

FUTURE PHOENIX

A presentation to
Arizona Association for Economic Development
October 7, 2008

Michael Hallmark
Email: hallmark@future-cities.us
Website: www.future-cities.us

Imagine a more sustainable city, one that is more integrally connected, more refined and more diverse – a city able to accommodate an additional 1 million people as it uses less energy and less water. Its residents will drive fewer cars over fewer miles. And they'll want to live there because it is healthier, happier and richer in culture, not because it is cheaper.

BACKGROUND: Rethinking Phoenix's Planning Process

According to projections, Arizona's population will grow from just over 6 million residents in 2006 to almost 13 million by 2050. These are not refugees forced to relocate, but a massive voluntary migration of people who have selected Arizona over other choices because they believe there are lifestyle benefits of such a move.

Polls actually show that most of the people already here view such population growth negatively. We acquiesce to the pressure to grow even while believing there are serious negative effects to our own quality of life — longer commutes, more homes on the market to compete with the one we ourselves will be selling in five years, more roadway accidents and deaths, insurance rate increases and a decrease in air quality, as well as more stress on our educational system and facilities, on health care and on our natural resources.

Because we know a majority of the new arrivals will end up in Maricopa County, Phoenix and its neighboring cities are forced to plan for these larger populations. Complicating matters are today's tougher economic environment coupled with dwindling resources. Still, our expansion strategy will likely be comprised of the same planning models that got us where we are today, which is *not* a place we want to stay. Without updating these models, we'll end up doing what we've always done — make the roads wider, the power lines longer, the plumbing lines bigger and the landfills deeper.

In an extraordinarily brief period, we have grown to become the nation's fifth largest city and fourth largest county. A real estate version of the Gold Rush helped drive that expansion. We've never seriously defined limits to growth in part because we are wedded to our own sales pitch: *Phoenix has unlimited opportunities for families and businesses to grow.* We are proud of our rapid growth; it's part of our identity.

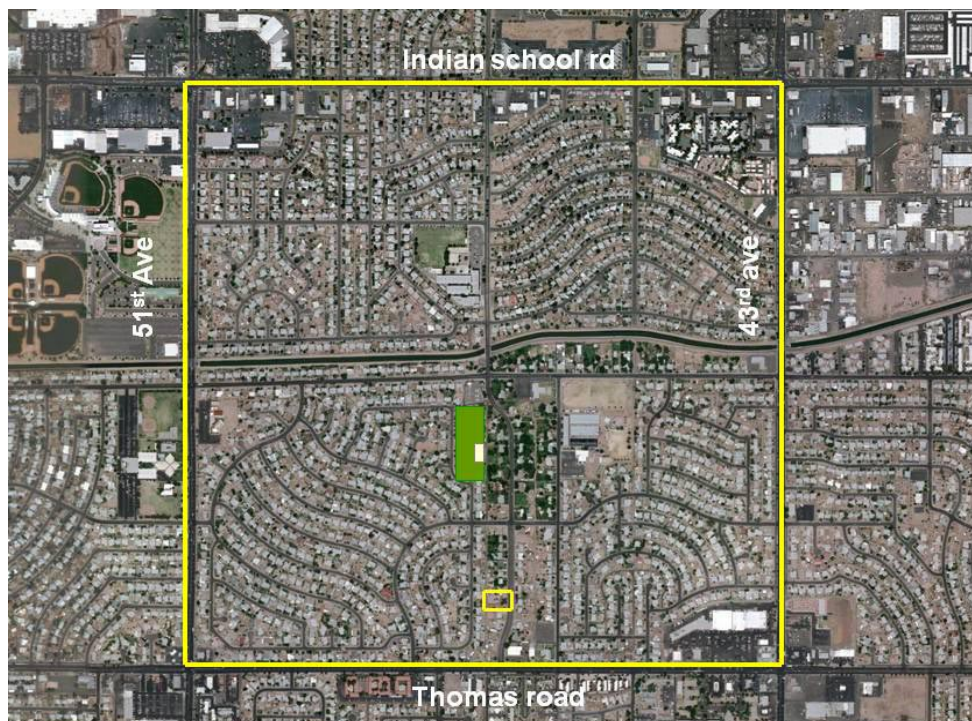
We already have built and paid for an enormous infrastructure that is capable of serving a much larger population. Over the next decade we need to evolve a greater appreciation and respect for the true value of our urban real estate and natural environment, instead of taking each for granted.

We also need to challenge local governments and builders to create smarter developments that add to the city's texture, not subtract from it. We need to create places where people want to live because of the community that has evolved from good planning, and not just because of our favorable climate (as if we had something to do with that). To get these results, we need to devise incentives that reward investments in sustainable efforts. To do that, we will need more diverse talents to partner in city-building, going beyond just selling homes and paving roads. Growing from 100,000 to 1.5 million, which is what happened over the last 60 years, is much different than growing from 1.5 million to 3 million.

Future Phoenix must now seek out equitable ways to reduce our overall energy consumption while finding new sources for it, and do so locally where it's consumed. Before we turn the traffic engineers loose on the next road expansion or point the land scrapers toward more open desert, we need to measure the true cost of sprawl. The working parts are all in place, and we must use them in a retooling of our city so that it allows us to take cars off the road by creating safer and more-balanced transportation systems. We must also redesign our urban neighborhoods so that driving is less necessary or ideally not necessary at all – a place where normal life is naturally convenient and the everyday consumer choices we make are not seen as a compromise, but simply the most beneficial to us.

Unless we simply want twice of what we already have, we will need to rethink our planning process.

BACKGROUND: The Unsustainable Neighborhood



Most of my early childhood was spent inside the large yellow box above. My father was a grocer, and my mother worked for the telephone company at McDowell and Central. In 1960, my parents bought a house in a new subdivision called Maryvale. Our house, the little yellow box above, was in the square mile between 43rd and 51st avenues and Thomas and Indian School roads. The developer of Maryvale, John F. Long, hired a prominent architect, Victor Gruen of Los Angeles, to design a neighborhood where he could roll out housing using similar dimensions and repeat materials. While all the homes were essentially the same, each had a few differentiating features that were manifested by nailing them on to the basic box and painting each a different color. That was good enough for my family as my parents' primary motivator was the price - \$13,500.

Mr. Long was in business to sell homes, not create sustainable neighborhoods. His company kept no ongoing financial interest in the project, and when it finished selling homes, it moved on to the next open landscape. The City made no special demands on the developer (with the exception of requiring a rectangular section of grass at the center which served as a seldom-used neighborhood park) and willingly took on the tasks of collecting trash, piping in water and treating outgoing sewage. With such shared limited goals and expectations, it is not surprising the resulting subdivision lacked any retail, business uses, sidewalk eateries or other features one could safely walk that help create community identity and cohesion. We knew very few of our neighbors and had little occasion to interact with them because of the neighborhood's physical organization. The simplest activity, like buying groceries or going to church, required a car. As our family matured, we each had to get a car.

Unlike older Phoenix neighborhoods from the '50s, the Maryvale neighborhoods had their own street patterns that ignored the established city grid. These streets were usually serpentine and disorienting, especially if you were a kid on a bicycle. Entry to the neighborhood was at four locations only, on each of the four one-mile-long edges. This configuration effectively cut us off from the outside world except by our cars, but that worked since there was really no reason to enter the labyrinth unless you lived there.

The importance of Maryvale was the precedent it set by establishing an alliance between homebuilder, home buyer and the City itself. Projects like Maryvale meant that cheap desert or agricultural land could be purchased for a few dollars an acre and affordable homes could be built for middle-class families like ours. The City didn't need to concern itself with community planning because the developer took care of that, however they might define it. Everyone wins — at least initially.

Unfortunately for any neighborhood's long-term interests, its developer is usually a better investment strategist for his own company goals than he is a community planner. Adding layers to the plan, like Main Street retail, a village core, transit linkages and such, would have required partnerships, relationships and connections which would have only complicated matters. For the developer in Maryvale's case, the investment strategy was simple: sell the houses quickly and move on. The investment strategy for the buyer — my father in this case — was to buy a house within our budget, then move us away when we could afford something better.

With that dynamic, it is understandable (and could have even been predicted back in 1960) that what's there today is essentially what was there 48 years ago. No single entity is to blame for this result. If short term economic goals with quick population increases were the goals, then Maryvale was a success. No other outcome was possible since there was no mechanism in place to truly grow a sustainable community. Everyone was complicit in the outcome.

Our History of Sprawl

When a city is designed by engineers whose program directive is to move cars quickly and presumably safely, and developers whose mission is to sell real estate to families, the result is a city of cars and single-family homes. Quality, sustainable cities are complex and dynamic, and the best of them are the results of thousands of interconnecting elements that support the whole.

Unlike those cities that have had hundreds of years to mature, our "instant" metropolis has been without the benefit of a substantive city-building culture and certainly no clear urban philosophy. In the Phoenix of the last 50 years, no idea was a bad one if it added to population or created retail tax opportunity. We have built without conventional, or even unconventional, urban planning theories to guide us — like Haussmann for Paris, Burnham for Chicago or Ed Bacon for Philadelphia. Whether these philosophies were good for us or not, we'll never know because they have never been part of the discourse. Our planning has

instead been a response to what was already being built or what someone was proposing to build.

After WWII, but especially in the late '50s, our primary concern was to build housing for new arrivals. We wanted to grow. And because we had no pre-existing inventory of homes, we generally accepted a pattern of growth that favored taking undisturbed desert land over reinvesting in our urbanized core, where infrastructure already existed.

To the generations who came before us, the concept of a conventional urban core, such as a downtown in the middle of the desert probably seemed too East Coast and formal. Why build up when it's cheaper to build out? (Of course, cheaper in this case meant cheaper for *them*, but not necessarily their grandchildren). Without any natural limitations like oceans or large rivers or even other cities to constrain us, we built out as fast as new families arrived. New people meant new customers and a new work force. Real estate values increased, and everyone appeared to prosper.

The missing element was time. We thought we could mix up a cake batter, put it in the oven at 1,000 degrees for five minutes and get the same result as if we'd followed the real time-tested directions. A city that grows slowly develops a unique character because not all of a city's elements mature at the same rate. Building construction is measured in months, but community development is measured in generations. Both need to complement each other.

The sprawl we see now began out of a need to grow quickly but continues mostly unabated because it is habitual and comfortable. It was, and still is, the easiest thing to do if one doesn't consider future costs. Sprawl is easy. Sprawl planning models allow developers to avoid angry neighborhood groups and the need to be especially creative in how to work around the limits of pre-existing infrastructure. City representatives also are spared complaints from voters about "inappropriate" adjoining uses, and can still tout new growth in their district. It is just as easy to get 5,000 new acres rezoned as it is to get a few acres of urban land entitled — and a lot more profitable for the developer (the desert is not a very vocal constituency).

Future Phoenix must reverse this trend and recognize the benefits of urban density and encourage developments that help get cars off the road, support existing retail, nurture evolving neighborhoods, and understand and assess the true cost of sprawl. But first it needs a comprehensive urban plan to grow up, instead of out.

The Hidden Costs of Sprawl

While there are many fascinating studies that have explored the history and sociology of tract housing developments in America, the importance of these projects to Phoenix's future is in understanding the hidden long-term economic costs to the city. In an age of acute sustainability awareness, those hidden costs multiply to depressing proportions and must be better understood even as we continue to repeat them.

In the typical square mile of Maryvale, there are 1,860 single-family homes. These are detached from one another. Each has its own front and back yard along with a little strip of land on the side where you can put the lawn mower and trash cans.

Connecting those 1,860 homes is:

- 95,000 linear feet of streets and sidewalks, which is 3.8 million square feet of concrete and asphalt.
- an average of 17 feet of roadway per person.

If the meandering and arbitrarily planned street that strings all of these homes together were extruded into a straight line and laid across the City, it would stretch 18 miles — from 83rd Avenue to Scottsdale Road, or from Baseline Road to Bell Road.

To appreciate what’s really happening with such a street, we need to look at it as an ongoing conduit for service transportation and utilities which creates cost for Phoenicians every day. To see only its surface and believe the developer has already paid for the cost is to miss its greater economic impact and not how it forces a long-term commitment in energy use and service providing. This 18 miles of roadway for homeowner access is also:

- 18 miles of sewer lines
- 18 miles of water lines
- 18 miles of mail delivery
- 18 miles of police and other emergency service providers



The 18-mile street

Maryvale is not unique in the Valley. In fact, it helped establish the model for Phoenix growth. Because it made the developer a lot of money, these single-family residential patterns attracted other developers who thought John F. Long might be on to something.

The pattern was repeated throughout the Valley until it not only became a culturally acceptable model for living, it also was memorialized in our codes. Today, roughly 1,500 square miles of low-density development across Maricopa County is connected by 10,000 miles of arterials and residential streets. Pieced together into a single monolithic slab of asphalt and concrete, it would be a highway that would stretch from Phoenix to Cape Town, South Africa, complete with utilities, mail delivery, police patrol and other services.

No government can truly provide high levels of service to such a sprawled community, no matter its best intention; something has to give. In Phoenix, our penance is a transient society with few memorable neighborhoods, higher crime rates and a dangerous reliance on the automobile.

Understanding Sustainability and Growth

If we're going to accommodate this seemingly inevitable growth with fewer available resources, then we need to do it differently. This requires exploring planning and design models that are more interdependent than our current ones. Future Phoenix requires a smarter plan — one that engages more than just basic engineering functions. Modern cities are complex and layered. They are bold and dramatic where there is opportunity, but they are also nuanced and subtle to nurture fragile features and special neighborhoods. They are the product of thousands of influences, but in all cases, they are more than the sum total of streets and buildings.

If we can reasonably imagine the city we want for our future, then we can design it. And if we can create innovative and supportive zoning to guide its development, then there is no reason it can't be built using the same market forces that turned the deserts into a hundred golf courses and lakefront housing developments.

We have the talent and innovation in our community right now to start that kind of long-range plan: to build a better city, a more sustainable city, a better connected and more refined community, and one that people want to move to because it is healthier, happier and richer in culture — not because it is cheaper.

A leading concern that accompanies growth is the burden of permanent climate change and dwindling natural resources. To residents of Maricopa County, climate change means the snow packs to the north will no longer be our wintertime reservoirs and we won't have water when and where we need it. The escalating cost of fossil fuels to power our car-dominated transportation systems will mean working-class families will be less able to get and keep certain jobs. And real estate values will flatten and depress in outlying regions as the cost of staying connected to the rest of the city becomes disproportionately burdensome.

The efficiency of our cities' designs trumps all other conservation measures that individual consumers can contribute voluntarily. For example, 83% of Manhattan residents either walk or ride to work, not because they are dedicated environmentalists, but because that's how their city is organized. It's the easiest choice for them to make. Manhattanites, as a group,

use gasoline at a rate unmatched since the 1920s, when the Model T was the only car in use. Only 10% of what the rest of us use.

If a car gets 25 mpg, but is driven only half as much as its counterpart, then it's using only half the fuel. It is effectively getting 50 mpg by comparison. And if it is only driven half the distance and only half the time, than its comparative rate increases to 100 mpg. It is inconsequential whether a car is a gas guzzler, a hybrid or electric, if in the end we can take it off the road entirely by the way we design our city.

Single-family homes are a building type with even more opportunities for waste. Setting aside land use, utilities, plumbing, sewer and other components that support the average occupancy of 2.75 people per house, the cost to heat and cool a structure with so many exposed surfaces is inherently inefficient. In multifamily residential, it is possible to have walls, the ceiling and even the floor adjacent to temperatures that are the same as the one we want inside our own homes, rather than the 40-degree differential we insulate against in both the summer and the winter.

Sustainability issues are our greatest planning challenge, but we can also use our solutions to that challenge to incubate our greatest new economic stimulus. Given its growing mainstream appeal, sustainability programming can help focus attention on a variety of smarter planning concepts that until now have been pushed down. Assuming we make the right decisions and implement better policies as we grow, we can be a State that assumes national leadership in sustainability planning simply because we have unparalleled opportunity to plan and build better.

Because of our growth, we are in a position to create incentives for new development to be less dependent on overtaxed resources, and at the same time induce the development of (embarrassingly) untapped resources like solar power. Obviously, one of the leverages we have is to "*just say no*" to new development unless it meets certain thresholds, and it is in those new rules that we can invent and demonstrate a better way. Future Phoenix can attract new Green Industry only when it becomes a model green community itself.

Population Density and Public Transportation

In efficient cities, the way people get around is widely varied. Successful communities use all modes. In the hierarchy of good alternatives, it starts with walking, but also includes rail transit, buses and private automobiles.

Great cities have richly diverse districts that can be accessed best on foot. These places entice us to get around under our own power primarily because walking is the easiest mode. Walking changes an area's pulse and energy, and encourages more uses.

Metro transit, which includes subways, light rail, and other systems, is a good complement to walking. But therein lies the problem in that it requires density of population: Quality transit modes have always been linked to population density. Future Phoenix must consider density and mass transit together.

And then there is the car.

Early on, Phoenix and Maricopa County, like many other post-WWII communities, embraced the car as their primary transportation system. It required very little strategic planning beyond the roadways and had a low first cost to government. Ongoing costs, however, are another matter — in dollars and cents to individual budgets, in death and injury, in the devaluation of neighborhood culture and in environmental degradation. The automobile is the most expensive transportation system ever invented.

We are all familiar with the operating costs of car ownership because most of us have one. To live in Phoenix today means there is little option to automobile ownership. We also don't need to go too deeply here into the adverse environmental consequences of cars because those too are understood. But the car's impact on safety and prosperity and its long-term suppression of quality city-building is something that doesn't get enough attention and needs to be better understood if our city is to progress.



You are looking at the fourth deadliest intersection in the United States. This one happens to be at 7th Street and Bell Road. If it seems familiar, that's because this is a standard design for Phoenix. There is another just like it at 19th Avenue and Northern, which ranks No. 7 on the deadliest list. Of the hundreds of thousands of intersections in the country, Phoenix has two in the top 10. More unsettling is that these are on different streets, which suggest that it isn't one faulty roadway design but an inherently dangerous series of premises in how we have organized our city.

The core disconnect is:

1. That a city can segregate its residential, retail and office uses to such a degree that it has forced its citizens to drive everywhere. This includes the most mundane of errands.
2. That when density is as low as it is in Maricopa County, all driving distances are exaggerated, which keeps us in the car longer.

3. That once we have accepted this segregated-use concept, and relied solely on the car for transportation, one-mile arterials are sufficient to satisfy the demand, even when there are other available streets not used regularly

Nationally, 44 percent of all reported crashes and 23 percent of fatalities occur at intersections. In Maricopa County, however, 42 percent of all reported crashes and **42 percent** of fatalities occur at intersections. Our intersections are nearly twice as deadly as the national average, which further suggests we have an inherent problem with the core concept.

Relying so heavily on the automobile in Maricopa County has had debilitating effects on the community. This fact isn't discussed much when the debate over a new suburban development begins. What comes up in those cases is usually congestion. But in a report presented by two MAG researchers to the 83rd annual meeting of the Transportation Research Board we learn some of the costs of our car-based system's safety.

Between 1990 and 2001, Maricopa County experienced the following due to automobile use:

Total crashes:	841,412
Total injuries:	533,972
Total deaths:	4,676
Economic loss due to vehicular crashes:	\$16.3 billion

Even if a car cost nothing to purchase, if it ran on water and its emission pure oxygen, and if it were bio-degradable at the end of its useful life, there would still be staggering impacts on us due to its place as our primary transportation mode.

\$16.3 billion isn't the 11-year cost of automobile ownership; it is the *catastrophic loss* caused by automobiles operating on the streets of Maricopa County. The 4,676 deaths over a 11-year period is the equivalent of a fully loaded plane crashing here every 4 months for the next 11 years. This is a highly improbable only because airline safety has a much higher standard of performance. Such losses would be unacceptable - people would stop flying into Phoenix, and the federal government would close Sky Harbor until the problem was fixed.

But no such standard exists for the car once it is let loose on the streets. We have a high tolerance for death, injury and economic loss when it comes to automobiles. We have allowed it to become part of our normal lives because its adverse consequences happen to our community one incident at a time and slowly enough for our psyches to adapt to the losses.

Better systems do exist but they need to be integrated into all the components of our urban planning, not just in transportation design. Future Phoenix must be designed to get more cars off the road naturally, by creating a city that allows for more commutes to occur on foot, or by mass transit, and other driving tasks to occur over shorter distances and at more leisurely paces. We can do that by building a city where cars are not indispensable, where

there are far more choices, including walking environments, and by building out meaningful secondary arterials on top of the gridded right-of-way we already have in place.

Great Cities have Great Streets

There are probably very few regions in the nation that have built more street-miles than has Maricopa County over the last 50 years. Given the proliferation of streets here, one would think we have it down to a science, with every feature and benefit calculated to provide us maximum return on our investment.

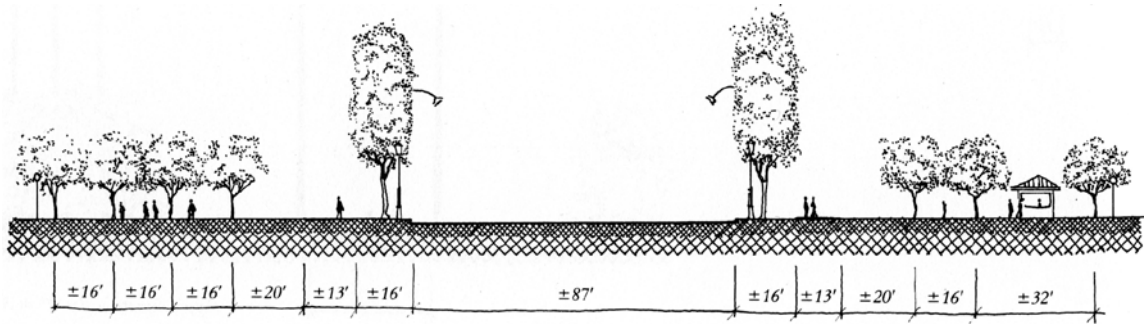
There is much more that a street can do for us beyond its primary use as a utility easement and a path for cars. Regrettably, we have embraced only the engineering aspects of it — the utilities, the asphalt and concrete, the signalization and now the unmanned strobe-flashing enforcers that send us tickets in the mail. For us, the street is a piece of the city's car-enabling machinery and little else.

By contrast, the world's great cities see streets more holistically. In those cities, streets are places for strolling, for chance encounters, for sidewalk dining and for people watching. They are robust metaphors, and the best ones become iconic elements of their city's cultural diversity.

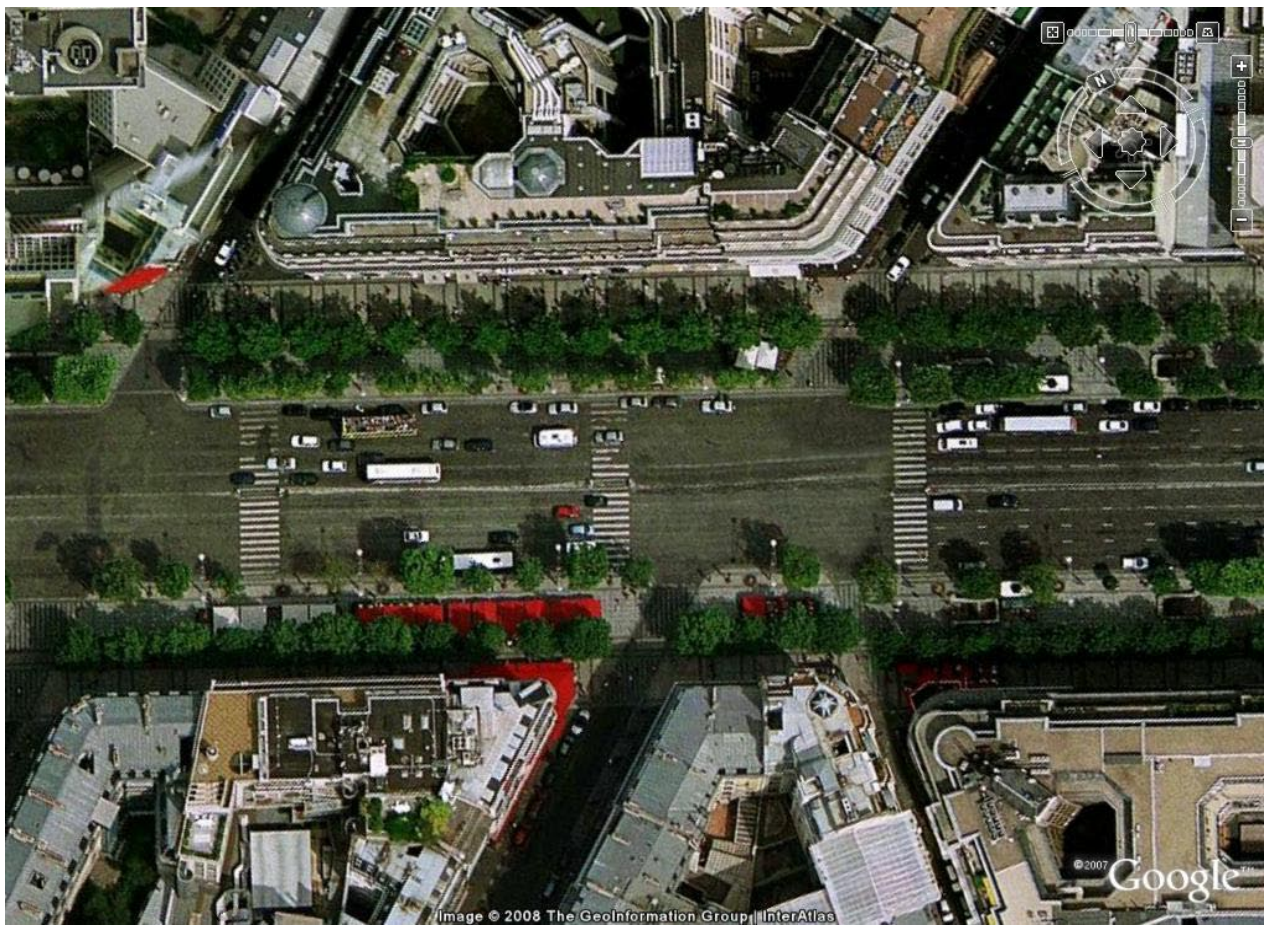
Consider the streets of Manhattan. Broadway was just a street when it was first built, but it became an important armature for a district. Now "Broadway" has transcended street status and has come to mean live theater in the rest of the world. Madison Avenue is a street that has come to mean advertising; Wall Street means finance and investment. Nothing really happens on Houston Street to set it apart, but South of Houston means SoHo, a concept so synonymous with boutique districts that other cities come up with their own variations just to have a little of the SoHo brand rub off — LoDo, NoHo, SoDo. So we have to ask ourselves why the streets of Phoenix remain just names of roads.

One of the most famous streets in the world is Avenue des Champs-Élysées in Paris. By anyone's account, this is a serious street with a lot of muscle and sex appeal. It is the conduit for the many cars that drive through and around some of Paris' most important monuments. It is a street that victorious armies have marched down, and where Tour de France riders end their competition.

Along with the extraordinary sense of history and cultural served by this street, it also has extraordinary economic value to Paris. Commercial rents along Champs-Élysées can go for \$1,500/square foot. Paris has taken what is simply a high-end, mixed-use shopping center and extruded that along the street. By layering on all the possible aspects connected to the street — utility, history, commerce and even romance — Paris has gotten extraordinary value out of an engineering project that is no more complex than any of our own major arterials.



Cross-section of Avenue des Champs-Élysées



Champs-Élysées at the intersection of Rue du Colisée.

The roadway of Champs-Élysées is 87 feet wide curb to curb, but it has exceptionally wide tree-lined pedestrian ways, from 60 to 70 feet wide on both sides in the shopping area shown above. The intersecting street Rue du Colisée, also shown above, is only about 34 feet curb to curb but still manages a lane in each direction and parallel parking on both sides

One of the reasons Champs-Élysées is so successful is the integration of grand pedestrian ways into the public right-of-way. Shoppers and couples strolling do so along the most important street in the largest city in France, and they know it. They feed on that excitement rather than avoid it. The City of Paris invested in the infrastructure, and businesses are willing to pay spectacular premiums to be part of the district. It is a partnership that helped build a great city and continues its appeal to tourism. Unlike Phoenix, we don't go to Paris for the weather - we go for the city that good planning built.



By contrast Camelback Road in Phoenix is a much larger arterial. The aerial above, at the Biltmore Fashion Center and the Esplanade frontage shows a roadway of up to 127 feet wide — 40 feet wider than Champs-Élysées. Within this section of Camelback Road we could fit both Champs-Élysées and Rue du Colisée side by side. Camelback Road's sidewalks are as narrow as possible while still allowing a place to walk. On the Biltmore side they are a mere 6 feet wide. The natural inclination to walk between the two shopping areas was initially thwarted with a fence. When that proved ineffective, a tunnel was built under the street. While Paris embraces what people want to do naturally to spectacular self-benefit, Phoenix planners engineer those impulses out and force us to relate to the City in only limited ways.

Even though we like to think of this area as having some of the greatest real estate prosperity in the area, the fact that the owner of the Biltmore Fashion Center can turn over such vast areas to free surface parking starkly demonstrates how repressed real estate values really are in Phoenix compared with other comparably sized cities. If Biltmore Fashion Center were in fact on the Champs-Élysées instead of Camelback Road, there would be no surface parking next to the street as the area required to park a single car would be worth \$300,000 in annual retail rents. The entire Camelback-fronting parking lot would have

an annual return as retail space of \$360 million — and that is considering only one level. Of course, more people would arrive by metro, and fewer cars would be on the street.

Phoenix is not Paris, but somewhere between \$0/year and \$360 million/year is the real value of Camelback Road street-front retail if there is a bold enough vision to properly develop it. Given the economic upsides, there should be enormous incentive between private developments and the City to work together, to front the street and expose the retail businesses to traffic — pedestrians, cars and metro transit, rather than burying them in malls and moving them through underground tunnels. Doing so in the future would allow Camelback Road to evolve into one of our signature urban streets and show the way to develop thousands of acres of street-front property now being used to park cars elsewhere in the City. To combine the energy of both private-sector development and public-realm improvements is essential for great cities. It is no less for us.

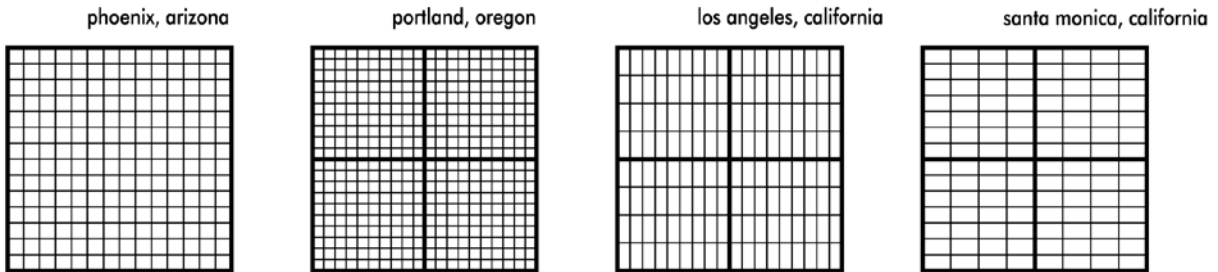
Adding 1 Million People to Phoenix

In 1950, the population density of Phoenix was 6,247 people per square mile. No one considered the Phoenix of the 1950s an urban place yet if that same density occurred today, our population would be 3.2 million instead of our current 1.5 million. Today, our boundary is 515 square miles and we have a density of about 3,000 persons per square mile, a very low number when compared with other cities in the U.S.

Consider the possibility of one million more people. That would bring the population to 2.5 million, and assuming our boundaries remained the same, a density of 4,950 which would still rank Phoenix only 32nd in density rankings — just below San Jose but just above Cincinnati and Portland. Just as in 1950, we have more than enough space to accommodate these new people; the question is where and how to implement population growth in a way that provides more benefits than it depletes in assets.

There are several areas that can and should increase their densities dramatically. One is downtown Phoenix, which has a density of about 300 residents per square mile (if one doesn't count the jail population). We can also increase the mix of uses along some of our major arterials such as Central Avenue, Camelback Road, Indian School Road, etc. There are also many infill opportunities; Phoenix has a significant number of surface parking lots, aging retail strip centers and malls, and undeveloped lots.

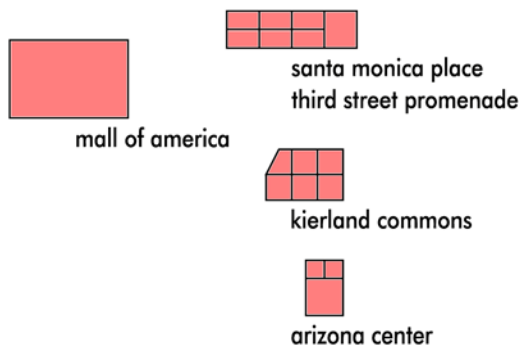
Finally, there is the undeveloped half-mile grid of the City, its hidden "bandwidth" of opportunity that falls on the half-mile between such streets as Camelback-Indian School roads, Indian School-Thomas roads, etc. Developing these streets would produce several benefits including the introduction of neglected neighborhood retail, the redistribution of traffic off of the 1-mile streets, and densification of a residential core that will allow alternate transit modes to develop over time.



Typical one-mile downtown grids of selected cities

Above are typical downtown grids from four western cities. These communities were organized after the introduction of the automobile so all had similar economic development goals and transportation models in mind at the outset.

Phoenix is unusual in that it has placed so much emphasis on its one-mile street and has somewhat neglected the commercial value of its half-mile “in-between” streets. Campbell, between Camelback and Indian School, is one example of this kind of street. Re-examining the efficiency of these half-mile streets to mid-range mixed-use densities would allow Phoenix and other communities to increase population without creating new rights-of-way.



To the left are four noteworthy retail developments drawn at the same scale as the grid diagrams. These projects enjoy varying degrees of commercial success, and all are quite different in the way they relate to their individual city planning goals and land utilization.

What they all have in common is that each of the developers or consortiums that created them wanted to create the best retail model they could that would generate the highest return to their investors. So why are they different?

The most successful of these, *Kierland Commons* and *Santa Monica’s Third Street Promenade*, are actually mixed-use and include office and residential uses along with their core retail. These two also are based around the concept that cars and people can pass through them and not just around them, which further benefits the mixed-use aspect. Unlike Kierland, Santa Monica’s Third Street Promenade is an authentic place in that it is incorporated into that city’s existing grid. No new land and very few new buildings were required to make the Third Street Promenade happen.

According to retail consultant Rob York, who has served as Santa Monica’s principle retail economic consultant on the Third Street Promenade since its early days, rents in 1988 were as low as \$15 / sq. ft. and occupancy was only about 70% even at that rate. Today, rents are as high as \$288 / sq. ft. and occupancies 100%. Current taxable sales figures, which do not count exempted sales, totals over \$300 million - more than 10 times what they were in 1988. Just these three blocks of retail, in what was a very run down part of the City, now

returns \$3 million in taxes. More importantly, the district produces a halo effect that has spilled over many blocks in all directions. The Promenade's success has affected the success of many new urban infill projects in the area. Its ultimate economic benefits have been transformational to Santa Monica.

The most important lesson to the Third Street Promenade however is in its co-operative structure. Unlike Kierland Commons, which is owned by one entity, Santa Monica's Third Street is owned by the City of Santa Monica, and the private retail is owned by over 100 individual property owners. The City did what a City can do in the public realm, and the individual property owners followed their own self-interest, which has made them all much better off than when they were landlords to pawn shop tenants. Today, some of those landlord's make more from one month's lease income than they paid in total acquisition costs for their property at the outset. That would be an improbably outcome had there not been a long term plan for mutual success. If Phoenix is going to take advantage of its existing infrastructure, remove cars from the road, improve the quality of neighborhoods by improving use-mix, and create better real estate values that are not continually diminished by outlying competition, we should look first at our existing undeveloped assets.



Above is an aerial of Phoenix that shows the major one-mile arterials of Camelback Road on the north, Indian School Road on the south, 24th Street on the west, and 44th Street on the east. These are highlighted in yellow and represent prime commercial corridors. Streets highlighted in red represent a hidden bandwidth, a half-mile grid opportunity for new mixed-use higher-density development.

Currently, these streets are lined with low-density single-family homes whose values range from the mid-\$300s to the mid-\$500s. These neighborhoods already deal with through-traffic from congested major arterials but receive no benefit from it. From a development perspective, if these selected properties were acquired along the red zones only, and repurposed as street-level retail with four levels of housing on top, and positioned so their massing was focused on the street and not the adjacent homes, then density in the area

could be doubled with very little intervention to the majority of the single-family homes already there.

East Campbell, the east-west red line in the center of the illustration above, is part of a typology of street that aligns along the underutilized half-mile grid. At one point in the 1950s, Camelback and Campbell were two-lane streets serving an erratic collection of older residences, farms and ranches until homebuilders started buying the land. Camelback Road gradually evolved, almost exclusively to commercial use, while half-mile streets like Campbell remained residential. Simultaneously, retail mall development began as a concept, which preempted these streets from growing a retail culture. Eventually, the nearby use-segregated malls suspended any evolution of the neighborhood as a robust mixed-use and diverse community.

Density can be introduced into older neighborhoods on a broad scale and in a way that would prove beneficial. This includes increasing neighborhood retail, providing better transportation options and removing cars from the street, while increasing residential property values in the process. But it will not happen unless it is by design - a concerted city policy that recognizes but one puzzle piece that fits logically with others.

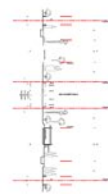
THE CAMPBELL CASE STUDY: Creating Balanced Neighborhoods

The neighborhoods in the older sections of Phoenix follow roughly the same low-density pattern as Maryvale. Some took advantage of the existing street grid, while others created their own road networks. None, however, include any integrated retail. Retail in Phoenix typically occurs at corners and is someone else's concern. Rarely does it relate to the local housing.

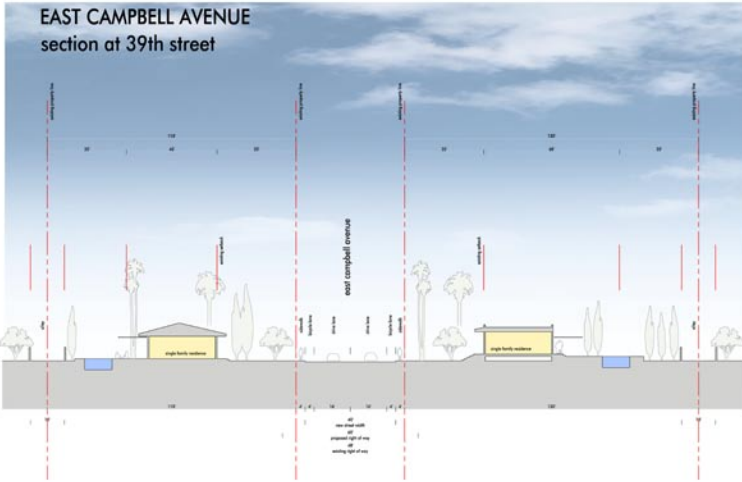
Existing densities in these areas are typical single-family homes, ranging in size from 1,850 to 2,100 square feet, with the occasional apartment structure interspersed. Below is the existing pattern of housing along Campbell Avenue and 39th Place.

EAST CAMPBELL AVENUE
section at 39th street

existing



existing plan of East Campbell Avenue



existing profile of East Campbell Avenue



New Block Organization

To the left is the existing grid at Camelback and Indian School Roads — one square mile, bisected by half-mile streets for through-circulation, further bisected by residential streets that form 96 sub-blocks, which are bisected by individual lots of single-family homes. For purposes of this analysis, assume the following:

- Lot size:** 70'x120' = 8400 sf per residence
- Buildable area:** 3700 sf
- Block organization:** 22 residential units per block
- Quarter mile organization:** 24 blocks per half mile
- Property per sq. mile** 17,749,800 sf
- Area per square mile** 27,878,400 sf
- City right-of-way per sq. mile:** 10,137,600 sf
- Residential units per sq. mile:** 2,112
- Density per square mile:** 5,808 (2.75 / residence)



Typical Street profile - East Campbell Avenue



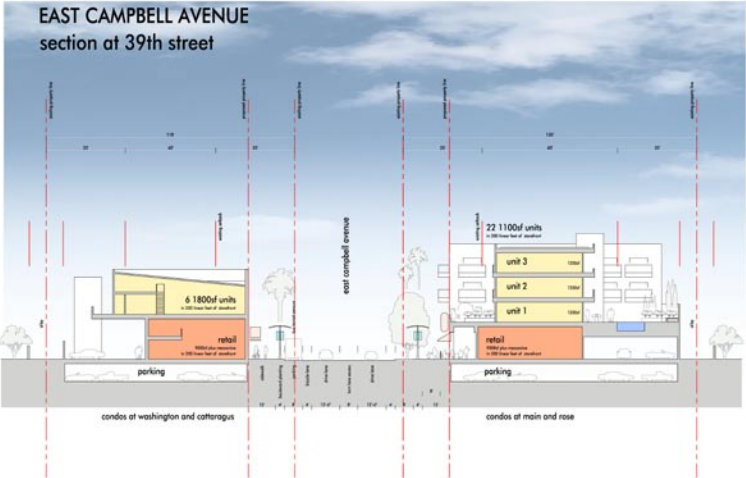
La Grande Orange – 40th St. / Campbell

By contrast, the following examples demonstrate how older neighborhoods can achieve better balance in density and use by repurposing the underutilized half-mile streets. In this case, Campbell becomes the community's Main Street and a place for local retail and business to concentrate. It would also provide a sensible route for a smaller, rubber-wheeled transit system to complement the longer-haul bus and light rail systems. Ultimately, it creates a better transitional area between the higher-density developments along Camelback Road and the single-story homes; creates stronger and more robust values for the existing homes; and utilizes the area's existing structures.

EAST CAMPBELL AVENUE
 section at 39th street alternative

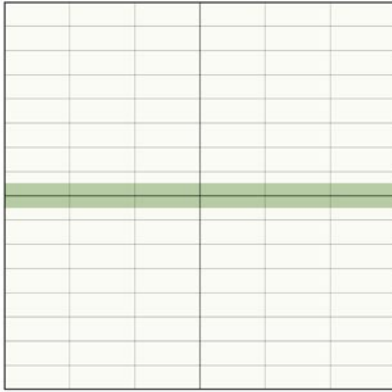


proposed new plan of East Campbell Avenue



proposed new profile of East Campbell Avenue

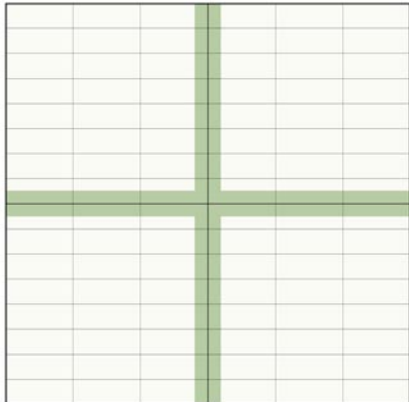
New Block Organization



To the left is the same square mile with the half-mile street developed into higher-density, street-fronting local retail and higher-density residential. In this example, 12 of the 96 sub-blocks have been dedicated to new street-front retail and residential development. This is the kind of development that welcomes foot, vehicle and low-volume transit traffic.

This organization still preserves 84 of the original 96 blocks as single-family homes. The new configuration creates an entirely different profile:

New mixed-use res. units per block:	216
New mixed-use res. units per mile:	1296
Existing single-family units remaining:	1980
Existing density remaining / sq. mile (2.75/residence)	5,454
Total – new density/sq. mile	8,299
Potential new retail per mile:	197, 280 s.f.



Finally, the same square mile with the half-mile street developed into higher-density along the north and south axis.

New mixed-use res. units per block:	216
New mixed-use res. units per mile:	2,592
Existing single-family units remaining:	1,848
Existing density remaining / sq. mile (2.75/residence)	5,082
Density of new units / sq. mile (2.25/residence)	5,832
New density per square mile	10,914
Potential new retail per mile:	394,560 s.f.

The Future of Phoenix Retail

By now, even those the most die-hard mall enthusiasts have realized there are better ways to spend a weekend than wandering through the windowless, refrigerated walkways of an enclosed shopping mall eating fast food on plastic tables with the chairs attached. More and more shoppers are trading in their cloned department store experience and food courts for specialty boutiques and open-air cafes, even if they have to deal with a little heat in the process.

Sometime following our exuberant 1960s rush from downtown into the suburbs, we began sensing a loss of “place”. Everything became the same, and none of those things seemed all that real. The truth of that began to influence our private developments. Projects like Kierland Commons, though not fully integrating into the real fabric of our city, are demonstrating ways to have this sense of place and do so without resorting to the energy-wasting retail hangars we accepted as shopping experiences in the ‘70s and ‘80s.

Kierland and similar projects represent a trend: the return of Main Street shopping. Unfortunately, the real Main Street disappeared a few decades ago when it was abandoned by retailers for suburban malls. Retailers are now forced to build their own Disney version of it, as the city has concerned itself with designing streets only for cars. Today, retailers and cities are at least a generation removed from working together to build streets that work in tandem with retail. They have lost the art of designing the street as a special place.

But the pendulum is beginning to swing back. Cities across the country are pockmarked with dying local malls that leave adjacent neighborhoods lifeless and the remaining nearby retail struggling against the vortex of their sinking fortunes. PricewaterhouseCoopers (PWC) and the Congress for the New Urbanism describe dying malls as “greyfields” — malls where annual sales per square foot have dropped to less than \$150, or one-third the rate of sales at a successful mall.

In a 2000 study, PWC found that 140 existing regional malls in the country were already greyfields, while another 250 were headed in that direction, and Web sites, such as deadmalls.com, have been created to track their plight. With the average greyfield spanning about 45 acres, these old mall sites represent thousands of acres of land that can be repurposed as better-integrated mixed-use projects

Neighborhood-Based Retail

There is a strong desire in all communities for quality local retail — businesses with faces, as opposed to franchises. “Localness” is at the heart of sustainability strategy. Beyond efficiency, these kinds of merchant districts help unite communities in ways that isolated, monolithic, single-use residential districts cannot. Missing from nearly all areas of Phoenix is cultural development, interconnected communities and robust local businesses organized

into meaningful critical masses. These quality communities do not form automatically; rather, they need to be cultivated in environments where they draw support from synergies of well-designed transportation, higher-density retail and pedestrian-friendly environments.

Whether deciding to walk in Manhattan, to drive in Phoenix, or to build single-family homes in the desert, we all take the path of least resistance. Retail developers are no exception. For them, it is simply easier to lease space to national chains without considering other consequences. It is how the system is set up. Retailers want to fill space quickly; brokers want to close deals quickly, and the national chains are organized to find space adjacent to familiar uses. Because they are not part of the local community, these adjacent uses are other national chains.

The end result of that cycle is that all cities in America eventually look exactly the same, not surprisingly because each has followed the same formula. Local retailers who are looking for just one special location are often shut out of this process because of the system's speed and efficiency. It is an endless loop that perpetuates itself and sustains all the worst qualities.

With the national chain and mall economy dominating retail in Phoenix and the surrounding cities, it is difficult for local business to find an appropriate identity. According to a recent study performed by Austin's Civic Economics, "Procurement Matters: The Economic Impact of Local Suppliers" (Phoenix, 2008), local suppliers generate nearly three times the economic activity than their national chain competitors, which is measurable in four distinct areas:

1. Labor costs, which directly inject money into the local economy through payments of wages and benefits to local residents.
2. Profits, which remain in the community in proportion to local ownership.
3. Procurement of local goods and services for resale and operations.
4. Charitable giving, when local firms contribute a greater share of revenue to local causes.

Other studies have demonstrated that for every \$100 consumers spend at a locally owned restaurant or retail outlet, \$42 remains in their state's economy. For \$100 spent in a national chain, only \$13 remains in their state's economy. Local business owners use local CPAs, local attorneys, local craftsmen and local sign makers. Their management hierarchy — not just the unskilled workforce — lives locally, and they become embedded in the local community through various charitable activities. When was the last time you saw a picture of the local Little League team on the wall of Home Depot?

La Grande Orange (LGO) and Postino Winecafe, at 40th Street and Campbell, represent a best-in-class local business development, and the neighborhood in which they're located represents a good case study for Future Phoenix.

To get to LGO today, most people drive. Its popularity causes parking to fill quickly, then valet services take over. LGO is the perfect example of a business that belongs exactly

where it is, but needs a better designed, and more supportive, neighborhood with adjacent uses: a more active street scene served by transit, a better connected local residency and a collective parking strategy. Developments like Postino Winecafe and LGO have challenged the status quo and, without the support of a big vision plan from the city, struck out on their own for integration back into neighborhoods.

Future Phoenix: 10 Things We Need to Do

Ultimately, it is a futile task to design and build one-off, LEED-certified buildings using our brightest architects and engineers, our most advanced concepts and our best 2008 technology in a community based on 1958 sprawl concepts. Creating an efficient city of convenient systems, local retail, walkable neighborhoods, greater overall densities and more synergistic uses will affect the behavior and energy-use patterns of millions of people who otherwise would never consider themselves conservationists.

The best sustainability policies do not rely on the good behavior of a few, but provide efficient choices and systems as a matter of course. No matter what the mpg of any car might be, it is still better if it is never built, driven or disposed of as waste in our landfills.

Given our growing population, underutilized infrastructure, natural resource limitations and our desire for overall prosperity, the time is right to reassess our regional development process going forward. Below are 10 strategies we should consider that promote responsible growth within our city's existing borders, increase the value of our existing infrastructure and real estate and better serve our urban sustainability goals:

1. **Assemble data we can use** to make decisions. We need to understand what we've already created for ourselves, what works and what doesn't. For example, we are fourth in population, but 146th in density. Why? We rank extremely high in roadway length per person, although we use only half of it with any degree of efficiency. That suggests there are opportunities to increase our population in urbanized areas of the city without additional infrastructure and make the city safer in the process. We need to quantify the cost of sprawl and the benefits of improving the economic performance of existing investments. What do other comparisons tell us?
2. **Create a new development model for Future Phoenix** that focuses on adding 1 million people inside the city limits with associated retail, office, and urban services to support that growth.
3. **Identify long-range redevelopment projects** that create catalytic change. For example, create a more dynamic and integrated Camelback Corridor. It is possible to develop one of the country's most desirable retail corridors and, in the process, redevelop an emblematic street, engage transit and reintroduce pedestrian experiences.
4. **Design sustainable neighborhood plans** that introduce local retail, main streets and identifiable cores into existing and well-established single-use neighborhoods.

5. **Repurpose local malls** and recapture thousands of acres now serving only one use. Look to projects like Kierland Commons for encouragement, but create real streets in real neighborhoods that will induce people to leave their cars at home.
6. **Eliminate arbitrary height limits in Downtown Phoenix** and other designated urban cores. Phoenix has the smallest population in its downtown than any city in the world that's comparable in size, yet it has the existing infrastructure to support a population of 30,000. Rather than developers needing to justify height, the city should make it a *requirement* for developers to justify low densities. Lower densities in areas like downtown cost the community. Once these blocks are covered with underperforming structures, they will be lost opportunities for generations to come.
7. **Stop wasteful sprawl development.** Given the better options available, there is no offsetting benefit to the region to see more unchecked sprawl development based on the current model of single-family homes and the big "feature" amenity — whether that is a lake, the world's tallest fountain, a golf course or any other artificial device intended to create buyer interest but which in reality has negative long-term value. Sprawl development inhibits the possibility to create an efficient urbanized center, alternative transportation or other regional benefits for the existing residents of the Valley as long as the marketplace is continually flooded with housing product on the fringes. These developments drain our resources and force us to add services like police and fire, health care, schools, roads. We have already made substantial investments in these services and infrastructure, and it is now time to leverage that investment rather than dilute it further.
8. **Require new development to have a minimum level of sustainable features.** No one would seriously question certain regulations put on today's new construction, like sprinkler systems for fire safety, indoor plumbing, a minimum of outdoor air introduced periodically, and yet there was a time these were seen as government intrusions. These regulations have improved the quality of life and made it safer and healthier. Before granting new building permits in the future, we need to require more sustainable features before we burden our community's infrastructure further. Under this system, those projects developed on already-existing street systems and near transit corridors would automatically be favored, as they should be.
9. **Support a more urban-minded, sustainability-minded city government.** Local government needs to adapt by leading in areas that only can be accomplished in the public realm. Great cities are built by public agenda, not private ones. We have essentially made it illegal to be innovative by creating a two-dimensional city of single-purpose zoning, prohibiting mixed uses like the ability to work where one lives. Our zoning forces people into their automobiles.
10. **Educate.** Too many misconceptions exist about density, height, transit and housing preferences, making change a source of contention rather than widespread benefit. We all want to live in a safe, efficient, affordable and vibrant community, yet we have allowed ourselves to fall short of these goals in too many ways. A sound policy will need to be adopted and promoted with clarity, fairness and vigilance.