

**THE ECONOMIC EFFECTS OF ARIZONA'S  
PROPOSED CITIZEN'S GROWTH MANAGEMENT  
INITIATIVE**

**By Peter Gordon and Harry W. Richardson  
With the Assistance of Donghwan An and Tom O'Brien**

**School of Policy, Planning and Development  
University of Southern California  
Los Angeles, CA 90089-0626**

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**The views expressed in this report are solely those of the authors.**

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## **Executive Summary**

Arizona is among the most rapidly growing states in the nation. Through a combination of indigenous population growth and steady in-migration (as Americans continue to move into the Sunbelt), Arizona has added 1.15 million citizens since 1990. Arizona's many advantages have made it one of the fast-growing western and mountain states (i.e. Washington, Oregon, Idaho, Utah, Nevada, Colorado and Arizona). Not surprisingly, rapid growth has prompted a vigorous debate on how best to accommodate the changes occurring in many Arizona communities. In the last two years, the Arizona Legislature has passed two statewide growth management acts. At the same time, discussion at the local level has produced a host of local planning and land use ordinances. Most of the discussion has sought to balance the competing priorities of growth control, economic opportunity and sensible planning. The CGMI is a departure from this more measured dialogue on growth. Our analysis shows that the CGMI would impose significant costs on Arizona citizens while yielding few if any of the benefits its proponents advertise.

### **Summary of the CGMI**

The Citizens' Growth Management Initiative, to appear on the November 2000 Arizona ballot, requires each municipality and county in the State with a minimum population of 2,500 persons to adopt a 10-year growth management plan.

The initiative has the following six primary requirements.

- Establish Urban Growth Areas (boundaries) outside which new developments and services are to be limited. The designated growth areas cannot include territory outside the zoning jurisdiction. Within the growth management area, the municipality or County is prohibited from rezoning land to permit an increase in density or intensity of development unless a specific exception is obtained. The governmental entity is also precluded from extending public services to areas outside the growth management boundary unless a specific exception is granted. Exceptions are granted by a 4/5 vote of members of the governing body or by voters if the project is greater than 20 acres.

- Require additional impact fees sufficient to pay the full cost of an expanded range of public facilities required by development located outside “infill incentive areas.” Infill incentive areas may be no larger than 10 percent of the total urban growth area.
- Require plans and policies to be consistent with “steady progress toward meeting state and federal [air and water quality] standards and that continued compliance ... is maintained once met.”
- Demand that new development not place unreasonable burdens on ground and surface water supplies.
- Establish policies that, “protect environmental quality, neighborhoods, scenic vistas, natural open space, mountain and other public preserves, historic areas, and archaeological sites and provide for affordable housing.”
- Promote multi-modal forms of transportation, including public transit, and consider impacts of transportation-related development on urban growth.

The “growth boundaries” required for all counties and municipalities over 2,500 in population are often compared to the boundary surrounding Portland, Oregon. However, our view is that the policies envisioned by CGMI are significantly different, and much tougher, than those required by Oregon's statewide growth management law. Factors that have mitigated the significant economic and housing price effects of the Oregon boundary are either not available in Arizona or are not provided for by the CGMI. Detailed comparisons are included in Appendix B2 of this report.

## **Methodology**

The primary purpose of this report is to model some of the potential impacts of the passage of CGMI. Because its passage would represent a major break

with past historical trends, it is not possible to forecast what *will* happen with any degree of certainty. Instead, the analysis proceeds on a “*what if*” basis; that is, we identify a set of plausible scenarios, and then use the model to measure relatively precisely what the economic impacts will be if these scenarios take place.

The model estimates these impacts for ten years. However, we note that the urban growth areas that are required elements of the growth management plans for each community, by CGMI terms, can be “no larger than necessary to accommodate clearly demonstrated needs for urban population growth for the ten-year period, consistent with Department of Economic Security (DES) projections”. Thus it is possible that one or more communities will elect to establish urban growth areas that are smaller than the maximum size. In addition, although the final date for adoption of the plans by local governments is January 1, 2003, the consequences of failing to adopt a plan are such that a number of communities may go about the process sooner rather than later.

To be safe, we present ten-year forecasts beginning in 2001 as well as 2003; hence, we have developed ten-year impact estimates for both 2010 and 2012. However, because the plans must also be approved by public vote at a regularly scheduled general election following adoption by local governments, which will require some time, we consider a 2003 full starting date more likely. It should be recalled that it took 13 years for all of the cities and counties of Oregon to adopt and comply with its 1973 growth management law.

The key to our methodology is to develop a baseline employment projection out to 2012 and then to measure the impact of scenarios as *deviations from the baseline*. The analysis explores two alternative “moratorium” scenarios for 2001 and 2002 during the period prior to full implementation and then examines three complementary (and additive) scenarios out to 2012. A summary of all of the scenarios and outcomes appears in the following box.

## Summary of Scenarios and Outcomes

| SHORT TERM OUTCOMES                                  |   | LONG TERM OUTCOMES  |   |  |
|--|---|---|---|--|
| 2001-2002 MORATORIA                                  |   | 2001-2010/2003-2012   |   |  |
| <u>“Best Case”</u>                                   | <u>“Most Likely”</u>                                      | <u>A</u>  | <u>B</u>  | <u>C</u>   |
| <b>SCENARIO</b>                                      |   |   |   |  |
| 60% of the normal construction in yr.1; 40% in yr. 2 | 50% of the normal construction in yr.1; Shutdown in yr. 2 | 15% reduction in state’s projected employment growth rates (approximates experience in OR and WA) | Reduction of consumer spending on all commodities in response to higher housing costs   | Shift in composition of new housing from single family to multi-family units, approximating OR/WA shift.   |
| <b>OUTCOME</b>                                       |   |   |   |  |
| Employment loss of 156,115 person-years              | Employment loss of 234,696 person-years                   | Employment loss of 1,256,156 person-years over 12 year period (2001-12)                           | 60% increase in real housing costs over 10 year period (8%/year initially then diminishing to 3% annually); Employment loss of 266,119 person-years over 12-year period | Reduction in new single family housing share from 81% to 67% (in contrast to national trends); Increased “leapfrogging” in search of affordable single-family homes; employment loss of 1,499 person-years over 12-year period |

Whereas the best outcome for the two-year moratorium period is 156,000 person-years of jobs lost, the most likely result is almost 235,000 person-

years of employment lost. Corresponding output losses are \$7.1 billion to \$10.6 billion of lost production. These losses are spread over all major occupations and industries.

Beyond the moratorium, the first of the longer-term scenarios (Scenario A) simulates a reduction in Arizona's projected employment growth so that it more closely approximates the recent job growth of Oregon and Washington, both of which are in the peer group of western/mountain states but both of which also have stringent statewide growth controls, including urban growth boundaries.

This is a conservative approach for a number of reasons: Oregon's growth management act is significantly less severe in its application than CGMI; among other things, Oregon's legislation does not include the enhanced standard of care for public bodies, the private right of action for litigants, the extensive public voting requirements, or mandatory "full cost" impact fees (including for schools and mass transit). Oregon's legislation also delegated to a regional body the responsibility of determining the amount of land needed to accommodate new development and the other required elements for a 20-year period, in contrast to CGMI's use of 10-year DES population projections, which have historically understated actual population growth, to determine growth boundaries.

In Scenario A, we reduce Arizona's projected employment growth *rate* by 15 percent. In the 1990s, Washington and Oregon experienced annual average job growth rates in the range 2.8-3.0 percent, compared to the Arizona average of 3.4 percent. All three states belong to the set of seven relatively robust Western (coastal-mountain) state economies. The job losses start small (14,000 or 0.46 percent of employment), but rise rapidly to 209,800 (or 5.19 percent of employment) by 2012; this increase is explained by the fact that cutbacks in annual *growth rates* have a cumulative effect. When we wish to express these job losses in terms of accumulated person-years of reduced employment, they add up to *1,265,000 over the years 2001-2012*.

Whereas the moratorium scenarios and Scenario A affect overall growth, Scenarios B and C specifically impact the housing market. Scenario B involves a reduction of consumers' spending on all commodities in response to higher housing costs. Housing costs are projected to rise 60 percent faster

per decade than in the past, approximating the difference between Arizona's and Oregon's experience (arguably, measuring the price impact of growth controls). The largest increases occur in the first two years (starting at 8 percent per year) and then diminish finally to three percent per year. Our argument for the later years is that even in a growth-management-constrained environment, supply will attempt to respond to the higher prices. Having to spend this much more on housing (without any additional physical consumption of housing), consumers will be forced to reduce spending on all other commodities by an equivalent amount.

Of course, the increased spending on housing goes somewhere (e.g. higher profits for developers, windfall gains for landowners and house sellers, some of whom move out of state or "trade up"), but little of this is converted into consumer expenditures, so many sectors of the economy experience a significant cutback in demand. The impact of Scenario B is quite strong (overall, about one-fifth of the impact of Scenario A), but it is relatively evenly spread over the period, with annual job losses in the 18,000 to 29,000 range, with a cumulative person-years job loss of *266,000 for the period 2001-2012*.

The third Scenario (C) involves a shift in the *composition* of new dwelling units from single-family homes (81 percent per year for 1990-98) to more multiple units, with the SFH share falling to 67 percent by 2012, approximating the Oregon and Washington experience in the 1990s (65-68 percent). Not only is the national trend in the other direction, with the SFH share rising from 61 percent of new residential units in the 1980s to 77 percent in the 1990s, but Arizona leads the way, with the SFH share rising from 54 percent to its current 81 percent. CGMI's argument is that the higher densities and the developable land constraints resulting from growth controls will reverse this trend. Because the composition shift is phased over the full period, and because the labor savings are modest, Scenario C does not mean very much in terms of job losses, only *a cumulative person-years decline of 1,500*.

Yet despite this modest economic impact, we believe that the effects of Scenario C could be among the most serious. A major consequence is interference with household preferences; if given a choice, survey data have repeatedly shown relatively few people prefer to live in apartments, condominiums or townhouses. A study of Portland's urban growth

boundary, conducted by researchers at Portland State University reached the same conclusion: growth boundary planning takes no account of consumers' preferences.

The way we have dealt with Scenario C also reflects the conservative character of our analysis. We have not taken account of feedback effects resulting from a smaller share of single family homes and higher home prices on in-migration into the State, not only in general but also the selective in-migration of highly skilled talent. Thus, we accepted the DES baseline population forecasts, even though these could be affected by the direct and indirect effects of growth controls.

As stated earlier, the economic impacts of all scenarios are additive, so that we can sum up the effects of Scenarios ML (“Most Likely”), A, B and C. The employment impacts fluctuate between 2.2 percent of total employment (2003) and 7.2 percent (in 2002), with *cumulative person-years of job loss over the period 2001-2012 of 1,767,000* (Figure 1 and Table 3 of the report). The corresponding cumulative output losses for the same period are \$120 billion (or an average of \$10 billion per annum; Table 4 of the report). These are huge economic costs.

Yet these findings are conservative in another respect. Most of the information used in this study reflects accumulated growth control experiences that have taken place against the background of the longest peacetime prosperity in U.S. history. This should be kept in mind when interpreting our results; they represent likely impacts in the event of continued prosperity. The effects could be much more severe if, or when, the economy moves into more recessionary times.

## **Housing Composition**

Although the housing composition scenario has minimal economic impacts, it is important because it drastically interferes with household residential preferences, and could have a deadening effect on the attraction of Arizona for both households and new economic activities (of course, this is precisely what some growth management advocates desire). The preference for

single-family detached homes is strong throughout the U.S. and especially in Arizona and likely to remain so.

These powerful preferences help to explain why urban growth boundaries and greenbelts typically lead to a “leapfrogging” of development. People sacrifice accessibility to find an affordable single family home; our research has not modeled the impact in terms of higher commuting costs, but their imputed dollar value would be considerable. If Arizona households are forced to make a choice between living in accessible multiple dwellings or inaccessible single-family homes, many of them will experience a significant deterioration in the quality of their lives, the direct opposite of that predicted by CGMI advocates.

## **Social Impacts**

Most of the *moratorium* losses are in construction (Table 6 of the report). Not surprisingly, more than one-half of the job losses are in this sector. Yet other sectors also suffer, especially services and retail trade (the corresponding output losses are shown in Appendix Tables A2). Over the long run, the construction industry escapes relatively mildly, compared with the huge losses in services and retail trade (the cumulative 12-year total for construction is 263,000 person-years compared with 716,000 for services and 340,000 for retail trade; Table 7 of the report; also, see Appendix Table A3 for the associated output losses). This result is very significant for those who mistakenly believe that developers are the only group that suffers from growth controls. Service workers, often among the lowest paid members of society, will be the primary losers from CGMI. These results suggest that CGMI is a regressive and inequitable initiative that will hurt lower-income workers the most. At the same time as their employment opportunities are diminishing, their housing costs will escalate.

We also calculate these results in a slightly different way, by occupational status; only 11 percent of the job losses are in the high-status (executive, administrative and managerial) groups (Table 8).

## **Fiscal Impacts**

The input-output model also calculates proportionate losses in tax revenues accruing to local, state and federal budgets as a result of employment and output reductions associated with the CGMI (Table 11 of the report). These losses vary in the 3-6 percent range from year to year, but the average loss for the 2001-2012 period is 4 percent for all levels of government. Many programs and agencies (including schools, public safety, and highways) would need to seek out new revenue sources to make up these CGMI-induced shortfalls. To this should be added the extra fiscal burdens that local and state governments are likely to incur when unemployment rises.

## **Infrastructure**

Turning to some issues beyond the model results, the first is whether higher residential densities are associated with lower infrastructure costs. This is the hope of CGMI backers. Yet, it is not clear that there is such a link. High densities may be very costly. The most careful study (by Prof. Helen Ladd) found that infrastructure costs are *lowest* in the 250-1250 persons per square mile range; the ten fastest growing cities in the United States in the 1990s are of this type. Also, cost-benefit analysis of alternative densities should pay some attention to the benefits of suburban life, such as satisfying residential preferences, the principle of consumer sovereignty, access to good schools, relative safety from crime, access to countryside and recreational amenities, and a high degree of mobility, and many other benefits. Furthermore, the infrastructure cost issue becomes increasingly irrelevant as local jurisdictions continue to add development impact fees towards their full costs (which would be mandated in CGMI).

## **Transportation**

There is a widespread belief among its advocates that passage of CGMI would improve traffic in Phoenix by increasing densities and stimulating public transit. However, the available evidence suggests that the opposite is true. In fact, average commuting speeds for the U.S. continue to go *up* because more commuting is suburb-to-suburb, rather than into central cities, on generally less congested roads. Indeed, the Nationwide Personal Transportation Survey (NPTS) reveals that average commuting times fell

from 22.0 minutes in 1969 to 20.7 minutes in 1995, notwithstanding increases in vehicle miles traveled. This is explained by the fact that *jobs follow the labor force into the suburbs, with both firms and households escaping the congested streets of the central city*. Research reveals that a doubling of densities would only reduce per capita automobile use by 10 percent, so that with twice as many people in a neighborhood or city, both congestion and air pollution would increase.

The most important transportation implication is that land markets allow adjustments that mitigate traffic problems, *if they are allowed to be flexible*. Given flexible land markets, “gridlock” is forever impending. The key point is that, by limiting land market flexibility, CGMI will undermine these favorable land use adjustments, limit the options available to transportation planners, and become *a source of traffic problems rather than its solution*.

In March 2000, city voters approved Proposition 2000. This increased the sales tax charged in the city from 7.1 percent to 7.5 percent. The new tax revenue will fund an expansion of existing bus and dial-a-ride service in the city and permit the start of electric light-rail in metropolitan Phoenix. However, investing in mass-transit as a traffic solution has proven illusory and a very poor bargain. Transit worktrips are 3.5 percent of both person-trips and person-miles (Figure 21, U.S. Department of Transportation, 1997). Yet public transit has received more than 15 percent of all public expenditures on transportation between 1977 and 1995. Moreover, per capita transit use in almost all of the nation’s largest metro areas actually *fell* by double-digit rates in the period 1980-97.

## **Air Quality**

In spite of population growth, economic development and even faster VMT growth, air quality in most U.S. cities has been improving. Internal combustion technology is constantly improving and as older autos are retired, there are noticeable benefits. Hybrid vehicles (gasoline-electric) are now on the market, and versions of the Nissan Sentra and Honda Accord have been designated as SULEVs (Super Ultra Low Emission Vehicles) in California; the technological solutions are at hand, and it is merely a question of how fast the auto fleet can change over (and what incentives

might be introduced to accelerate the transition). The EPA's latest report on 92 metropolitan areas show that between 1988 and 1997, 87 of these experienced air quality improvements (as measured in the number of days with Pollutant Standard Index readings above 100). Despite the complaints about worsening air in Phoenix, it is listed as one of the 87 areas that have become better off; there were 43 PSI>100 days in 1988 but only 15 in 1997 (US EPA, 1999).

## **Conclusions**

Tough measures like CGMI are never costless and frequently have unintended consequences as changes ripple through the economic and regulatory environment. But does CGMI offer any benefits against which to balance these costs? We have enumerated the plausible economic costs of CGMI so that Arizonans can now ask themselves whether the benefits being promoted by its advocates are worth the cost – setting aside for the moment whether those promises are likely to occur.

Our conclusion is that CGMI will impose high economic and social costs while offering few benefits. The experience of other states and the available research suggest that the assumptions underlying CGMI's approach on transportation, housing, infrastructure costs, and air quality are flawed. Indeed, many of these growth-related issues would be made more problematic if CGMI becomes law.

Unquestionably, there are people who simply “feel better” if the pace of change were somehow slowed down, expecting that they will somehow experience enhanced “livability”. Published polls from the greater Phoenix region repeatedly show high levels of concern over growth issues, particularly traffic and air quality, although awareness of new policies in place is quite low.

It is no small irony that, in general, Arizona performs comparatively well when measured against other regions. It has modern management, the quality of education is good, and unemployment is very low. Its cost of living is high by national standards, but not in comparison to its Western peer cities. Although its per capita income is low by Western city standards, its economic and social situation is quite strong.

However, the passage of CGMI would severely threaten employment and per capita income, and undermine the adequate financing of education (via its revenue losses). Finally, there is no reason to believe that traffic conditions or air pollution would improve. They may actually worsen under CGMI. All things considered, these are risks that an informed citizenry would be unlikely to take.

## **I. Introduction**

Americans have been moving to the Sunbelt for many years. Arizona offers many attractions and has been a particularly popular destination. The state belongs to the group of fast-growing western and mountain states that includes Washington, Oregon, Idaho, Utah, Nevada, Colorado and Arizona. The state's 1990-98 population growth was 27.4 percent. Phoenix routinely places at or near the top in rankings such as one magazine's recent "50 Hottest Cities" list where it scored # 1 (ahead of Atlanta, Charlotte, etc. *Expansion Management*, January, 2000). Not surprisingly, discussions on how best to accommodate growth and change are now occurring in many Arizona communities. The purpose of most of these discussions is to assure that any proposed changes in the "rules of the game" offer significant net benefits. The Citizens' Growth Management Initiative (CGMI) is one change that will appear on the November 2000 Statewide ballot. We find that i) the costs of CGMI are likely to be high; and ii) presumed "livability" benefits such as less congestion, less air pollution and reduced infrastructure costs are very unlikely.

In the sections that follow, we describe some of the context which frames the debate, the nature of CGMI, our methodological approach and our findings on the specific economic and social costs that CGMI is likely to impose.

No one can know the future but it is possible to carefully apply a "what-if" approach; if certain likely CGMI-induced events occur, then what are the most likely economic consequences? We apply an economic impact model of the Arizona economy to answer such questions in some detail.

## **II. The Planning Context in Arizona**

CGMI is one response to the rapid growth of Arizona in general, and also of the Phoenix and Tucson metropolitan areas in particular. Maricopa County, which includes Phoenix, has seen its population increase by almost 600,000 since 1990; greater Phoenix is now the 14th largest metropolitan region in the U.S. CGMI is also part of a trend that embodies a common response to growth, e.g. voter-initiated growth control, much of it at the local level. Yet, Arizona voters are already exercising local control through the

incorporation of new cities. Local control is presently being accomplished through citizen participation requirements and the opportunity to vote on general and comprehensive plans, as provided for in state land use legislation supplemented this past spring by Growing Smarter Plus (see the discussion below).

The CGMI is a voter-controlled initiative, but in mandating growth control measures via statewide initiative, it contradicts the growing trend toward more localized responses to rapid development. No doubt some communities would adopt measures similar to those found in the initiative; but an interesting question is how voters will ultimately view laws that limit local control and flexibility and impose the kind of structure exhibited by the Initiative.

### **III. Background to the CGMI**

#### **a. CGMI and its History**

The Sierra Club's CGMI will appear on the November 2000 Arizona ballot. If it passes, it will mandate the "adoption of legally binding growth management plans...to provide local voters with direct control over adoption and amendment of these plans, to effectively manage development, and to limit urban sprawl..." It requires each municipality and county in the State (with a minimum population of 2,500 persons) to adopt by both ordinance and voter approval a 10-year growth management plan. Plans must be adopted by January 1, 2003. Municipalities with a population of less than 2,500 may still adopt a plan by action of the local governing body or voter initiative. In unincorporated areas, voters from each supervisorial district touching all or part of a growth area must approve the proposed plan. This is in addition to approval by voters countywide.

#### Requirements of the Citizens' Growth Management Initiative

The initiative has six primary requirements. Each community is required to adopt, not later than 1/1/2003, a growth management plan. All management plans must:

- Establish Urban Growth Areas (boundaries) outside which new developments and services are to be limited. The designated growth areas cannot include territory outside the zoning jurisdiction. Within the growth management area, the municipality or County is prohibited from rezoning land to permit an increase in density or intensity of development unless a specific exception is obtained. The governmental entity is also precluded from extending public services to areas outside the growth management boundary unless a specific exception is granted. Exceptions are granted by a 4/5 vote of members of the governing body or by voters if the project is greater than 20 acres.
- Require additional impact fees sufficient to pay the full cost of an expanded range of public facilities required by development located outside “infill incentive areas”. Infill incentive areas may be no larger than 10 percent of the total urban growth area.
- Require plans and policies that are consistent with “steady progress toward meeting state and federal [air and water quality] standards and that continued compliance ... is maintained once met”.
- Demand that new development not place unreasonable burdens on ground and surface water supplies.
- Establish policies that, “protect environmental quality, neighborhoods, scenic vistas, natural open space, mountain and other public preserves, historic areas, and archaeological sites and provide for affordable housing”.
- Promote multi-modal forms of transportation, including public transit, and consider impacts of transportation-related development on urban growth.

The CGMI also imposes interim growth restrictions: any subdivision [plat] must be approved by a 4/5 vote until the earliest of 1/1/2003 or adoption of the growth management plan. A detailed comparison (Appendices B1 and B2) shows that CGMI is much tougher than Oregon's statewide growth management.

## Relationship to Arizona Planning Law, the Growing Smarter Act and the Preserve Arizona Initiative

CGMI was launched by a group of environmentalists led by the Sierra Club and David Baron of the Arizona Center for Law in the Public Interest in Tucson. The Initiative, if passed, will have to be reconciled with Arizona's General Planning law and the State's Growing Smarter Act. The latter was developed by Governor Jane Hull in anticipation of the CGMI and signed into law in August of 1998.

Growing Smarter established a 15-member commission charged with studying growth and reporting to the Governor with recommendations. The Act also initiated a ballot proposition (Proposition 303, the Preserve Arizona Initiative) which was approved in November of 1998. The initiative set aside \$20 million per year in State funds for 11 years to purchase open space from the state Land Department for purposes of conservation. In her January 2000 State of the State Address, Gov. Hull reported that 80,000 acres are in the "preservation pipeline". The set-aside funds are to be matched by private or municipal resources.

Growing Smarter also prohibited state-mandated air and water-quality controls as part of local growth management plans, street and highway environmental impact studies, and voter approval of all growth management plans. It also required a two-thirds vote of municipal governing bodies to amend long-term municipal plans. Like CGMI, Growing Smarter required that these municipalities have detailed plans completed by December 31, 2001.

The debate over both the Growing Smarter Act and Preserve Arizona identified the rifts in the environmental community throughout the State. More narrowly focused groups were tempted by the prospect of available funds for the purchase and preservation of state land and supported both efforts. Environmentalists with a broader agenda expected Growing Smarter to contribute to an atmosphere of state-supported anti-growth management, setting the stage for increased use of the courts to fight controls on development. Their prime example was a lawsuit filed by developers against the City of Sedona over a ballot measure limiting building permits within the municipality. That growth control measure eventually failed in

court. In fact, it is CGMI that will likely result in increased lawsuits, as we discuss in Section V.a.

Certainly, lawmakers appear receptive to the idea of growth controls, although not to the extent required by the CGMI. A legislature that in 1997 refused to consider a bill authorizing \$1 million for the acquisition of “at risk” lands from the Arizona Land Department has since then supported a \$20 million set-aside for similar purposes.

Between 1990 and 1995, the number of acres dedicated to open space in Maricopa County increased from 1,787, 388 to 1,813,375, although the per capita open space decreased (as did all per capita land uses). The total acreage devoted to residential and commercial uses also increased. Only area dedicated to agricultural uses decreased. (Morrison, p. 49)

The Arizona legislature has also sought to strengthen Growing Smarter through Growing Smarter Plus, both a legislative action and proposed voter initiative passed in February 2000. Growing Smarter Plus contains many of the provisions which appear in the CGMI. However, it stops far short of requiring growth management boundaries. Instead, it allows lands currently held under state trust to be set aside as reserves if they have significant cultural, historical, paleontological, or natural resources and geologic features. This is accomplished through an exchange of land between state trusts and other public bodies.

Growing Smarter Plus addresses the issue of service area limits and development impact fees contained in CGMI, but as enabling legislation. It allows municipalities and counties to include boundaries beyond which they limit or condition publicly financed extensions of water, sewer and street improvements. It is more specific with regard to annexations. Growing Smarter Plus requires a governing body to approve a plan to outfit newly acquired territory with public services and infrastructure within 10 years of the annexation. Like CGMI, Growing Smarter Plus provides infill incentives; but it also contains strong language pertaining to takings and even requires courts to award fees to landowners in certain cases where there is no consent to designate private land as a conservation area (see the tables in Appendix B).

Growing Smarter Plus has two components. The first is Senate Concurrent

Resolution 1001 (both houses of the State Legislature passed the Senate version). The resolution contains amendments to the State Constitution required to enact the legislation. The amendments will be put before the voters in November 2000. They allow for the creation of an Arizona Conservation Reserve and designate a preliminary list of 70,000 acres to be set aside for this purpose.

The Arizona Land Department controls 9.4 million acres of state land in trust, approximately 500,000 acres of which are classified as urban lands. Some of these are to the north and northwest of Phoenix where development pressures are great. These 9.4 million acres are approximately 13 percent of all of the land in Arizona. The federal government owns 42 percent, nearly 18 percent is held privately and another 27 percent is classified as Indian land. In FY 1999, the Arizona State Land Department had a budget of over \$14 million.

The 1981 Urban Lands Management Act permitted the Land Department to plan, zone and merchandise its lands near major metropolitan centers, in conjunction with local government. Trust lands cannot be mortgaged however and their sale or long-term lease is determined via public auction to the highest bidder. All lands are appraised at fair market value.

There are 14 beneficiaries of State Trust land revenues. They include schools and universities (like the University of Arizona), state hospitals, military institutes and state buildings. Public schools are the beneficiaries with the largest Trust land acreage (8.4 million acres) and they receive revenues derived from County bonds. Funds for beneficiaries are derived in one of two ways. Revenue from the subsidized sale of land or royalties from natural products of the land is deposited into a permanent fund and invested by the State Treasurer in interest-bearing securities. This money is not immediately expendable. Expendable funds on the other hand come from trust land leases and permits, interest from sales contracts and interest earned on permanent fund investments. This money is directly available to beneficiaries for their operations.

The Land Department has enjoyed healthy increases in revenue since the late 1970s, largely because of commercial development tied to urban growth in the State. Between 1978 and 1999, permanent fund revenues increased by 446 percent while expendable fund revenues experienced an increase of 554

percent (Arizona State Land Department, p. 6). As of June 1998, there was more than \$932,000,000 in the Permanent Fund. The lion's share, \$855,000,000, belonged to the public schools, K-12. The State expects total permanent funds to exceed one billion dollars in the year 2000. Expendable funds have grown to more than \$85 million in FY 1999. 80 percent accrue to the public schools.

In 1996, the permanent trust fund generated \$48 million for public education. The lease of its properties for commercial operations brought in another \$15 million for a total of \$63 million. In 1997, this amount increased to \$68 million and to \$76.76 million by FY 1999. Funds could be increased even further if another proposition (Prop. 102) is passed. It permits the Land Department to invest in high-yielding stocks and securities.

The Growing Smarter Plus amendments modify procedures for the management of state trust lands. In part, they allow for the disposition of lands without public auction and authorize the donation of state trust land for conservation. This is to be done in conjunction with trust land planned for development if the donation results in a higher net value to the trust lands to be developed. Furthermore, SCR 1001 permits the donation of public school state trust land to school districts, without compensation or auction, to be used principally as sites for K-12 instruction. In contrast, CGMI authorizes school impact fees as a funding mechanism.

S.B. 1001 is the second component of Growing Smarter Plus. This legislative action, signed into law on February 21, 2000, becomes effective in May 2000 regardless of the fate of SCR 1001 in November. The law provisions establish the general criteria used to nominate land for the Arizona Conservation Reserve (ACR). These include areas threatened by development within 20 years. The legislation also limits the amount of land that can be transferred into the ACR to 3 percent of each beneficiary's trust and requires a 2/3 vote of each house of the legislature or voter approval for transfer of lands to the reserve.

Growing Smarter Plus also makes changes to the comprehensive planning process within Arizona. These changes are opposed by supporters of CGMI. The new legislation removes the requirement that municipalities

with a population between 2,500 and 10,000 persons and that are growing at less than 2 percent a year over a 10-year period include growth related elements in General Plans. It also increases the population threshold from 100,000 to 125,000 over which counties are required to include certain elements (land use density, air quality and transportation) in the General Plan.

The current version of the CGMI addresses any potential conflict between it and the General Plan laws and/or the Growing Smarter Acts by allowing the CGMI to supersede the General Plan. This is not an insignificant point. The Growth Management Initiative requires that 100 percent of Growing Smarter funds be used to acquire natural open space and allows their use to purchase private lands that qualify as natural areas. Growing Smarter Plus does neither.

CGMI also requires that conceptual urban state land trust plans conform to the relevant Growth Management Plan in effect and give priority to natural open space uses on trust lands. These conceptual plans identify appropriate land uses, transportation corridors, infrastructure requirements, etc. for urban state lands.

CGMI repeals existing planning and development statutes containing procedural and substantive requirements for government regulation. These include fees. The Growth Management Initiative replaces them with less restrictive local authority powers.

Arizona has considerable open space outside its cities. It is open space within cities that is the most scarce. Yet the Portland experience shows that forcing “infill” development is usually at the expense of open space that people in fact use, such as parks, golf courses and other important *urban* open spaces (O'Toole, 1999).

#### **IV. Growth Management in other States**

The most ambitious statewide growth management is currently being practiced in Oregon. What have been the consequences for its citizens? The Portland area’s cost of living (as measured by the Cost of Living Index published in the 1999 *Statistical Abstract of the U.S.*, Table 779) is among

the highest in the U.S. For example, the price level indices for consumer goods and services purchased by sampled middle-income households were 99.3 for Tucson and 101.6 for Phoenix while the corresponding number for Portland was 110.3. The same index places Phoenix housing at 96.9 and Portland's at 125.4, almost a 30 percent difference. The median Arizona home sold for \$127,800 in the first quarter of 2000, upping that by 30 percent would price it at \$165,400; likewise, the median new home sold in Arizona would have cost \$246,600 instead of \$190,600.

Portland ranks 168 out of 192 metropolitan areas nationwide in terms of housing affordability (i.e. the percentage of median-income households that could afford to buy the median-priced house). It had been among the most affordable cities (in the top 25) as late as 1992. Portland's 1990-1998 house price increases were the highest in the U.S., at 115.2 percent (report by First American Real Estate Solutions). To meet expected housing demand, Metro's Affordable Housing Technical Advisory Committee reports that 21 cities and 3 counties in the Portland metropolitan area will have to add 7,500 affordable units per year over the next five years.

A related concern is that Oregon's economic development has lagged in recent years. Job growth has been among the slowest of the group of seven coastal-mountain states. On the other hand, Arizona's private sector job growth has been about 75 percent greater than Oregon's over the last twenty years.

Even without CGMI, house prices have increased in Arizona at a substantial rate. With the initiative, the increase is likely to be much faster. The median price of new and resale homes rose in Greater Phoenix between 1996 and 1997, 4.1 percent for the former and 8.2 percent for the latter, and Phoenix slipped from 110 to 123 on a list of housing affordability in the 193 US regions. The Arizona Housing Commission in its State of Housing in Arizona (2000) concludes that, "the large growth of new single-family construction has occurred mainly in the high-income household category. Simultaneously, the number of Arizona households able to afford a mortgage for the average single-family home has sharply decreased" (p. 4).

Meanwhile, the rate of increase in residential rents has slowed down in Phoenix. After rising 9 percent between 1994 and 1995, rents rose only 5 percent in 1997 (Morrison, pp. 20-21).

## **V. Scenarios**

### **a. CGMI as the basis for construction moratorium scenarios**

Whereas the impacts of full-blown statewide growth control can, more or less, be anticipated by studying the economic performance of growth-control states such as Oregon and Washington, it is very difficult to judge what will occur during the two “moratorium” years between possible voter adoption and full implementation. If the voters of Arizona adopt CGMI in November of 2000, it will have to take full effect no later than 2003. What will happen in 2001 and 2002?

There is considerable uncertainty about what might happen during the initial period following adoption of CGMI for several reasons. CGMI says that local governments and public officials “shall not act in a manner that violates or is contrary to ... this act [and] shall not fail to act in a manner that is required by ... this act” (11-1607). CGMI also provides that “any person ... may file a civil action ... alleging violation of this act by any person and seeking injunctive relief and other appropriate relief” (11-1608). This has led to fears of paralysis in the decisions of local officials concerned about the risks of early litigation.

What if a “person” demanded that communities discontinue issuing building permits in order to bring their actual populations into line with their DES projected population as soon as possible? Department of Economic Security projections are benchmarked under CGMI. What if a lawsuit were filed against the community and its public officials and employees, alleging that, in order to be in a position to adopt a plan that it is not “contrary” to CGMI, the community must cease issuing building permits now? There are similar questions about the environmental and other requirements for the plans that are unique to CGMI; i.e., no one knows if there is actually a “grace period” with respect to these elements. Moreover, it is difficult to gauge the effect of the interim requirements such as the requirement that every subdivision [plat] and rezoning be approved by a 4/5 vote pending adoption of a plan. Because the only “safe harbor” under CGMI is land use rights that have been “vested” before the effective date of the Initiative (a potentially narrow exception under Arizona law), there could well be some

immediate and significant impacts. Given these uncertainties, choosing a single scenario is difficult. We have tried to cope with the uncertainty problem by modeling two scenarios. These include: i. a “best” case where 60 percent of normal construction takes place in year 1 but only 40 percent takes place in year 2; and ii. a “worst” case where only one-half of normal construction takes place in year 1; in year 2, however, builders are presumed to wait and see, not exercising the rest of their vested rights, and a complete (new construction) shut-down occurs.

While arguments can be made for the likelihood of various alternatives, we suggest that the “worst” case is, in fact, the “most likely”. We have been influenced in this judgment by the advice of several legal experts. There are several reasons for this conclusion:

- The private right of action lacks any procedural safeguards (such as those found in, for example, citizens suit provisions in federal and state environmental laws or the appeals body, made up of administrative law judges, set up in Oregon) -- the “any person” provision can only be interpreted as an invitation to “lawsuit abuse”; it virtually guarantees to “any person” the right to paralyze communities, their officials and proposed new development;
- The heightened standard of care for communities and public officials is also unique to this initiative with its “whipsaw” of prohibiting acting in a manner contrary to the initiative while at the same time prohibiting failing to act in a manner required by the initiative. This element, too, can be interpreted as an invitation for “lawsuit abuse” against individual officials and county/municipal employees. It is intended to frighten these individuals into paralysis insofar as processing new development approvals is concerned. It is difficult to discover a corollary for this provision anywhere under environmental laws, which require criminal activity before individuals can be held liable for violations.
- CGMI’s “safe harbor” provisions allow vested land use rights as of the *effective date* of the Initiative and not the date of adoption by individual cities and counties, nor the date by which all jurisdictions are required to adopt growth management plans. This limits the number of potential projects in the “pipeline” and their ability to seek legal redress as vested

properties. If the Initiative passes, the result will be fewer new developments from the date of the referendum.

- CGMI sidesteps established public agencies and sets up entirely new standards of compliance for growth management plans mediated by the courts. As a result, those who object to local management plans will be encouraged to seek changes through lawsuits and not via the local governing body which approved the plan. The potential for increased civil litigation will be a *disincentive* to new development.
- According to CGMI, growth management boundaries can be “no larger than necessary to accommodate clearly demonstrated needs for urban population growth for the ten-year period, consistent with DES projections”. Many of Arizona’s fast-growing communities have already exhausted their growth capacity based on DES figures, and thus it is possible that one or more communities will elect to establish urban growth areas that are smaller than the maximum size. The alternative is to discontinue issuing building permits until actual population figures are in line with DES projections. Both limit growth from the outset.

#### **b. Modeling longer-run scenarios**

All of the scenarios studied involve plausible CGMI-induced shifts from assumed “baseline” growth for Arizona; insights into possible scenarios have been gleaned from the analysis of experiences in the Northwestern growth control States. Baseline growth is based on the population projections of the Arizona Department of Economic Security (Table A1). We extrapolated Arizona’s recent trend employee-population ratio and applied it to the population forecasts to develop baseline total employment forecasts. Likewise the recent growth trends in employment by major sector (1-digit SIC level) were also extrapolated with numbers adjusted to be consistent with each year’s projected overall total employment.

Our economic impact model for Arizona is a 515-sector statewide input-output model, originally developed by the Regional Science Research institute under the leadership of the late Dr. Benjamin Stevens but now the property of the Center for Urban Policy Research at Rutgers University. It was purchased from the Center. Input-output models have been widely used

to study detailed income and employment impacts. This is an exercise that involves the use of disaggregated data on interindustry shipments in order to determine a large number of impact multipliers. In standard applications, policy-induced changes in purchases by *final users* (households, government, exports) are used to prompt a chain of impacts throughout all the sectors of the local economy. The model traces and aggregates all of these effects. It is important to note that even when final users cut back their demands, substantial production and shipments to intermediate users (other industries) may still occur.

In model terms, the sectoral baseline employment forecasts through 2012 had to be linked to the final demand vectors that would have given rise to the projections. In other words, the model was used to convert baseline employment forecasts to a series of annual final demand baseline forecasts. These were then perturbed according to the various scenarios tested to generate most of the results described in this report.

As already suggested, cities can adopt CGMI as early as January 2001 and as late as December 2003. There is no way to know at this point what most of them will do. In the discussion that follows, we add the sum of the three long-run (10-year) scenarios to the intermediate scenario for the two early (“moratorium”) years.

For the longer term (which could be 2001-2010 or 2003-2012, depending on local area CGMI adoption) three plausible scenarios were studied. The first (scenario A) simulates a reduction in Arizona’s projected employment growth so that it more closely approximates the recent job growth of Oregon and Washington, both of which have statewide growth controls. We take a conservative approach and reduce Arizona’s projected employment growth rate by 15 percent. In the 1990s, Washington and Oregon experienced annual average job growth rates in the range 2.8-3.0 percent, compared to Arizona’s average of 3.4 percent. All three states belong to the set of seven robust state economies mentioned at the beginning. While the job growth reductions appear quite small on an annual basis, their impacts are cumulative.

The second scenario (B) involves a reduction of consumer spending on all commodities in response to higher housing costs. Downs (1994) summarized a large body of literature that documents the effects that various

growth management programs have had on housing prices. He noted that, “[a] 10 percent increase in the U.S. median price for existing homes in late 1991 would have made it impossible for about 4 percent of U.S. households to buy a median-price home” (p. 36).

In Scenario B, real housing costs are assumed to rise by 60 percent over 10 years, approximating the difference between Arizona’s and Oregon’s experience. The largest increases occur in the first two years (starting at 8 percent per year) and then diminish finally to three percent per year; the argument is that even in a growth-management constrained environment supply will attempt to respond to the higher prices. Having to spend this much more on housing (without any additional physical consumption of housing), consumers will be forced to reduce spending on all other commodities by an equivalent amount. Of course, the increased spending on housing goes somewhere (e.g. higher profits for developers, windfall gains for landowners and house sellers), but little of this is converted into consumer expenditures, so many sectors of the economy experience a significant cutback in demand.

The third Scenario (C) involves a shift in the *composition* of new dwelling units from a predominance of single-family homes (81 percent per year for 1990-98) to 67 percent, approximating the Oregon and Washington experience of the 1990s. It should be noted that the national trend is in the other direction to more new single family units, from 61 percent of all new residential units in the 1980s to 77 percent in the 1990s. Arizona has been at the forefront of this shift, changing from 46 percent multiple units in the 1980s to 19 percent multiple units in recent years. In contrast, the two growth control states had between 32 and 35 percent of multiple units in the 1990s.

Most people accommodate to higher housing prices by consuming less space and living at higher densities. Were Arizona’s new residential construction to approximate the Oregon-Washington mix, there would be some economic consequences for the construction sector eventually spread throughout the economy. As we shall see, the economic impacts of this shift are modest. The major consequence is interference with deep-seated household preferences; if given a choice, relatively few people prefer to live in apartments, condominiums or townhomes. This is the main reason that urban growth boundaries and greenbelts typically lead to a “leapfrogging”

of development; people have demonstrated that they will make sacrifices (in terms of accessibility) to find affordable yet spacious living. This phenomenon *adds* significantly to commuting costs, creating one of the great unintended (and unwanted) consequences of urban growth boundaries.

There are two other reasons that the third scenario is important. First, CGMI advocates make much of their assertion that its adoption would enhance Arizona's quality of life. Yet the opposite is true in light of most people's aversion to multiple dwelling life (not to speak of the long commutes brought on by leapfrogging). The second point involves our effort to cope with the normal uncertainties of forecasting by remaining conservative. A switch to more apartment living and the concomitant decline in perceived quality of life could depress economic growth via its effects on the influx of skilled workers and dynamic risk-taking entrepreneurs. Long-term economic prospects hinge on an expanding talent pool. An expanding talent pool, in turn, depends on quality of life and perceived economic opportunities (Gabriel and Matthey, 1996). Yet we include no such feedbacks in our analysis. That is, we did not attempt to estimate how the DES baseline population forecasts might be affected by the prospects of a growth moratorium or by a change in the mix of new housing brought to market. While our approach is conservative, it does allow us to aggregate the three scenarios in order to compute the full CGMI impacts. The scenarios are additive not substitutes

Our findings can also be thought of as erring on the conservative side because most of the data used in this study reflect accumulated growth control experiences that have taken place against the background of the longest peacetime prosperity in U.S. history. No one has recently experienced an economic recession, growth controls or not. This should be borne in mind when interpreting our results. They represent likely impacts in the event of continued prosperity. The effects could, of course, be much more unpleasant if and when the current prosperity ends. In what follows, we focus on job losses, occasionally summing over the life of CGMI to calculate total accumulated person-year losses. Although job losses are easiest for most people to grasp, our model also calculates the equivalent output losses. Many of the tables showing output losses are given in Appendix A to this report.

## VI. Modeling Results for Various Ten-year Economic Impacts in Arizona

### Summary of Scenarios and Outcomes

| SHORT TERM OUTCOMES<br>2001-2002 MORATORIA                          |  | LONG TERM OUTCOMES<br>2001-2010/2003-2012   |   |  |
|---|--|---|---|--|
| <u>“Best Case”</u>  | <u>“Most Likely”</u>   | <u>A</u>  | <u>B</u>  | <u>C</u>   |
| <b>SCENARIO</b>   |  |   |   |  |
| 60% of the normal construction in yr.1; 40% in yr. 2                | 50% of the normal construction in yr.1; shutdown in yr. 2              | CGMI stimulates 15% reduction in state’s projected employment (approximates experience in OR and WA)                  | Reduction of consumer spending on all commodities in response to higher housing costs   | Shift in composition of new housing from single-family to multi-family units, approximating the OR/WA shift  |
| <b>OUTCOME</b>  |  |   |   |  |
| Employment loss of 156,115 person-years; output loss of \$7 billion | Employment loss of 234,696 person-years; output loss of \$17.5 billion | Employment loss of 1,256,156 person-years over 12 year period (2001-12) and loss of \$90.6 billion in economic output | 60% increase in real housing costs over 10 year period (8%/year initially then diminishing to 3% annually); employment loss of 266,119 person-years over 12-year period and \$18.6 billion in economic output | Reduction in single-family housing composition from 81% to 67% (in contrast to national trends); Increased “leapfrogging” in search of affordable single family homes; employment loss of 1,499 person-years over 12-year period; loss of \$229 million in economic output |

The boxes summarize the results of the various scenarios modeled.

**a. Jobs and output losses by sector**

CGMI employment losses during the two “moratorium” years, 2001 and 2002, are shown in Table 1. Because this is not a one-year analysis, much of our discussion uses *person-years*. A job lost for one year is something very different from a job that is lost for many years. For example, 76,560 jobs lost under the Most Likely moratorium scenario in 2001 plus 158,136 jobs lost in the same scenario in 2002 really mean that 234,696 person-years would be lost in the first two years under this scenario. This corresponds to 2.64 percent and 5.28 percent of statewide employment in the two years. Adding the effects of the three long-term scenarios (last column) boosts this loss to almost one-third of a million person-years, 4.03 percent and 7.19 percent of the state employment in 2001 and 2002, respectively. These losses would be far beyond any normal business cycle unemployment impact. As will be seen throughout, of the three long-term scenarios, the overall economic growth rate reduction has the most substantial impact.

As already mentioned, our model also calculates equivalent output losses, here reported in constant 1999 dollars. This is simply another measure of the same economic cost. Corresponding to the two-year person-year job loss, there is a loss of almost \$17.5 billion of total output (Table 2).

CGMI is envisioned to have a ten-year impact. As mentioned previously, immediate adoption throughout Arizona suggests a ten-year analysis. At the other extreme, a twelve-year analysis is necessary if adoption does not occur until two years after passage of the CGMI. Table 3 shows employment losses for both possibilities. Taking the analysis to 2010 shows that annual CGMI-induced employment losses eventually reach almost 1.321 million cumulative person-years. This grows to almost 6 percent (1.767 million cumulative person-years) if the analysis is carried to 2012. Corresponding cumulated output losses are \$88.2 billion (2010) and \$120.0 billion (2012; Table 4). These are huge economic costs. Of course, we repeat that these are “what if” scenarios. But the expected trends are robust: a significant slowing down in economic growth, a hit to consumer demand because of the pressure on housing expenditures, and a shift in the composition of the new housing stock (this has minimal economic impacts, but drastically interferes with household residential preferences, and could have a deadening effect on the attraction of Arizona for both households and new economic activities).

An important point is that the many calculations that the model executes can be summarized in terms of multiplier impacts. The final demand changes discussed in the scenario descriptions are commonly called *direct* effects. These give rise to *indirect* effects (“ripple” effects via purchases from industrial suppliers and vendors) and *induced* effects (via reduced household expenditures when less labor is used, and wage effects are cut back). All three sum to give the total effects *which are spread through all of the major economic sectors and occupations*. The total effects are the ones that we focus on throughout most of this discussion. It is useful to see, for example, (Table 5) that a 1.767 million person-year loss is the result of a direct loss of 1.205 person-years interacting with an employment multiplier of approximately 1.5. This overall multiplier is lower than corresponding factors in similar models such as IMPLAN. It is usually best to err on the conservative side. It should also be noted that state-level multipliers are typically lower than national multipliers (unless heavy industries are strongly represented) because state economies, unlike countries, are relatively open; some of the multiplier effects occur beyond the state’s boundaries.

## **b. Jobs by Industry and Occupation**

Although our model produces results for 515 industries, we simply show aggregates for the major industrial sectors here (detailed tables are available on request). As expected, most of the moratorium losses are in construction (Figure 2, Table 6). Not surprisingly, almost half of the 2001-2002 one-third million person-year losses occur in that sector. The other hard-hit sectors are services and retail trade.

The longer run analysis (Table 7) shows that while the construction sector experiences the most losses in the moratorium years, services and retail trade suffer proportionally greater employment losses in every year thereafter.

There are almost 22,000 services jobs lost in 2001, more than 88,000 lost in 2010, and more than 110,000 lost in 2012, if we go to a twelve-year analysis. These sum to 506,381 person-years lost for ten years and 716,550 person-years lost for twelve years. Retail trade loses more than 251,000 person years in ten years or more than 339,000 person-years in twelve years.

Perhaps the most interesting results are found when presenting job losses by occupation rather than by industry (Figure 3, Table 8; there are some very minor differences in the totals due to rounding errors). The pain is spread widely. By 2012, Services occupations will have lost 6.38 percent of their jobs, almost 320,000 person-years over twelve years; Marketing and Sales jobs will fall by 6.26 percent, almost 205,000 over twelve years; Professional Specialty Occupations will have lost 6.19 percent, more than 130,000 person-years over twelve years. *All* of the other sectors will eventually experience employment losses above 5 percent.

Contrary to the widely expressed view that only developers and construction workers will be hurt, most of the losses will be felt among lower income employees. Incomes per worker for Arizona's major industries are lowest among Retail Trade and Services workers (Table 9). The same point is apparent from a slightly different angle, when comparing incomes by occupations (Table 10). The housing affordability goals of CGMI, then, are not simply confounded by the house price experience in places like Oregon but are severely undermined by the job prospects of low-income workers. This is ominous against the background of recent reports on current housing affordability problems, such as the one from the State's Housing Commission, cited previously.

## **VII. Fiscal Impacts**

### **a. Modeling fiscal impact results**

Arizonans now pay about 11 percent of their income to state and local taxes. That is less than California, Washington or Oregon. Nationally, Arizona ranks 31st in percentage of income paid in taxes. (Morrison, p. 69). Recently, a majority of residents (55 percent) in greater Phoenix responded that the state and local tax burden is "about right". (Morrison p. 69) Arizonans also pay approximately \$12 billion annually in primary and secondary levies. Recipients include the State, 15 counties, 87 municipalities, 226 school districts, 10 community college districts and 1,393 special districts.

Our input-output model calculates proportionate losses in tax revenues accruing to local, state and federal coffers as a result of employment and output reductions. These are shown in Table 11. Whereas these losses vary in the 2-7 percent range in various years for various levels of government, losses for the entire period are over 4 percent for state, local and federal governments. Many programs and agencies, including schools, public safety, highways, would have to look for new revenue sources to make up these CGMI-induced shortfalls. The trouble is that if governments raise tax rates to make up for these shortfalls, they may thereby induce further economic losses. In recent years, many Arizona tax rates have been cut as revenues increased. These trends would be reversed with CGMI. The Phoenix electorate has indicated twice in the early 1990s that they oppose sales tax increases.

These problems would be exacerbated by the extra fiscal costs that would be imposed by an economic slowdown. The various state and local programs that support unemployed and destitute individuals would face pressures to expand just when the tax revenues are down.

Another unintended and undesirable effect would be enhanced pressure to develop State lands currently in trust in order to protect school districts and other beneficiaries from CGMI-induced tax revenue losses.

To date, growth has also had a favorable impact on education. Profits from the sale of state lands at the edges of urban areas are channeled to schools. In Phoenix, urban development is moving out toward the state lands on the urban fringes, making them a more valuable asset to the school districts.

**b. High residential densities do not reduce infrastructure costs**

Older and more compact urban forms are the most costly. There are substantial costs incurred building vertically, enduring crowded roads and facilities and living in small spaces. Bearing these costs made sense once upon a time when the costs of overcoming distance were much greater than now. It is the newer (and generally flatter) cities that benefit from newer infrastructure that is less costly to install and to maintain (Altshuler and Gomez-Ibanez, 1993; Rybczynski and Linneman, 1999). Of the ten largest U.S. metro areas (PMSAs in this case) in 1996, low-density Houston had the

lowest composite score on the Cost of Living Index (nationwide average equals 100; individual readings are a percent of the national average; *Statistical Abstract of the U.S.*, Table 775). It also ranked lowest in three of six CLI components, including the important housing category.

Ever since the 1974 *Costs of Sprawl* report used questionable simulations to make the case for infrastructure savings associated with high residential densities and, although the report's methods have been shown to render its findings highly dubious, the conclusions have been widely cited. The more recent studies to rehabilitate the approach have not been fully convincing. The Sierra Club advises that sprawl is "low-density, car-dependent development beyond the edges of existing service and employment areas". This view presumes that there are economies from utilizing existing infrastructure (scale economies) and/or that new development is not fully charged for its use of infrastructure services.

These ideas receive some support from simulations carried out by Burchell and his associates (1992). Policies to guide 1990-2010 New Jersey growth into more compact settlements were calculated to save \$1.3 billion in infrastructure capital costs and \$400 million in annual operating costs. The savings accrue because new development is presumed to be guided into already developed areas, enabling it to, "draw on usable excess operating capacity in already developed areas ... " (p 11). In addition, less farmlands and less environmentally sensitive areas are settled. As a result, less air and water pollution are thought to occur.

Yet, contradicting the simulations, data carefully analyzed by Duke University Prof. Helen Ladd (1992) show that the high density urban areas have the higher infrastructure costs, and that the lowest per capita infrastructure costs are in the range of 250-1250 people per square mile. Not surprisingly, all of the ten fastest growing cities in the 1990s are within this range.

The trouble with both the simulated and the econometric cost comparisons is that they are necessarily incomplete, because cost-minimizing is not the same as optimizing. The substantial benefits of suburban lifestyles and the lesser appeal of many already developed areas, clearly difficult to quantify, are ignored. Cost minimization is never the whole story.

It is reasonable for established residents to want new development to “pay its way”, absorbing its “fair share” of infrastructure costs. Discussions like this typically refer to more than the marginal costs of development. Some “fair share” of the fixed costs is usually included. Yet, even putting the questionable economics of charging sunk costs aside, it is notoriously difficult to agree how to allocate sunk costs in ways that will strike newcomers and existing residents as equitable.

Looking to the future, and taking the example of power provision, we are now in the age of “smart” meters and pumps, smaller scales, microturbines, distributed generation technologies, deregulation and enhanced competition. Appeals to scale economies in this field are probably outdated. Lower energy costs via land use planning was a shaky idea at the height of the “energy crisis”; it is completely implausible in the 21<sup>st</sup> century.

It is not clear, then, that managed growth and more compact urban forms offer plausible advantages.

## **VIII. Transport Implications**

### **a. Trends and Facts**

Traffic and environmental conditions and prospects are a significant part of the CGMI discussions. Yet, growth management has had no discernible impact on transit use in Portland. In 1990, only 3 percent of all trips taken in the metro area were by transit. Optimists now claim that 6 percent of all trips will be by transit in 2040. Yet, with current rates of population growth, this still means a 67 percent increase in auto use (O’Toole, 1999). Moreover, the optimists are very likely to be wrong; Portland’s billion-dollar Westside light rail is currently running at 35 percent *peak-hour* capacity, carrying little more than 5,000 riders in *both* directions. Development at the transit-oriented Beaverton Round has been heavily subsidized yet remains close to bankruptcy. It is not surprising that Portland voters turned down plans for more rail in a November 1998 referendum.

Most transportation issues emerge in the largest cities so this section will focus on Arizona’s largest metro area, the Phoenix-Mesa MSA. Table 12 shows that this area ranked fourteenth in population among metropolitan

areas in the U.S. in 1998. Yet, residential density data are most accurate for areas that the Census Bureau calls Urbanized Areas (UAs), units that only include developed land (with 1,000 people per square mile or more). Relying on MSA boundaries for density calculations would be misleading because county boundaries include many undeveloped areas. Complete UA data are, unfortunately, only available for the census years. The Phoenix UA was in the middle range of densities in 1990. Densities in most places had fallen substantially in the years 1950-80, although there had been some selective increases in the 1980s. Both trends are easy to explain. The last century has been one of sharply declining transportation and communication costs. People no longer have to put up with high densities to economize on travel expenses. Therefore, they choose to settle at densities where they can live more spaciouly. Yet this trend is occasionally mitigated by increasing land prices (often because of zoning and other controls) which result in people having to consume less living space.

Average commuting speeds for the U.S. keep going *up* because more and more commuting is suburb-to-suburb on generally less congested roads. The Nationwide Personal Transportation Survey (NPTS) reveals that average commuting times fell from 22.0 minutes in 1969 to 20.7 minutes in 1995. The good news is made possible by the fact that jobs follow the labor force into the suburbs. The image of business and industry tied to old centers and downtown is out of date. Most shipping is by truck and not via centrally located railyards. Also, face-to-face contact no longer requires pedestrian access. All of this explains why suburbanization is much more likely to be the traffic solution than the problem.

Problems occur because unpriced highway access is seen as an entitlement by many (who love the idea of freeways, a misnomer) and is responsible for the resulting pockets of congestion; there will inevitably be some congestion anywhere that access is not priced. Imagine free supermarkets, free movie theatres, free shops, etc. Yet the most important transportation finding is that land markets allow adjustments that mitigate this problem if *they are allowed to be flexible*. Real “gridlock” is *impending*, but never arrives. The key point is that by limiting land market flexibility, CGMI is likely to undermine this favorable land use adjustment and aggravate rather than ameliorate traffic problems

Phoenix-area trip times for 1995 compare favorably with other large U.S. cities. Average commuting times were 18.5 minutes (one-way, all privately operated vehicles) somewhat below the median (just over twenty minutes) for the thirty largest U.S. metro areas (Table 13). Most of the areas with longer trip times also had higher population densities.

Yet, as in most U.S. cities, Phoenix residents voice concerns about local ground transportation. In March 2000, city voters approved Proposition 2000. This increased the sales tax charged in the city from 7.1 percent to 7.5 percent. The new tax revenue will fund an expansion of existing bus and dial-a-ride service in the city and permit the start of electric light-rail in metropolitan Phoenix.

Phoenix residents travel an average of 21.5 miles per day to and from work. This is comparable to other cities in its size class. Phoenix ranks low in terms of annual per capita miles of transit service (9.5), particularly when compared with other cities in the west. Seattle has 32.9 miles and Portland has 22.6 miles of transit service per capita. 41 percent of residents rate the existing transit service in Phoenix as poor in 1998 (up from 35 percent in 1997). An additional 21 percent rate it fair (down from 25 percent). (Morrison, p. 55)

CGMI embodies the view that high densities with substantial transit investments offer a desirable alternative. Considerable experience, however, suggests that this is wrong (parts b and c, below). Case after case and study after study remind us that the overwhelming number of people prefer low density living and personal transportation.

**b. High residential densities do not reduce highway congestion**

Growth management is often justified by the argument that higher densities create road and highway traffic advantages. Yet this is not so. Traffic flows best where densities are lowest. Table 13 shows 1995 average worktrip commuting times for the thirty largest metro areas (for privately operated vehicles). The Phoenix commute compares well with the other metro areas. Also, these data can be used to show that the correlation between commuting times and population densities is significantly *positive*.

Researchers (Pickrell and Schmieck, 1999) have found that, after controlling for income and other household characteristics, the elasticity of VMT *per household* with respect to residential density is very small, approximately 0.1; a doubling of densities would decrease VMT per household by 10 percent -- but with twice as many households, there would be many more trips.

Other cross-sectional studies corroborate the intuitively obvious thought that high development densities are associated with high congestion (Hartgen and Curley, 1999). Orski (1999) reports that, “The Ballston rail transit station in Northern Virginia, often cited as a national model of a compact transit-oriented ‘village’ that is supposed to encourage walking and reduce car use, is a case in point. With density five times higher than their neighboring spread-out Fairfax City/Oakton area, Ballston creates more than four times as many daily vehicle trips than its low-density neighbor....” When and where everything is within walking distance and everyone rides bicycles, people will still use their autos quite a lot. Household trip frequencies are often the wild card. It is by no means clear that these remain unaffected when access is improved. As in most cases, it is most likely that we buy *more* as the price drops (Crane, 1998). All of this contributes to one more of many Smart Growth ironies. The EPA through its Clean Air Act mandates and hundreds of other federal, state and local planning agencies do whatever they can to promote compact land use arrangements in the belief that these will contribute to less auto use and cleaner air. Nevertheless, the logic behind this multi-billion dollar effort is faulty. Even the Portland metropolitan planning agency predicts that its smart growth plan will result in increased smog levels because of higher densities (O’Toole, 1999).

**c. Conventional public transit has few likely impacts in Arizona metro areas**

Conventional transit in the U.S. continues its long run as a declining industry. After more than \$360 billion of public subsidies since the mid-1960s, transit use per capita is at a historic *low*. Falling ridership in the face of rising subsidies have become the industry norm. There are now slightly more transit users in the entire U.S. than in Shanghai. Only 1.8 percent of all person-trips (2.1 percent of all person-miles) are via transit. This is substantially less than walking (5.4 percent of person-trips) but slightly

greater than school bus use (1.7 percent of person-trips; Figure 15, U.S. Department of Transportation, 1997). Transit worktrips are 3.5 percent of both person-trips and person-miles (Figure 21, U.S. Department of Transportation, 1997). Yet public transit received more than 15 percent of all public expenditures on transportation between 1977 and 1995 (Gordon and Richardson, 2000).

Per capita transit use in almost all of the nation's largest metro areas fell by double-digit rates in recent years (1980-97); Table 15 is in terms of boardings or unlinked trips, avoiding transit advocates' occasional misleading mixing of trips involving transfers with those that do not. Houston and Phoenix started from a low ridership base and grew in the 1980s but suffered reversals between 1990 and 1997. Only four of the 30 largest metro areas show sustained 17-year growth in per capita use. Yet, all four (Denver, Orlando, San Diego and Sacramento) also started the period with very low levels of ridership and relatively low levels persist (Table 15). As is well known, New York is an "outlier" in terms of U.S. transit use. In addition to New York, only a few cities have transit shares above 5 percent. Comparing transit share with the population share for each city is a convenient indicator because these two variables are available for recent years (1998) whereas data for other modes are not. Even by this measure, Portland is sandwiched between Atlanta and Los Angeles. Transit use in Phoenix would have to grow considerably merely to reach these levels.

As for the newer transit systems, the important lesson is that low levels of use (and very low numbers diverted from auto driving) mean that highly promoted nonuser benefits such as better air and less congestion are nonexistent.

The futility of the transit-plus-high-densities model is easy to see for anyone who has traveled to places like Seoul, Athens, Rome, Tokyo, Jakarta and Paris and seen their miserable traffic. Almost everywhere, newly affluent people are choosing personal transportation in spite of widely available transit and in spite of the absence of freeways and U.S.-style highway networks. People in places like this have fewer suburb-to-suburb commuting opportunities. The result is congestion levels and traffic conditions that would be unacceptable to Arizonans.

#### **d. Air Quality Issues**

In spite of population growth, economic development and even faster VMT growth, air quality in most U.S. cities has been improving. Internal combustion technology is constantly improving and as older autos are retired, there are noticeable benefits. Hybrid vehicles (gasoline-electric) are now on the market, and versions of the Nissan Sentra and Honda Accord have been designated as SULEVs (Super Ultra Low Emission Vehicles) in California. The technological solutions are at hand, and it is merely a question of how fast the auto fleet can change over (and what incentives might be introduced to accelerate the transition). Recent reports suggest that fuel cell-powered autos might appear in dealers' showrooms as early as 2004 (*The Economist*, 2000).

The EPA's latest report on 92 metropolitan areas shows that between 1988 and 1997, 87 of these experienced air quality improvements (as measured in the number of days with Pollutant Standard Index readings above 100). Despite the complaints about worsening air in Phoenix, it is listed as one of the 87 areas that have become better off; there were 43 PSI>100 days in 1988 and 15 in 1997 (US EPA, 1999)

### **IX. Metropolitan Area Impacts**

In 1998, Arizona State University's Morrison Institute asked residents of Greater Phoenix what they knew about plans to modify growth management in the area. A majority was either not at all familiar or not very familiar. Yet 75 percent mentioned that boundaries should be imposed to indicate where development can and cannot occur in the region. As many as 64 percent responded that local government should manage growth (p. 50). It is safe to say that interest in growth management derives from the region's recent population boom. Phoenix experienced annual population growth rates of over 3 percent from 1993-1997 and a large majority of Phoenix residents – 78 percent - think that the region is growing too fast. (Morrison, p. 51)

Phoenix has a reputation as a city with a good quality of life. A recent national survey ranked it as one of the best managed cities in the United

States (Tannenbaum 1999). Forty-nine percent of metropolitan Phoenix residents rate local government as either excellent or good. Only 11 percent rate it as poor (Morrison, p. 68). While the cost of living is higher in Phoenix than in the US in general, the region compares favorably to other cities in its western peer group. For example, Phoenix is more affordable than LA/Long Beach, Portland or Denver. (Morrison, p. 34)

The employment picture is also favorable. Unemployment in Phoenix was 3.0 percent in 1997, even less than in 1996 when unemployment stood at 3.7 percent. This decrease mirrors a trend throughout the west. Unemployment rates fell in Denver, Seattle, Dallas, San Diego, Portland, Houston and Los Angeles as well. In contrast, Portland's decrease was much more modest (from 4.5 percent to 4.3 percent).

There are severe risks to any growth control measures that stall local economic development. Greater Phoenix already ranks poorly in per capita personal income. In 1996, out of 320 metropolitan statistical areas in the country, Phoenix was 121st with per capita income of \$23,377. This is more than \$2,000 less than the national average and considerably less than San Jose (4th), Seattle (13th), Denver (24th) and Portland (53rd). This may be because of a low-employment-to-population ratio, a higher proportion of employment in below-average wage industries, and even perhaps because of a climate-related amenity premium that compensates for lower wages (Morrison, p. 35)

Education remains the most important factor in regional quality of life for residents. Funds from the sale of state lands have contributed to the success of local schools. However, negative impacts resulting from loss of revenues will adversely affect the financing of public schools.

## **X. Conclusions**

Tough measures like CGMI are never costless. Are the presumed benefits worth it? We have quantified some plausible economic costs of CGMI so that Arizonans can now ask themselves whether any benefits that they might expect are worth it. Our conclusion is that they are not. There are likely to

be high costs while the open space, traffic, air quality and infrastructure benefit assertions are implausible.

We have identified significant statewide job losses. These will be spread across all sectors, with disproportionate losses accruing to workers in the lower income industries. Along with the higher land costs that go with stricter land and housing controls, this will worsen housing affordability problems. High residential densities exacerbate traffic problems; this is augmented by the leapfrogging effects that urban growth boundaries engender. Air quality is likely to worsen in these circumstances.

Governments at all levels will suffer revenue losses, including schools and other public projects. Tax rates may have to go up. There may also be enhanced pressures on land trust lands to be developed. Finally, if the Portland example is followed, urban open spaces will be lost.

Planners should focus on doing a few things well. Arizonans have benefited from conservation trusts and the hard work of investigating when and where to implement these should continue. The experience in Santa Clara, California, and Boulder, Colorado, with transit “eco-passes” (purchased by employers like group insurance) is worth further study. Substantially more bang-for-the-buck is available if such transit vouchers are made widely available and transit markets are opened to private transit providers. Planners should focus on long-term trunkline infrastructure demands, publish their plans for meeting these and let land markets react (Holcombe, 2000). As the evidence from many other areas, markets are a powerful engine for improving the wellbeing of Americans. This is especially true of land and housing markets. Putting these under tight political and regulatory control will do more harm than good.

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# Tables

# Figures

# Appendices

## Appendix B1. Summary Comparison: CGMI v. Oregon

CGMI has several elements that do not appear in any other growth measure adopted to date (see Key Elements and Comparison Table):

- Increased standard of care (strict liability) for public bodies & officials
- Unrestricted private right of action (“any person” can sue “any person”)
- Growth management plans must be approved by public vote (two public votes in the case of counties, one for the plan and one for each growth area) and also meet specific requirements, the interpretation of which is left to the courts:
  - Growth boundaries “no larger than necessary to accommodate clearly demonstrated needs for urban population growth for a ten year period, consistent with DES projections...”
  - Growth areas “shall be designed to protect natural areas, wildlife habitat, air quality and scenic values; to economically provide for public facilities and services; and to effectively limit urban sprawl.”
  - Plans must “protect air and water quality” by including “policies and requirements to ensure that growth is consistent with steady progress toward meeting state and federal standards and that continued compliance ... is maintained once met.”
  - Plans must “set policies and requirements to ensure that water demand from new development does not place an unreasonable burden upon ground and surface water supplies.”
  - Plans must “set policies and requirements to ... protect environmental quality, neighborhoods, scenic vistas, natural

open space, mountain and other public preserves, historic areas and archaeological sites, and provide for affordable housing.”

- Plans must require developers to pay the “full cost of additional public facility needs” (see below).
- Zoning and subdivision (plat) approvals not permitted outside growth areas unless they satisfy an “extraordinary and compelling circumstances” test; if more than 20 acres, they must be the subject of a public vote at next regularly scheduled election.
- Impact fees mandatory and must reflect “the full cost of additional public facility needs” (defined to include roads, schools, public safety, parks, water, sewer, flood control, public transit, pedestrian & bicycle paths, mountain & open space preserves, & improvements related to the foregoing).
- Repeals state standards for moratoria.

Compare Oregon:

- No enhanced standard of care for public bodies or officials
- No private right of action (disputes resolved by Land Use Board of Appeals, a panel of administrative law judges appointed by governor and confirmed by Senate).
- Comprehensive plan adopted by elected regional planning agency (Metro Portland):
  - Plan must comply with statewide planning goals adopted by State Land Conservation & Development Commission (and is reviewed for compliance by LCDC and county in which plan applies): must include the establishment of growth boundaries between urban and farm areas.

- Plan must allow affordable housing in one or more zoning districts and cannot prohibit traditional forms of affordable housing (attached, multi-family, etc).
- Plan must provide reasonable opportunity to satisfy local and rural needs for residential and industrial development and other economic activities outside growth boundaries.
- Plan must include economic analysis and policies concerning economic development including allowing adequate sites for commercial and industrial development.
- Local governments can adopt exceptions to statewide planning goals if certain criteria met.
  - Zoning and subdivision approvals controlled by local government subject to review by Land Use Board of Appeals for compliance with comprehensive plan.
  - Impact fees optional and limited to roads, sewer, water, drainage, flood control and parks.
- Moratoria restricted by “state standards & procedures”.

Appendix B2. Comparisons: CGMI, Growing Smarter Plus, Oregon

| <b>Sierra Club Initiative</b>   | <b>Growing Smarter Plus</b>   | <b>Oregon</b>  |
|---|---|--|
| <p>Strict liability for public bodies &amp; officials (must not act “in a manner that ... is contrary to ... this act” [or] “fail to act in a manner that is required by ... this act”)<br/>11-1607</p> | <p>Normal standard of care (must act in good faith to comply with the law).</p>   | <p>No enhanced standard of care for public bodies or officials.</p>  |
| <p>Unrestricted private right of action (“any person” can sue “any person...alleging violation of this act”)<br/>11-1608</p>  | <p>No private right of action; planning disputes are heard before administrative bodies; appeals can be taken to court subject to high standard of review.</p>  | <p>No private right of action; planning disputes involving local governments, state agencies, developers and property owners are heard before the Land Use Board of Appeals, which has exclusive jurisdiction to review all governmental land-use decisions (administrative law judges appointed by governor and confirmed by Oregon Senate)</p> |
| <p>Citizen participation: “[E]arly opportunities for ... review and comment on plan alternatives”.<br/>11-1603, 1606</p>  | <p>Citizen and other participation:</p> <ul style="list-style-type: none"> <li>▪ Opportunity for official comment by “public officials and agencies ... school districts, associations of governments, public land management agencies, other appropriate government jurisdictions, public utility companies, civic, educational, professional and other organizations, property owners and citizens to secure maximum coordination of plans and indicate properly located sites for public purposes”.</li> <li>▪ At least 60 days prior to adoption of a general plan, or major amendment to a comprehensive or general plan, city or town must submit a copy to the county</li> </ul> | <ul style="list-style-type: none"> <li>▪ Citizen advisory committees</li> <li>▪ Regional advisory bodies</li> <li>▪ State advisory bodies, including Legislative Council (advises LCDC)</li> </ul>   |

| Sierra Club Initiative   | Growing Smarter Plus  | Oregon   |
|--|---|--|
|  | <p>planning commission for the county in which municipality is located, each contiguous county, town or city, the regional planning agency and other parties and county must submit a copy to each city or town in the county, each contiguous county, the regional planning agency and other parties, for “review and further comment”.</p> <p>A.R.S. 9-461.05; 11-806, 21</p>                             |  |
| <p>Growth management plans adopted by local governing bodies, subject to voter approval (two public votes in the case of counties, one for the plan and one for each growth area) at “regularly scheduled election” (no special election); if voters fail to approve, 2-year “grace” period during which governing body can unanimously approve zoning and subdivisions, after which no zoning and no subdivision absent “extraordinary and compelling circumstances” and any approval over 20 acres subject to voter approval. 11-1605, -1606</p> | <p>Comprehensive (counties) and general (cities) plans adopted by local governing bodies, subject to voter approval, effective for 10 years; if voters fail to approve, current plan remains in effect.</p> <p>A.R.S. 9-461.05; 11-806, 21</p>  | <p>Comprehensive plan adopted by Portland Metro, an elected regional land-use and transportation planning agency (formed when voters approved merger of previous council of governments, akin to MAG, with Metropolitan Service District, created to provide regional services); subject to approval by Land Conservation &amp; Development Commission (for compliance with statewide planning goals).</p> |
| <p>Growth management plans must conform to specified requirements, with interpretation and compliance issues left to the courts:</p> <ul style="list-style-type: none"> <li>▪ Growth boundaries “no larger than necessary to accommodate clearly demonstrated needs for urban population growth for a ten year period, consistent with DES projections”</li> <li>▪ Growth areas</li> </ul>   | <p>Comprehensive and general plans must include specified elements:</p> <ul style="list-style-type: none"> <li>▪ Land Use Element: Recommended population density and building intensity; identification of specific infill areas and incentives; consideration of air quality; broad variety of land uses.</li> <li>▪ Open Space Element: Inventory of open space areas, recreational resources</li> </ul> | <p>Comprehensive plans must comply with statewide planning goals, including the following:</p> <ul style="list-style-type: none"> <li>▪ Local governments must establish urban growth boundary separating urban land from farm land; to determine, local government calculates amount of land needed to accommodate new housing, economic development, open space</li> </ul>                               |

| Sierra Club Initiative   | Growing Smarter Plus  | Oregon  |
|--|---|---|
| <p>“shall be designed to protect natural areas, wildlife habitat, air quality and scenic values; to economically provide for public facilities and services; and to effectively limit urban sprawl.”</p> <ul style="list-style-type: none"> <li>▪ Plans must “protect air and water quality” by including “policies and requirements to ensure that growth is consistent with steady progress toward meeting state and federal standards and that continued compliance ... is maintained once met.”</li> <li>▪ Plans must “set policies and requirements to ensure that water demand from new development does not place an unreasonable burden upon ground and surface water supplies.”</li> <li>▪ Plans must “set policies and requirements to ... protect environmental quality, neighborhoods, scenic vistas, natural open space, mountain and other public preserves, historic areas and archaeological sites, and provide for affordable housing.”</li> <li>▪ Plans must “promote [public transit] and ensure that ... new ... transportation elements [roads] are evaluated for ... urban growth impact before approval”.</li> <li>▪ Plans must be coordinated “to the maximum extent practicable ... to advance the purposes of [the] act”.</li> <li>▪ Plans must require developers to pay the “full cost of additional public</li> </ul> | <p>and access points; analysis of forecasted needs, policies for protecting and managing and implementation strategies; policies and strategies to promote regional system of open space and recreation.</p> <ul style="list-style-type: none"> <li>▪ Growth Area Element: Specific identification of areas suitable for mass transit and infrastructure needed to promote planned concentration of variety of uses (i.e., promote living, working, playing in same node) including policies and strategies designed to foster better transit and promote “rational pattern[s] of land development”, conservation of natural resources and open space and coordination of infrastructure expansion with development activity.</li> <li>▪ Environmental Planning Element: Analysis, policies and strategies to address anticipated effects of plan on air quality, water quality and natural resources associated with development.</li> <li>▪ Cost of Development Element: Policies and strategies to be used to require development to pay its “fair share toward the cost of additional public service needs generated by new development, with appropriate exceptions when in the public interest.”</li> <li>▪ Water Resources Element: Analysis of how future growth will be adequately served by the legally and physically available water supply or a plan to obtain additional necessary water supplies.</li> </ul> | <p>and other needs for 20 years.</p> <ul style="list-style-type: none"> <li>▪ All land outside boundaries must be zoned “farm use” if classified as “prime farmland” by Soil Conservation Service.</li> <li>▪ Certain land protected for timber productions;</li> <li>▪ Requirement for land-use patterns that allow for adequate housing.</li> <li>▪ Requires orderly and efficient arrangement of public facilities to serve urban and rural development.</li> <li>▪ Requires local transportation plans to consider alternatives to autos and avoid reliance on any single transportation mode.</li> <li>▪ Must include analysis of economic effects with reference to state and national trends, policies concerning economic development opportunities, adequate sites for commercial and industrial development, and public facility plans.</li> <li>▪ Must allow affordable housing in one or more zoning districts and cannot prohibit traditional forms of affordable housing (attached, multi-family, etc).</li> <li>▪ Must provide reasonable opportunity to satisfy local and rural needs for residential and industrial development and other economic activities outside</li> </ul> |

| <b>Sierra Club Initiative</b>   | <b>Growing Smarter Plus</b>   | <b>Oregon</b>  |
|---|---|--|
| <p>facility needs” (see below).<br/>11-1602, -1603, -1606, -1613, -1615</p>   | <ul style="list-style-type: none"> <li>▪ Conservation Element: Conservation, development and utilization of natural resources.<br/>A.R.S. 9-461.08; A.R.S. 11-826</li> <br/> <li>Condition to annexation that the city or town have approved a “plan, policy or procedure to provide the annexed [land] with appropriate levels of infrastructure and services to serve anticipated new development within 10 years after the date when the annexation becomes final . . .”<br/>A.R.S. 9-471.O</li> <br/> <li>Infrastructure service area boundaries may be established in specific plan, consistent with growth areas element of the [comprehensive/general] plan, beyond which a county, city or town may limit or establish conditions to publicly financed extensions of water, sewer and street improvements necessary to service needs generated by development.<br/>A.R.S. 9-____; 11-____.</li> </ul> | <p>growth boundaries.</p>  |
| <p>Every amendment and exception of more than 20 acres must be the subject of a public vote at the next regularly scheduled election (no special elections) – plans can be adopted and amended by initiative (control general and comprehensive plans).<br/>11-1605, 1606</p> | <p>Major amendments to [comprehensive/general] plans must be presented at a single public hearing during the calendar year in which the major amendment is proposed; “major amendment” is defined, for this purpose, as “a substantial alteration of the ... land use mixture or balance as established in the ... existing [comprehensive / general] plan land use element” (e.g., commercial, residential, industrial). It is left to each</p>  | <p>Local governments can adopt exceptions to statewide planning goals if certain criteria met.</p> |

| <b>Sierra Club Initiative</b>   | <b>Growing Smarter Plus</b>   | <b>Oregon</b>   |
|---|---|---|
|   | <p>county, city and town to define the criteria for deciding whether a proposed amendment effects a “substantial alteration” of the existing land use mixture or balance.</p>   |   |
| <p>Zoning and subdivision approvals within growth areas must comply with plan [no provision for compliance review by local government or other public body – left to courts]; adds new requirements for subdivisions in counties outside growth areas, no zoning unless exception meeting “extraordinary and compelling circumstances” criteria and approved by public vote at next regularly scheduled election if more than 20 acres. 11-1603</p> | <p>Zoning approvals require two public hearings with prior notice to affected landowners and other interested parties, including abutting counties/cities. For each re-zoning application requiring a public hearing, a citizen review process is required.<br/>A.R.S. 9-462.03; A.R.S. §11-829</p> <p>Municipal subdivision approvals controlled by local government body subject to specific requirements, including certificate of assured water supply in AMA.<br/>A.R.S. 9-461-463</p> <p>Counties authorized to regulate land divisions of five or fewer lots, any of which is 10 acres or less; lots must meet minimum county zoning requirements and have both legal and physical access traversable by ordinary passenger vehicles. Seller of five or fewer parcels, other than subdivided land, must provide affidavit to buyer at least 7 days before transfer of property, disclosing enumerated items; 5-day right of rescission after delivery of affidavit to buyer. Affidavit must be recorded concurrent with transfer.<br/>A.R.S. 11-806.03, 809.</p> | <p>Zoning and subdivision approvals controlled by local government body subject to review by Land Use Board of Appeals.</p> |
| <p>Impact fees mandatory and must charge “the full cost of</p>  | <p>Impact fees optional and, in the case of municipalities, may be</p>  | <p>Impact fees optional and limited to roads, sewer,</p>  |

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| <p>additional public facility needs” (defined to include roads, schools, public safety, parks, water, sewer, flood control, public transit, pedestrian &amp; bicycle paths, mountain &amp; open space preserves, &amp; improvements related to the foregoing).<br/>11-1602, 1615</p> | <p>assessed to “offset costs ... associated with providing necessary public services to a development.” In the case of counties, limited to roads, sewer, water, parks and public safety.<br/>A.R.S. 9-463.05; 11-1102</p>  | <p>water, drainage, flood control and parks.</p>                   |
| <p>Infill incentive areas not required to pay “full cost of additional public facility needs.”<br/>11-1602, 1615</p>   | <p>Infill incentive areas, meeting at least 3 criteria, may receive expedited zoning, expedited processing of plans and fee waivers.<br/>A.R.S. 9-499.10</p>  |  |
| <p>Repeals state standards for moratoria.</p>  | <p>State standards for moratorium remain intact.</p>  | <p>Moratoria restricted by “state standards &amp; procedures”.</p> |
|  | <p>State trust lands:</p> <ul style="list-style-type: none"> <li>▪ Donation of land for school sites.</li> <li>▪ Donation of land for conservation.</li> </ul> <p>(279,000 acres of state trust land)</p> <ul style="list-style-type: none"> <li>▪ Exchange of trust land between public bodies.</li> </ul> |  |

## About the Authors

Peter Gordon is a Professor in USC's School of Policy, Planning, and Development and in the Department of Economics. He is also currently Director of USC's Master of Real Estate Development program. Gordon's research interests are in applied urban economics. In a paper published in 1982, Gordon predicted Portland Light-Rail's 1990 ridership to within two-tenths of one percent accuracy; the official agency forecast was off by 115 percent. Gordon is the co-editor of *PLANNING AND MARKETS*, an all electronic refereed journal ([www – pam.usc.edu](http://www-pam.usc.edu)). Gordon and his colleagues have developed the Southern California Planning Model (SCPM) which they are now using to calculate the economic costs of major earthquakes and other natural disasters. Peter Gordon has published in most of the major urban planning, urban transportation and urban economics journals. He has consulted for local, state and federal agencies, the World Bank, the United Nations and many private groups. He received the PhD from the University of Pennsylvania in 1971.

Harry W. Richardson is the Irvine Chair of Urban and Regional Planning in the School of Policy, Planning, and Development at the University of Southern California. His research fields include metropolitan spatial structure, travel behavior, land use controls, economic impact models, natural disasters, and international urban development. He is the author of more than 20 books and more than 150 research papers. He has consulted for the World Bank, the United Nations, US AID, and other international, national and local agencies.

DongHwan An, Ph.D. student, is a Research Assistant for the School of Policy, Planning and Development at the University of Southern California. His interests are in the areas of productivity analysis of regional economies and regional economic modeling. In addition, Dr An already has a Ph.D. in Agricultural Economics from Seoul National University.

Thomas O'Brien, Ph.D. Candidate, is a Research Associate for the School of Policy, Planning and Development at the University of Southern California. His work focuses on the areas of transportation, telecommunications and international development, and on the effectiveness of multi-jurisdictional coordination in urban service delivery. Recent projects include a study on the feasibility of establishing independent transit zones in Los Angeles County and the evaluation of a technology-based transit integration program for the California Department of Transportation. Mr. O'Brien is a 1995 Fulbright Scholar and a 2000 Eno Transportation Scholar.