

The “Facts of Life” about Growth

Classes of problems

“Give us solutions,” we say. We want solutions to growth, solutions to education, solutions to health care, and other “problems.”

Unfortunately, these aren’t simple problems; they’re “messes” made up of multiple problems. They are so entangled that addressing one problem creates another. We can’t do “just one thing” because everything we do affects something else.

And it’s even worse, because these might be called “wicked messes.” They’re messes in which there are inequalities of economic and political power. In these cases we often can’t do what’s best for the nation even when we know what should be done.

Growth is high on the list of messes we want solved. We want minimal traffic congestion, low taxes, great schools, low home prices, high wages, and many other factors of quality of life to be excellent. Yes, that’s asking a lot, but we want it.

I understand this desire, because I have a similar concern about the restaurant problem. The “restaurant problem,” you say? What’s that?

The restaurant problem

The restaurant problem is that I want a restaurant with great food, great service and very low prices. I’m annoyed that I can’t find one. I want a solution and the sooner the better.

Now, your reaction might be that that’s not possible because everyone knows that no restaurant can be all things to all people. Some of the demands are contradictory; the best food and service costs more ... and we all know that “we get what we pay for.”

(Unless, of course, it’s public education, about which we hear, “You don’t throw money at it.” But that’s another story ... back to the growth mess ...)

Another reason it’s not possible is that people are free to flow among restaurants. Any restaurant that attempts to be best at everything gets so overwhelmed with customers that service or quality, or both, suffers.

To prevent being overwhelmed, a restaurant might raise prices to keep enough customers away so it can maintain service and quality.

McDonald’s®, Outback Steak House® and the Broadmoor® all make different choices about how they’re going to become unattractive to keep enough customers away to allow them to continue to provide their own unique value. In order, what keeps many people away from these restaurants is “fast food,” long lines and high prices.

So restaurants decide both on the value they want to provide and, perhaps more importantly, on the value

they don’t want to provide. In a sense, they practice “strategic unattractiveness.” Each maintains its preferred counterbalances to allow it to continue to provide its unique value proposition.

In system dynamics this “fact of life” is called “The Attractiveness Principle.” What it tells us is: “There is no utopia in restaurants.”

Oh, no!

Oh, yes. This also applies to geographic regions. Just as no restaurant can be all things to all people, no region can be all things to all people. Just as for restaurants, as long as people are free to migrate, no place can long remain more attractive (overall) than any other place. [Note that in this context “attractive” doesn’t mean “pretty;” it means the composite of factors that attract.]

People flow from places that are less attractive to places that are more attractive until the places to which they are moving become just as unattractive as the place from which they are moving. Can’t you just see it? It’s like water seeking its own level.

This means that, over the long run, Colorado Springs will be no more attractive than the least attractive location in the country. For example, no more attractive than Los Angeles.

Many people intuitively understand this and they see it happening, which is why they’re upset. We even see bumper stickers about it.

There is no utopia in social systems, either.

Repeat. There is no utopia in social systems. It’s a “Gilda Radnor world” ... “there’s always something!”

This is a “fact of life” ... for restaurants *and* regions.

The traffic congestion problem

Let’s look how the “The Attractiveness Principle” applies to traffic congestion.

Politicians promise that building more roads will solve the traffic congestion problem, even though no one can point to any city or region where this has ever worked. No matter how much road capacity is added, congestion always returns. The reason is that the more attractive we make driving, the more cars, trips and miles traveled per trip.

So road building doesn’t determine the level of congestion; it determines the number of cars on the road and the size of the built-up region. There’s vast denial about this. For example, a prominent Colorado politician said, “It’s silly to think that more roads lead to more growth.” (10/18/98 Denver Post).

But it’s a textbook case at MIT; see John Sterman’s text, *Business Dynamics, Systems Thinking for a Complex World* (2000, p. 178).

You ask, "But what about solutions?"

We don't like it, but there is really only one way to reduce traffic congestion: make driving less attractive than the alternatives or, equivalently, make the alternatives more attractive than driving.

Yes, I know this isn't what a solution is "supposed to look like," but there it is.

The good news is that, as for restaurants, there are many ways to do this: better public transportation, more bike paths, cities designed to make walking more attractive, mixing residences and businesses, etc.

Growth: We're individually rational, but ...

But what about growth? Don't we need to build roads to grow, to create jobs, and maintain quality of life as many say? Aren't those "no-growthers" simply economic retards who don't understand that it's "grow or die?"

The misunderstanding is that the focus is on the wrong problem. It isn't about "growth" itself; it's about "who pays for it." Despite protestations to the contrary, dolts and geniuses alike can see that growth does not "pay for itself." If it did, we would not have huge and growing infrastructure backlogs; they are perhaps the major downside of growth because they so negatively impact quality of life.

So why do we have infrastructure backlogs?

The most common tactic of what's called "economic development" is to lower taxes and increase subsidies to businesses to attract them. But the result is an escalating "my region can impose lower taxes and regulations than your region" competition between regions.

The result of these "tax wars" is a nationwide infrastructure backlog of \$1.6 trillion. this backlog is rising at a rate of 9.25% per year, many times the rate of inflation.

And, as we can all see, it's happening in Colorado Springs, too. In Nov. 2000 Dave Zelenok, Group Support Manager Public Works, said that, "if things keep going the way they are, we'll be facing a \$3 - 4 billion backlog" in Colorado Springs in the next 10 - 20 years.

Now it's logical for every region to want to compete by lowering taxes and regulations ... it's called being "business-friendly." But a "logical for every individual region" strategy leads to infrastructure backlogs and declines in efficiency and competitiveness for every region and therefore for the nation as a whole.

Logical actions in each individual region are collectively insane. This is an example of what economists call the "bounded rationality" of human decision-making.

As regional infrastructure backlog grows and services decline, regions are led to promote more development in order to gain tax revenue. This provides some immediate relief, but years later the increased load on the infrastructure creates an even larger backlog. This prompts regions to promote even more growth for more immediate relief.

This is called "addiction." It is the same structure as addiction to drugs: feel good in the short term even though long term health suffers. Because there's a long delay before the infrastructure demands arise, it's easy to ignore, and/or obfuscate, the connection.

Of course, addiction of any kind is not a solution. No one can sell a product at a loss and make it up in volume.

But they say growth does "pay for itself"

Developers readily cite studies that show that growth does pay for itself.¹ The flaw is in statements such as:

- "Finding 1: Most of the new city infrastructure needed to support new growth is paid for by the landowner" And they show a table on who actually spent what. (Fiscal Impact Study, p.11)
- "To determine what the city had to build to support new home construction in the eight subdivisions in our study we reviewed city budget documents going back to 1988." (Fiscal Impact Study, p.15)
- "Our study looked at eight specific subdivisions and their impact. We could find no evidence that any of the subdivisions in our study triggered the need for any city-wide infrastructure construction. These facilities benefit all residents of the city equally." (Bamberger & Dotzour "Response to HSG comments," p. 5)

What the city actually spent isn't relevant. It's misleading to write of "infrastructure needed" when this is taken to mean "what the city had to build" or "triggered the need for ... infrastructure ."

There was infrastructure that was needed, even if the city didn't see they "had to build" it or even if the need didn't provoke a "trigger." What's relevant is what the city *should* have spent to maintain traffic level of service, drainage protection against flooding, police and fire response times, etc.

The residents of the city can only "benefit" from developer improvements if they provide a level of service greater than there would have been without the development.²

¹ "Response to HSG comments" dated 1/19/00 on the review comments made by the consulting firm of Hammer, Siler, George Associates on the Fiscal Impact Study prepared by Bamberger and Dotzour.

² A caution is that examining traffic reports may be inadequate because they may be flawed. For example, see "Traffic Report Analysis - Houck Estate Rezoning 1997" at <http://www.exponentialimprovement.com/cms/traffic.shtml>. It neglected to include a projected

So the real question is, "What would the city *have to spend* to maintain level of service?" This is complicated enough that it's easily ignored.

The study cited above maintains that it is "... an analysis of real costs and revenues from these subdivisions." It probably is; but it's just not an analysis of all the costs. When level of service is not maintained, the public pays easily-neglected costs in lost time, accidents, and overall quality of life.

A Real Impact: Running Red Lights

In an effort to improve the average level of service for traffic movements³ along major thoroughfares, such as Academy, the city lengthens the traffic cycle. This allows more traffic volume to be pumped through in a traffic cycle and along the thoroughfare overall.

One problem is that this significantly worsens the level of service for other traffic movements, especially for left turns onto and off main thoroughfares. Many of these movements are rated "LOS F."⁴

But the major problem is that, as the traffic cycle gets longer, people are more and more tempted to run red lights. This is because they have to endure longer wait times when they don't make it.

Some policy makers who approve new developments blame drivers for running red lights. They don't see how their own actions (not requiring levels of service be maintained) leads to this behavior and contributes to increased injuries and deaths. This is a high price for growth that doesn't maintain levels of service.

So why do states compete like this?

They are virtually forced to compete because U.S. government policy only allows so many jobs to be created in the United States.

The Federal Reserve Board keys monetary policy and interest rates to a NAIRU (Non-Accelerating Inflation Rate of Unemployment), which the Fed generally believes is on the order of 5 or 6%.

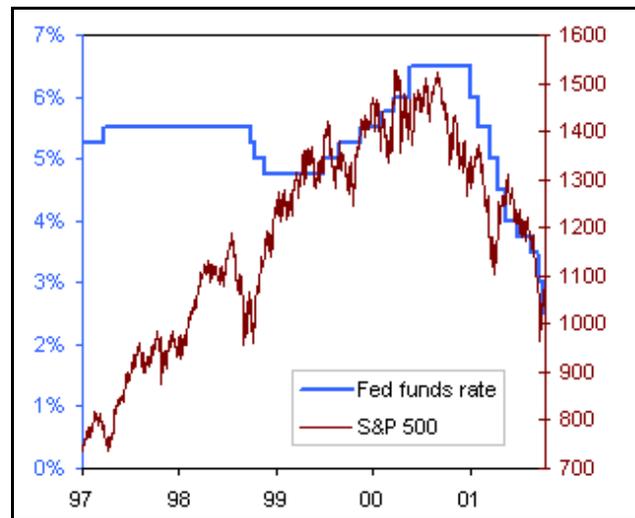
For example, if the Federal Reserve believes too many jobs are created, or believes unemployment is too low (below its NAIRU target), the Fed raises interest rates or shrinks the money supply to slow the economy and reduce demand. There's lower demand

because there's less investment and fewer people working and therefore less upward pressure on prices.

So employment over the long run depends on the NAIRU (in the short run it depends on aggregate demand). The Federal Reserve pursues this policy in the belief that it must do so to avoid an inflationary wage-price spiral (increasing prices resulting in higher wages and even higher prices, etc.).

Some don't believe the Fed reacts to employment in this way, but the stock market "knows." When the economy is strong, investors tend to sell when there is either a good unemployment report (unemployment falls) or a good "jobs report" (an expansion of the number of people employed), because they know the Federal Reserve is likely to raise interest rates to "cool the economy."

Some also don't believe the Federal Reserve has enough power to affect the economy this way. But the stock market does respond to Fed power. As an example, the chart below shows the Fed funds rate and stock prices. Raising interest rates quite nicely burst the stock market bubble of the 90s.

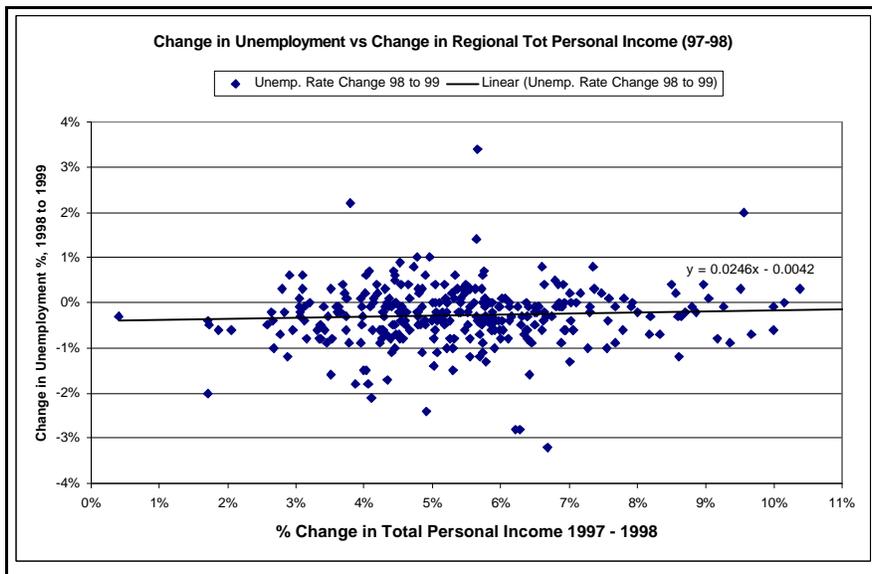


The result of this Fed policy is that nationally there are always more people than there are jobs. So tax competition between regions does not "create jobs;" it simply shifts jobs among regions. It creates higher growth in some regions and lower growth in others,

increase in background traffic on Academy (which is standard practice); it used a 120 sec. traffic cycle instead of the current ~135 sec. traffic cycle; and it also ignored effects due to intersections in close proximity which interact. Without these "errors" the Level of Service (LOS) would have been seen to be worse than reported. As it was, what was reported was already worse than existing LOS ratings and including these factors would have shown the LOS violated the city's "Policy and Design Standards."

³ Most intersections have 12 movements, 3 for each of the 4 directions vehicles enter (left turn, straight through, right turn).

⁴ LOS F is > 60 seconds: "considered unacceptable to most drivers, forced flow ... occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection." To understand what this means, consider LOS E which is > 40.1 & ≤ 60 seconds: "capacity ... limit of acceptable delay ... individual cycle failures are frequent occurrences." To understand what LOS E means to drivers, consider the statement by traffic engineer, Dave Daubert of Leigh, Scott & Cleary, at the 12/8/83 City Planning Commission meeting when he described the impact on drivers and their reaction: "... a typical level of service "E" [is] when you reach that type of operation where you wait for 3 - 4 cycles, that's where you have to do something else with the roadway system. Typically people will not put up with that type of operation, not for very long."



but it does not decrease (overall) unemployment.

I didn't believe this until I plotted the graph above. It shows that regions with higher growth do not on the average have greater reductions in unemployment.

It shows that higher growth rates in Metropolitan Statistical Areas between 1997 and 1998 did not produce a more positive change in employment between 1998 and 1999. The reason is that people who are out of work in one region move to higher-growth regions.

This effect might seem more dramatic than one would expect for a 5 or 6% unemployment. However, official unemployment is vastly understated. As shown at right, it's over 10%, if we only include those who have given up and those working part-time, but wanting more work.⁵

And this doesn't even include other categories that provide sources of labor. Lester Thurow in an interview on his 1996 book, *The Future of Capitalism*, estimated slack in the labor force at more like 30% (including those officially counted, 5.7%, don't meet the official test, 4.5%, part-time, 3.4%, on-call, 1.5%, disappeared, 4.5%, and self-employed — many of whom are underemployed, 6.1%).

And we can't compare a 6% unemployment today to a 6% unemployment in the 80s because contingency workers — part-timers, temporaries and contract workers who lack full benefits and job security — make up a greater part of the labor force, accounting for as many as 30 million of the workers (out of ~137 million employed). The number of mainly low-wage temporaries has tripled over the last dozen years (*Denver Post*, 9/5/94).

Because there is only so many jobs and only so

much economic growth allowed, companies can say, "Give us a deal, or we'll go elsewhere."

This "musical chairs" effect makes the added value of any one region zero, because some regions won't have enough jobs.

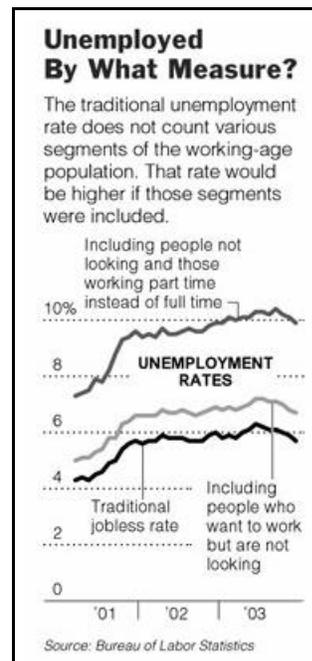
Companies can demand concessions, just as a sports team demands that a city build a taxpayer-funded stadium if it wants the team to move there.

So when jobs shift from one area of the country to another because of "economic development," there is churning as people move across the country to follow those jobs, but no more total jobs are created.

This zero-sum game competition between regions hurts all regions.

The insufficient taxes and low wages parallel

As an important aside, because there are more people than there are jobs, the added value of any one person is also zero. Employers can say, "Some are going to be without a job, so take the job at this wage or someone else will." This is why wages are stagnant at the bottom and why many regions impose a minimum wage. Many say that a minimum wage is an interference in the "free market" for labor, but they ignore the Fed's prior interference. There is no free market for labor.



There's an important analogy between taxes and wages. Taxes can be considered "regional wages" that allow regions to maintain a certain quality of life, just as wages allow people to maintain a certain quality of life.

Regions have infrastructure backlogs for the same reason that many people do not make a living wage.

⁵ "To Understand U.S. Jobs Picture, Connect the Dots, and Find the Dots," LOUIS UCHITELLE, *New York Times*, 1/12/04, <http://www.nytimes.com/2004/01/12/business/12jobs.html>

Becoming collectively sane

Jay Forrester, founder of the field of system dynamics, makes a key point: *programs aimed at improving a city can succeed only if they result in eventually raising the average quality of life for the country as a whole.*

This is important; read it again.

Anything we do to raise quality of life in Colorado Springs may work for a time, but it will eventually attract more people and negate the improvement.

Systems are perverse!

It's a fact: We can't solve the problems associated with growth locally. Cutting taxes in one region merely produces a zero-sum game competition between regions that hurts all regions and the nation.

So what's the "solution?" The federal government should declare a tax competition moratorium: a "tax war" cease fire.

But fat chance of this happening because it goes so much against the grain of the common "wisdom" that the "miracle of competition and efficient markets" will solve all our problems. It won't. (And yes, I know this is sacrilege.)

An irony

Many complain that setting taxes at a level to cover the marginal costs of growth will limit growth and be a detriment to the economy.

The irony is that continuing current policy will eventually limit growth anyway. That's because competing with other regions based on low taxes to promote growth increases infrastructure backlogs. Businesses will find they can't operate here efficiently.

That's the reason they're leaving California.

What's more, current policy also decreases the productivity of the nation as a whole to depress wages and return to capital.

So, indeed, "there's always something!" Systems are perverse.

So what's a mother to do?

When you find yourself in a hole, the first thing to do is to stop digging. In this case, stop adding to infrastructure backlogs and degrading quality of life.

To do this we must determine the rate at which short- and long-term infrastructure costs are accumulated and collect impact fees and/or excise taxes on development at the same rate. (Can't you just hear the screaming?)

Infrastructure cost calculations must be set to the marginal (not average) costs of maintaining levels of

service for traffic, fire protection, policing, schools, libraries, parks, etc. Taxes on development may currently offset what government spends on infrastructure, but what is spent does not maintain levels of service.

As noted above, check any traffic report submitted for a new development and you'll find the level of service is degraded, even after developer "improvements."

So as it is, many of the costs of growth are externalized onto the public at large. The increases in sales and property taxes to pay for infrastructure led to California's Proposition 13 and to Colorado's Gallagher & TABOR rebellions.

The trouble with these amendments is that they allow local governments to approve developments without disclosing the costs externalized onto the public. Then citizens through TABOR rightly say they don't want to pay for it.

The catch is that the public still pays; it pays in declining quality of life and being stuck in traffic. In effect, TABOR closes the barn door after the horse has been stolen.

Many blame Amendment 23, but it isn't the problem. Colorado invests less in education than most other states, ranking somewhere between 30th and 43rd in education funding, depending on the study. (I've even heard 48th, but haven't located the study.)

Despite such low expenditures, Colorado ranks 2nd in educational attainment. How? Because it uses its current high quality of life to attract the highly-educated from other states.

This means Colorado is a "free rider" state. Colorado should spend more on education and not take advantage of other states that spend more on education. To prevent such parasitic behavior, education funding should primarily come from the federal level.

Developers and home builders like the status quo because not covering the costs of growth puts them under less price pressure and allows them to make more profit. And who wouldn't like to sell a product and have others subsidize it.

Some call those who want growth to pay for itself "socialists." To the contrary, it's the opposite: developers privatize the profits and socialize the costs.

Second, the overall backlog must be drained by taxes (more screaming), because everyone who owns property (not just developers) benefited from reduced prices.

In the past I've voted for taxes to improve infrastructure, but I now realize that increasing taxes before the structural reforms noted above, even for worthy projects, will simply encourage continuing policies that are creating ever-increasing infrastructure backlogs.

On the other hand, we shouldn't attempt to pay off the entire infrastructure backlog by way of impact fees or excise taxes on new development. This would be too great a burden on the industry and pose a real threat to the economy.

Eventually, we must all pay for the "sins of the past" and pay the taxes necessary to drain the backlog. Impact fees and excise taxes should simply stop the infrastructure backlog buildup, despite the fact that taxpayer subsidies have allowed growth industries to reap excess profits for decades.

But won't raising taxes & fees kill the economy?

Remember, over time Colorado Springs will become no more attractive than any other place. The only choice we have is how we'll become unattractive.

Will it be by the way we're going: increased traffic congestion, crowded schools, less open space per capita, reduced police and fire protection, etc.? Or by increasing taxes to pay for infrastructure? Or by zoning restrictions or strict growth boundaries? There are choices; which will it be?

Some say that we must ignore the externalized costs and let the free market decide. But unless market prices fully capture the full costs of growth, that is, unless the costs are fully internalized, the market cannot correctly value the choices and work properly.

We'll know when costs are fully internalized when infrastructure backlogs stop growing without taxes to pay for them.

The good news

The good news is that Colorado Springs still has a relatively good quality of life. This means we don't have to compete based on low taxes and inadequate regulation. This is another fact of life: in an escalation structure, the strong are in the best position to de-escalate.

We can invest in education, workforce development, parks, etc. to make the region more attractive. That's what we need anyway to attract high paying jobs.

The problem isn't the "economic development" or the EDC (Economic Development Corporation) that promotes it. The problem is that we're competing based on low taxes, rather than on quality of life, and sacrificing the future for the present. We'll always need economic development to put Colorado Springs' "best foot forward" and counter the economic development activities of other regions.

What about the babies?

Finally, what about the current favorite argument for growth: "We need to accommodate babies being born and growing up."

The problem with this argument is that the birth rate is not fixed; it's not a constant in that it's affected by other factors within the system. For example, if the full costs of new growth were funded by the new growth (full costs internalized, rather than some externalized), it would increase the costs and people would be less inclined to have children and people would be less inclined to move here.

This would allow market mechanisms to put a natural brake on growth and eliminate any need for artificially-imposed limits on growth.

And remember, as infrastructure backlogs mount, either they, or the taxes to reduce them, will impose limits to growth anyway. Burying our heads in the sand only postpones the day we have to face the problem when the pain will be much more severe.

In summary

There are no utopias in social systems, be they restaurants or regions. I realize this isn't a happy message. The "facts of life" are rarely welcome knowledge.

Thing to remember:

- Systems are perverse and we encounter counterintuitive effects.
- Think long-term, not short-term, and look for those counterintuitive effects.
- It's not about stopping growth, it's about who pays for it.
- Impose impact fees or taxes to fully internalize the marginal costs of growth to let market forces work to limit growth before we encounter a painful overshoot and collapse due to rising infrastructure backlogs.
- Compete based on quality of life, not low taxes. Be thankful Colorado Springs has enough quality of life that we can de-escalate and declare a "tax war" cease fire.
- Remember, all regions are connected and we're all in this together. *Programs aimed at improving Colorado Springs can succeed only if they result in eventually raising the average quality of life for the country as a whole.*

A surprising example of how we're all in this together is that people stuck in traffic, people in low wage jobs, and tax limitation advocates all have complaints that originate from the same structural causes.

But they're usually in conflict because they don't understand that. Think what would happen if they joined forces to push for policy changes that would actually solve their problems!