rates, while 38 specific locations each grew at 30% or more in the last decade.

Why are these micropolitan areas so important? Two things strike us. First, these are areas that talented people (the key future work force) will find attractive. These areas are, and will continue to be, the first stops (and often the last as well) on their migration journeys. We believe these micropolitan areas, and nearby smaller metro areas, will be the final destination of the migrating talent in the US over the coming decade. They are the hot spots – and the cool communities – to watch.

These centers become the hub of extended networks of distributed workers and turn into talent magnet areas that are sustainable without further external intervention. These “micropolises” provide the core structure for the economic development process.³

Transportation

Air taxi’s are coming soon to a city near you, spurred on by the recent FAA approval of “very light jets.” Imagine small jets that can travel at 350 mph over a range of about 1500 miles and carry only 3-6 people. The cost of this mode of travel will be somewhere between \$2.50 and \$3.00 per mile.

These aircraft represent a new category aimed at expanding air service to a point-to-point model, instead of the current hub and spoke pattern we are so familiar with in the United States today. Air taxis will weigh less than 10,000 pounds; they are capable of being flown by a single pilot. At least a dozen manufacturers are readying new models, not the least of which is Honda. Bill Gates has even invested in one company, Eclipse Aviation in New Mexico.

This is nothing short of a revolution in air travel that will increase the flexibility and mobility of millions of people living outside the influence of a major international airport.

This development will put affordable air travel within reach of many communities not now served by commercial airlines.⁴ For example, in our sample of rapidly growing micropolitan areas (see below) the average distance between them and the nearest metropolitan area is 178 miles. That’s 30 minutes air travel by air taxi at an approximate cost of \$490 dollars. Yes, still a little pricey but what is three hours of your time worth? And when that cost is shared by several passengers it starts getting very reasonable.

³ <http://www.realestatejournal.com/buysell/relocation/20040823-mccarthy.html>

⁴ <http://www.edventure.com/release1/abstracts.cfm?Counter=6315799>

We also believe that the economics of air taxis will become much more attractive as the network of locations grows. Thus, from a gross economic viewpoint air taxis in combination with high-speed Internet service and the lower cost of living in smaller, more rural areas make a very compelling business case for talent to re-locate away from major metropolitan areas.

If, as we contend, knowledge workers and the so-called “creative class” begin to migrate towards micropolitan areas in the United States, what is the relationship between that phenomenon and the availability of air taxi service? First, we know that the availability of air service is an important community amenity for these creative types, and it’s second in their minds only to the availability of broadband Internet service.⁵ Therefore, we assume that making an air taxi service available within an economic region will increase the drawing power of these micropolitan areas.

In order to tease out this correlation we examined US Census Bureau data on micropolitan areas. We focused our analysis on the Western United States, where most of the recent population growth is occurring: eight of the top ten growth micropolitan areas are in the western US.⁶ We examined data from Arizona, California, Colorado, Idaho, Montana, New Mexico, Oregon, Nevada, Utah, and Wyoming. The average growth rate between 1990 and 2000 for micropolitan areas in those ten states was 17.6%.

When we mapped the micropolitan areas to airports we found that of the 83 cities in our sample, 67% currently have air service. When we expanded our coverage areas to the 50-mile radius surrounding those cities the number increased to 94%. See Table Two below for details.

⁵ http://www.yampavalley.info/downloads/lmb_master_050606.pdf

⁶ <http://www.mi.vt.edu/uploads/micropolitan%20census%20note%2005%2001a.pdf>

Table Two: Western Region Micropolitan Areas Air Service

State	Micropolitan Areas	Number of Airports	Percent	Number of airports within 50 miles	Percent
AZ	5	3	60%	4	80%
CA	9	7	78%	9	100%
CO	7	3	43%	7	100%
ID	6	3	50%	6	100%
MT	5	4	80%	5	100%
NM	14	11	79%	14	100%
OR	13	9	69%	11	85%
NV	4	2	50%	4	100%
UT	5	4	80%	5	100%
WA	9	5	56%	7	78%
WY	6	5	83%	6	100%
Total	83	56	67%	78	94%

As air taxi service emerges as a new market we believe these high-growth micropolitan areas will be natural entry points for point-to-point service. However, even with high growth, air service, and Internet availability there still is one missing ingredient: a local place to work and socialize with one's peers.

Technology Centers: The Missing Ingredient

One of the most striking findings of the Work Design Collaborative research program in 2002-2004 was the discovery of a demand for a "third place" work location for the creative class of knowledge workers. We believe that this market may be as big as 20 million people by 2007.

Third places are locations where people spend perhaps two or three days a week working, either alone or in meetings with other folks (colleagues, project team members, clients, vendors).

These "Third Places" are really an adjunct to traditional corporate facilities and home offices. Our research shows that workers of the future will most likely be spending

approximately 40% of their time in corporate facilities, 30% in a home office, and the remainder in a “third place.” These new workplaces will rise in usage over the next several years for a number of reasons:

- ◆ Organizations want to move away from a fixed-cost structure to variable cost models in order to reduce capital requirements and risk, while increasing their agility and responsiveness to changing environments.
- ◆ Remote and mobile workers do not have adequate alternative meeting places, office services, or technical support that are either affordable or convenient to their residential locations.
- ◆ Home-based independent workers also need and want more support and services because their home-based workspaces are limited and they generally have almost no useful meeting space. And like mobile workers they also have a need for office services and technical support.

Existing workspace offerings typically do not deliver everything that is needed at one location (that is, to meet all his or her needs a worker must go separately to a variety of different places like Kinko’s, Staples, the UPS store, Starbucks, hotel conference rooms, and so on). We believe there will be third places that serve local communities of working residents.

There will also be suburban locations situated at the intersections of major transportation routes. And there will be rural locations that will function as “outposts” for major metropolitan areas. And these Third Places will take on the characteristics of the communities in which they exist. In the Wild West of the United States they may look like “work forts,” while in Europe we have already seen “work castles.” But “Third Places” can’t just be anywhere or be designed built like traditional office facilities. The lack of this infrastructure is especially acute in the micropolitan growth areas we discussed above.

But local Third Places are only one part of the technology equation.

Being able to connect with other people in other locations is just as important as having a local “Third Place” for local meetings – and in today’s global economy it’s an absolute necessity. In the 19th century those connections were largely achieved through “snail mail” (then known as the Pony Express), time-consuming railroad travel, and – most significantly – the telegraph (which had as significant an impact on society and work in its time as the Internet has had today⁷).

Today, of course, we use email, Instant Messages, the telephone, video conferences, and much higher-speed and farther-reaching personal travel to connect with remote businesses and individuals. We believe that, as electronic networking grows more and more powerful and user-friendly, and continues its astounding journey towards virtually zero cost, businesses will increasingly become simultaneously more local and more

⁷ Tom Standage, *The Victorian Internet*, Berkeley Trade (1999). Available from Amazon.com at: http://www.amazon.com/gp/product/0425171698/sr=1-1/qid=1154360278/ref=sr_1_1/104-7418538-3190338?ie=UTF8&s=books

global. You can locate anywhere but still remain deeply interconnected with anyone else anywhere else.

And air taxi service is the logical physical analogue to electronic networks; we're on the verge of easy, inexpensive, and widespread point-to-point personal travel – with a far wider and faster reach than traditional planes, trains, and automobiles. This new technology reality helps make both businesses and individuals genuinely “location-neutral.”

Conclusion

We are convinced that micropolitan areas are becoming major attractors of intellectual talent. Further, it is clear that this talent will be a key driver to new economic growth in the United States for at least the coming decade. These micropolitan areas will experience historically high rates of growth with the advent of “very light jet” transportation networks that will enable people living there to connect more quickly to other micropolitan areas and close-in metropolitan areas as well.

The missing infrastructure element is a “technology center,” by which we mean a physical location in these communities where people can congregate for all kinds of purposes, including leveraging the power of Internet technology. These kinds of centers can augment the traditional “workspaces” in central corporate facilities and home offices and also provide a “social architecture” that enables knowledge workers to connect to other people, tools, and information.

The pattern of historical economic development in the United States that we saw in the 19th century – fueled by railroads, the telegraph, and raw materials – will repeat itself in the 21st century with a different kind of key resource: advanced air transportation and the ubiquitous presence of Internet technology that makes lower-density communities fully competitive with traditional centers of business and residential development.

About the Work Design Collaborative

Future of Work is a global network of resources – practitioners, thought leaders, researchers, and senior consultants – who are committed to building and implementing physical, social, and technology-based work environments that are cost-effective, socially and environmentally responsible, and personally satisfying.

We are focused on defining the future of work and helping our members and clients achieve new levels of workforce and workplace productivity. *Future of Work* produces and distributes management tools, surveys, benchmark databases, white papers and technical reports, conferences and workshops, newsletters, books and articles, and public presentations on the changing nature of work. The Work Design Collaborative, LLC, provides leadership and infrastructure services for the *Future of Work* community.

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