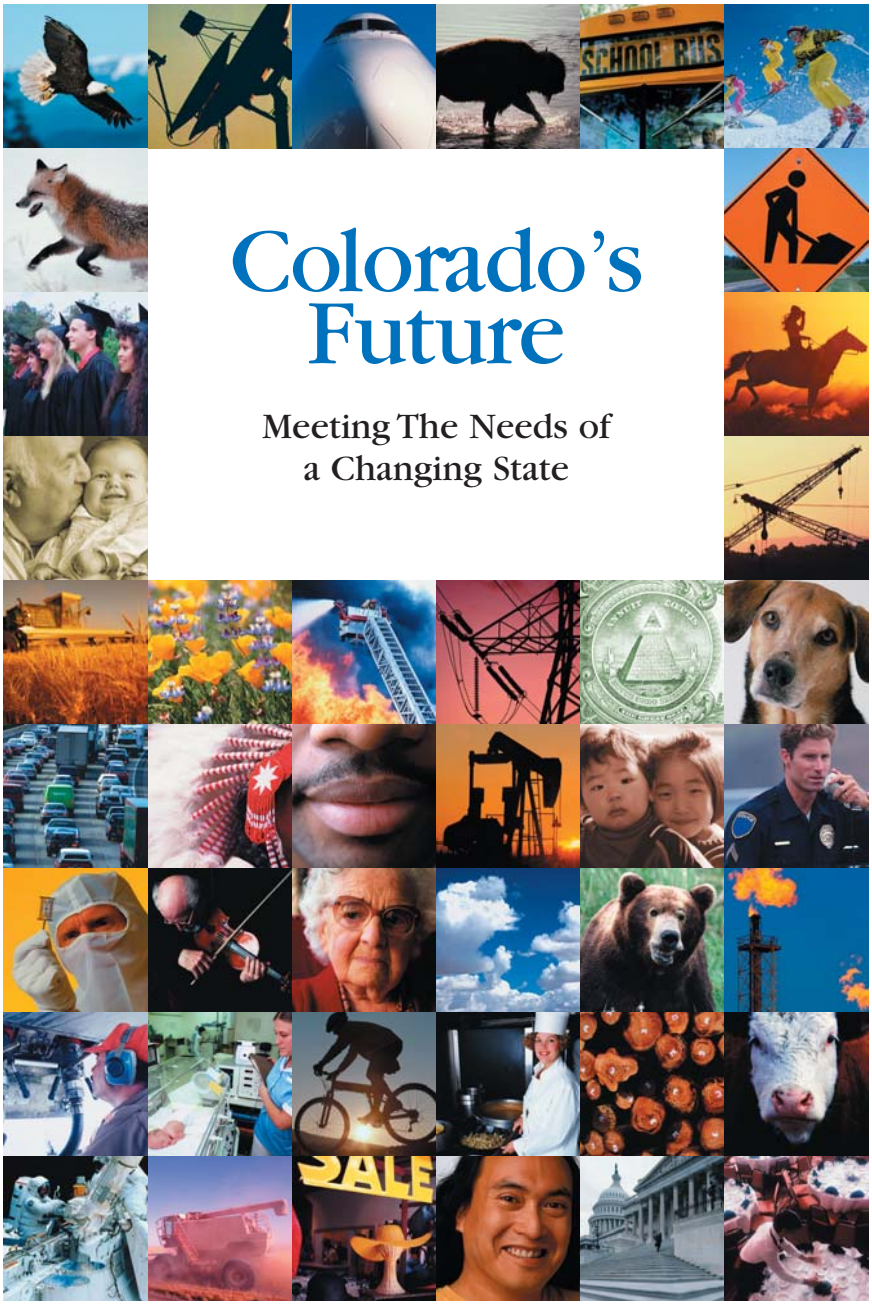

Colorado's Future

Meeting The Needs of a Changing State

Center For Colorado Policy Studies

CU

Bain Family Foundation

CU Colorado Springs

ABOUT THE CENTER FOR COLORADO POLICY STUDIES

This conference represents the work of the Center, in collaboration with universities and nonprofit organizations across Colorado. The mission of the Center for Colorado Policy Studies is to apply economics and related disciplines to critical state and local policy questions. We encourage faculty, along with some of our best students, to engage in nonpartisan, fact-based research on issues facing the Pikes Peak Region and the state of Colorado. We also provide advice and information to state and local governments and nonprofit organizations. The Center operates under all laws governing the University of Colorado, including the Rules of the Regents. Statements and publications issued from researchers at the Center do not necessarily reflect the views of the University of Colorado or the members of our Advisory Board.

We are committed to making our work accessible to interested citizens and policymakers and post much of it on our website at http://web.uccs.edu/ccps. We are also available to make community presentations about past and ongoing work. A listing of work on growth, tax policy, and education issues can be found on the back cover of this volume. We welcome your inquiries and feedback! Our work in the various programs, below, is funded by contracts and grants, in addition to tax-deductible private donations made through the University of Colorado Foundation.

Program on Education Policy

The Center's program on education policy explores the impacts of how Colorado funds its public schools on school and district financial viability as well as on student performance. We apply research from the economics of education to trade-offs facing Colorado's schools.

Program on Growth Issues

The Center's program on growth issues applies the latest research in land-use and environmental economics, along with public finance and basic economic theory, to the growth issues facing Colorado today. We start with the assumption that market-based forces should be relied on wherever possible, but recognize that certain economic, social, and environmental conditions cause markets to break down.

Program on Tax Policy

The Center's program on tax policy explores the impacts of Colorado's state and local tax structure on areas such as patterns of growth, economic development, income inequality, local government revenues, and resource use by Coloradans. We apply the basic principles of public finance to current and proposed tax policies, as well as comparing the costs and benefits of the current system and proposed changes to the citizens of Colorado.

WE APPRECIATE THE SUPPORT OF:

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CU-Colorado Springs:
College of Letters, Arts, and Sciences
Kraemer Family Library
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College of Education

Special thanks to the Colorado Springs Chamber of Commerce and Economic Development Corporation.

LETTER FROM THE DIRECTOR

Budget cuts, an uncertain economic recovery, and continued concerns about the impacts of growth on quality of life make this a critical time for policymakers in Colorado. Term limits have forced elected representatives to be quick studies of the problems we all face. More and more policy is made directly through voter initiatives such as TABOR. Inside this volume one of the interesting papers you will find is a careful analysis of the (sub)urban-rural gap surrounding voter initiatives in Colorado. Other papers deal with land-use, sustainability, school safety, and connections between education and labor force success — just to name a few.

Whatever the subject, we rarely have a shortage of opinion in Colorado. There is usually at least one group lobbying for or against any policy. But timely, objective, and high-quality analysis is sometimes in short supply. It is more important than ever that it be available for elected officials, their staffs, and for interested citizens who serve on policymaking boards across the state. Researchers from Colorado universities can help to fill that gap.

"Colorado's Future: How Can We Meet the Needs of a Changing State?" brought together researchers from many Colorado universities with state and local policymakers in a unique forum. On September 27, 2002, one hundred of us met at the University of Colorado at Colorado Springs to share ideas. The conference was sponsored by the Center for Colorado Policy Studies and the University of Colorado at Colorado Springs, with financial support from the Bain Family Foundation, Muir Agency, El Pomar Foundation's Forum for Civic Advancement, the Gay and Lesbian Fund for Colorado, and La Plata Investments.

In addition to highlighting outstanding academic research useful when making policy decisions, the conference included a panel discussion of how research can be more accessible to policymakers. You will find a synopsis of this discussion on p. 56 of this volume and a subject-expert index on the last pages to help you locate faculty at Colorado universities doing work on the issues that concern you. We believe there can be many fruitful partnerships of faculty and policymakers -- who all care about a better quality of life for Colorado.

The theme of our next conference is "Colorado's Future: The Challenge of Change." Please put Friday, September 26, 2003, on your calendar and plan to join us for another exciting day. The enclosed response card will help us plan to better serve your needs. We also invite you to visit the Center for Colorado Policy Studies website at http://web.uccs.edu/ccps for more information and to contact us if we can answer questions or provide assistance directly.

Sincerely,

Daphne Greenwood

Daphne T. Greenwood, Ph. D.
Director, Center for Colorado Policy Studies

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"If Colorado's future is going to be as bright as its citizens deserve, we all need to work together. Only if we bring all of our resources to bear can we provide the best of opportunities for Coloradans."

Elizabeth Hoffman
President
University of Colorado System

"The challenges facing our state are enormous, ranging from economic pressures to the preservation of our treasured quality of life. The need for thoughtful debate and thorough, unbiased analysis of the issues has never been greater, as the choices we make today will help shape the future of Colorado for decades to come."

Albert C. Yates
President
Colorado State University

"The future of Colorado will depend, more than anything else, on the quality of education we provide our young people. It must be absolutely first-rate."

Daniel Ritchie
Chancellor
University of Denver

"Applying academic research to solve real-world problems is an endorsement of the role and value of higher education. Colorado's future must be guided by the productive interplay of diverse skills, interests, and voices."

Kay Norton
President
University of Northern Colorado

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RESEARCH SUMMARIES

"The world is changing. So is Colorado. How can we prepare Colorado for the issues it faces and to compete globally? The choices are many and time is short. We must work collaboratively to forge a future that includes many people and points of view."

Pamela Shockley
Chancellor
University of Colorado
at Colorado Springs

WELCOME TO THE UNIVERSITY OF COLORADO AT COLORADO SPRINGS AND THE COLORADO'S FUTURE SYMPOSIUM

As a new Dean on campus, one of my first realizations was the connection between the community and the university. The Center for Colorado Policy Studies and its director, Dr. Daphne Greenwood, offer a fine example of the outreach I will encourage in this college.

Less than three years ago, we established the Center to support the application of research in economics and related areas to state and local issues. The initial funding came from two longtime benefactors, Liz Cushman and Rutt Bridges, who both are in the audience today. The Center has continued to receive donations, large and small, from public-minded citizens.

In the past few years, the Center's reports, public meetings, and website have helped citizens and policymakers stay better informed on critical issues of public policy. With Colorado's decade of rapid growth now being followed by an economic downturn, we need this kind of cooperation among researchers and policymakers more than ever.

Your presence today highlights your commitment to working together in new and better ways for Colorado's future. I look forward to meeting many of you throughout the day and to hearing the papers selected for this conference.

LINDA L. NOLAN
Dean, College of Letter, Arts, and Science
University of Colorado at Colorado Springs

(Ph.D., University of Massachusetts, Nutrition/Biochemistry) became Dean of the College of Letters, Arts and Sciences at UCCS in July 2002. Previously, Nolan was a professor of Environmental Health Sciences and the Director/Interim Dean of Commonwealth College, an Honors College, at the University of Massachusetts, Amherst. Dr. Nolan was an American Council on Education (ACE) Fellow in 2000-2001 at the Arizona State University, shadowing its senior vice-president and president.

University of Colorado at Colorado Springs
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SESSION 1
THE CHANGING FACE OF COLORADO





CHAIR OF SESSION 1
DR. PAUL BALLANTYNE
University of Colorado at Colorado Springs

(B.A., University of Southern California, M.A., University of Iowa, Ph.D , Stanford University) is Professor of Economics at the University of Colorado at Colorado Springs, Colorado. He is a former Dean of the College of Letters, Arts, and Sciences at UCCS, chair of the Economics Department, and has received both the Outstanding Teaching Award and the Chancellor's Award for the campus. Dr. Ballantyne served as a transition consultant in Russia, Ukraine, Hungary, and Poland to business, education, and government with organizations such as the Russian Academy of Economics in Moscow, Russia, and Sumy State University in Sumy, Ukraine. He has written in the areas of monetary theory and policy, economic development, economic education, and macroeconomics. He also taught for the U.S. Air Force Academy and Colorado College.

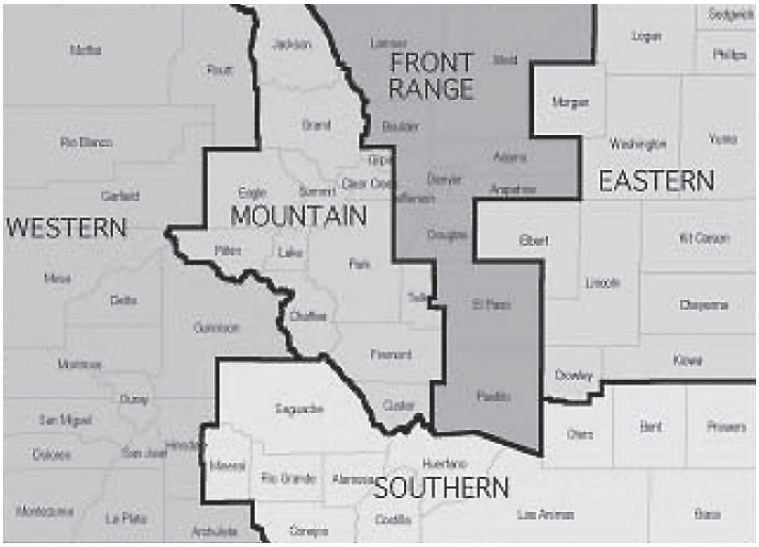
KEYNOTE SPEECH
COLIN LAIRD
Colorado Center for Healthy Communities
(B.A., Biology, Brown University; M.S., Community Development, UC-Davis) serves as coordinator for the **Colorado Center for Healthy Communities**, *which is the coordinating and research arm of a statewide coalition of 15 local, healthy community initiatives. The Center released The Colorado Index: Understanding and Tracking Quality of Life in May 2002. Colin is also director of* **Healthy Mountain Communities**, *a public benefit corporation fostering regional cooperation in the Roaring Fork and Colorado River Valleys. HMC's work in regional transportation sparked state-enabling legislation to allow rural communities to create regional transportation authorities. HMC also helped lay the foundation and build the trust necessary to create the first regional transportation authority outside of Metro Denver. Citizens in five communities and two counties voted to create and fund (through a sales tax) the Roaring Fork Transit Authority in November 2000.*

My name is Colin Laird, and I coordinate a statewide nonprofit called the Center for Colorado Healthy Communities. I also head up a regional nonprofit in the Roaring Fork Valley that works with local governments on quality of life issues and regional cooperation. We are trying to develop policy approaches to issues like transportation, affordable housing, and land-use. I will give you a general overview of the work in our recent Healthy Communities report, which you can also access on-line at http://www.hmccolorado.org. Since the Colorado Trust Healthy Community Initiative in the early 1990's, many communities across the state went through a planning process to try and understand community health in the broadest sense. Those groups then got together and created our center. The Colorado Index is one of our larger projects. We are trying to understand quality of life at a statewide level -- a big challenge, and we know we haven't done a complete job. But we think we have done an interesting job in presenting a wide range of indicators that look at quality of life in the broadest possible way. By looking at those indicators, we get a sense of some of the challenges and opportunities our state faces.

One of the first things we highlight is that there are several Colorado's. The issues vary depending on what part of the state you're in. We broke the state up into five regions for which we think there are issue areas that these regions hold in

SEVERAL COLORADO'S - GEOGRAPHY

Changing needs and perception of what needs changing depends on where one is in Colorado.

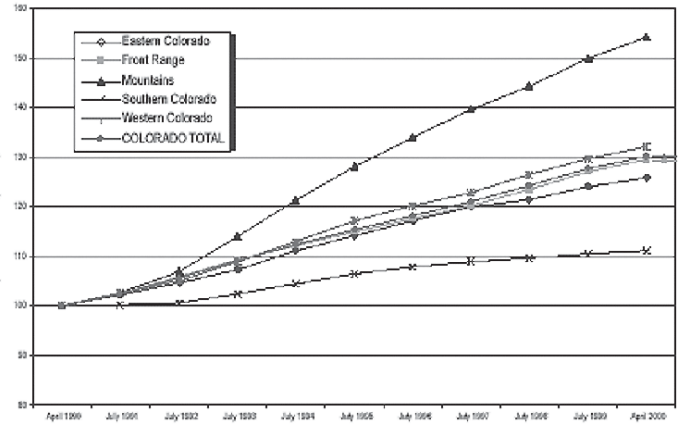


common. For the economy on the western slope – it is very tourist based; for the Eastern plains – agricultural; for the Front Range – the economy is more service oriented. How you approach economic development in these areas is going to vary.

When it comes to population, Colorado grew very quickly over the last decade. But that growth was not uniform. In the Roaring Fork Valley, a lot of people would say we had too much population growth. But if you're out on the eastern plains you might say maybe we didn't have enough. Housing is a big issue in our area and across the state. One of the indicators we found is that the cost of housing has increased dramatically compared to the wages people are earning. If you bought your home before this happened you're probably happy and are not thinking about this too much. But if you're a new resident who just moved here for a job this is a big issue. It's very difficult to make ends meet and buy a house. To purchase a 2000-square foot home, you are looking at 2.2 jobs on average. So more people in the household are working, and they are working more jobs. This is now an expensive state. Our cost of living has gotten very high compared to our wages. In our region, trying to get help for affordable housing is very difficult because it looks as if everybody makes a lot of money in the mountains — but the fact remains that housing is exorbitantly expensive.

We are also a changing state in terms of race and ethnicity. The minority population, for lack of a better term, is over 20% now throughout the state. And that varies quite a bit throughout the region, but we have more and more people through the state with different perspectives. Some are natives, some are locals, some are immigrants, and that shapes their perception of what some of the issues and problems are within the state.

Figure 7: Index of population growth by region, 1990 to 2000.



SEVERAL COLORADO'S - POPULATION

Colorado's population grew 30.6% between 1990 and 2000. Only Nevada (66.3%) and Arizona (40.0%) grew faster in this period.

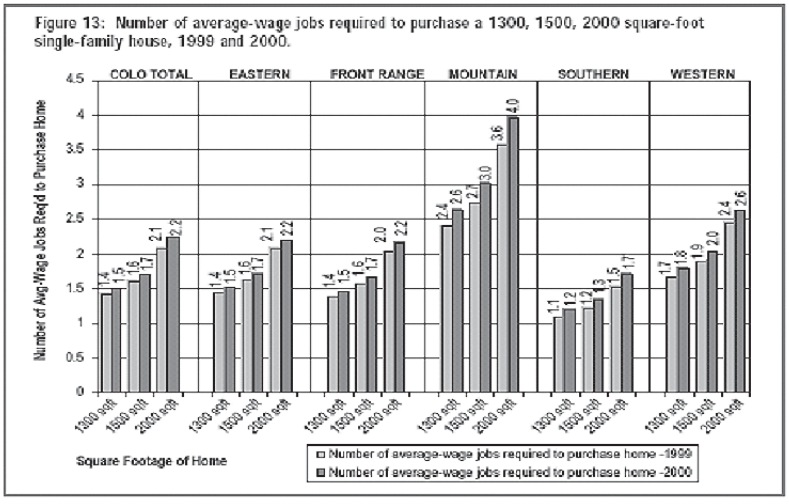
We are also an aging population. We are no longer ski bums. We have decided to settle down and have kids, and we worry about day care. There is a growing population that is starting to worry about Medicare. We are also finding that local government fiscal capacity is challenged, for lack of a better term.

Assessed valuation per capita has dropped throughout the state primarily relating to the Gallagher amendment's effect on

SEVERAL COLORADO'S - JOBS

With wages unable to keep pace with housing costs households have multiple wage earners and multiple jobs.

Figure 13: Number of average-wage jobs required to purchase a 1300, 1500, 2000 square-foot single-family house, 1999 and 2000.



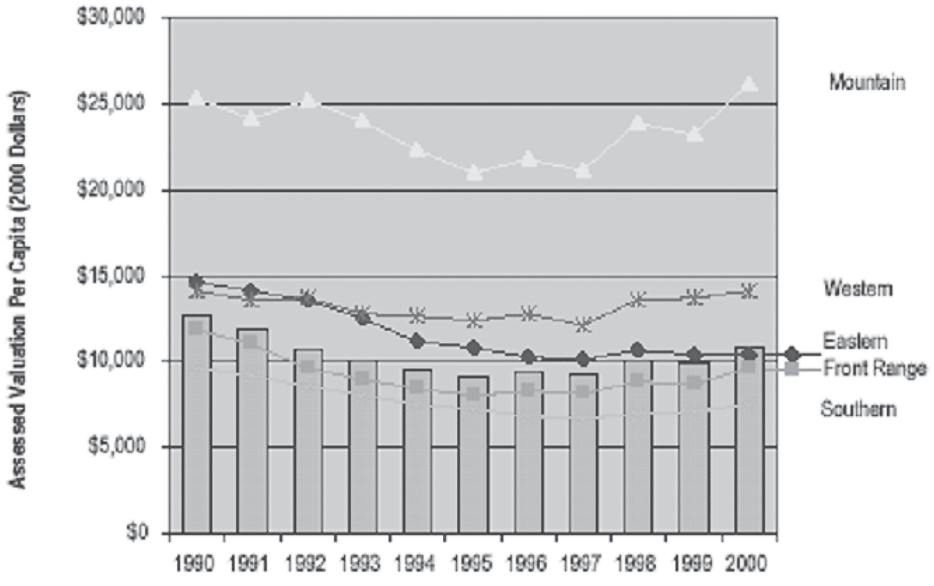
property taxation. That is putting a lot of pressure on local governments to use sales tax to try and solve and address some of these issues. This has other implications in terms of equity and economic development. Over the last decade, only the mountain region had an increasing assessed valuation per capita. In Aspen and Vail, multimillion dollar homes generate a lot of property tax. But in most parts of the state, and especially the southern region, you see a decreasing trend.

Change is going to happen whether we like it or not. Pearson Russell said it well: "It is really up to us how we want to shape change." Our effort with the Colorado Index is to provide information to a broad spectrum of people on quality of life indicators to help us all see the big picture. We see a lot of things in the paper about unemployment and economic indicators, and we wanted to try and broaden the perspective of how we think about quality of life. Sometimes we get so busy in our daily lives that we forget that these issues are operating in the background. Or we think that they are only happening to us. But in our report we've made it clear that Colorado faces a lot of different issues. We're blessed with having a very bright workforce and spectacular scenery. And it makes sense for us to try and preserve it.

SEVERAL COLORADO'S - FISCAL CAPACITY

* *Local government fiscal capacity is becoming more dependent on sales tax.*
* *Wide differences in tax bases are apparent between regions, raising issues regarding the equitable capacity to deliver services.*

Figure 6B: Assessed valuation per capita (inflation-adjusted to 2000 dollars), 1990 to 2000.



CELL PHONES, CENTER PIVOTS, AND RURAL REPOPULATION: *Planning Implications of the New Ponderosa**

CHARLES O. COLLINS
Department of Geography
University of Northern Colorado

(Ph.D., University of Kansas) As a cultural geographer, I cultivate an abiding fascination with the "built" or human landscape, especially the roadside. This interest in what we do on the land, as well as to it, has generated research on urban barrier fences, fortified or defended rural mailboxes, descansos, i.e., roadside memorials and the proliferating ranchette. If you should overtake a small red truck doing 34 mph down some rural road, the driver stopping to frequently take pictures, it's probably me.

MONICA DANIELS MIKA
Department of Planning Services
Weld County, Colorado

(M.S., Housing, Master of Community and Regional Planning, Kansas State University, member of American Institute of Certified Planners). Monica Daniels-Mika is a fourth-generation Coloradan, with a strong heritage in agriculture. For the past eight years, she has been the Director of Planning Services for Weld County, Colorado, working to develop creative ways to balance growth and its impact on agriculture.

With each successive wave of technological innovation, land-use planners and resource managers confront new service demands, which spin off a host of issues and problems. The automobile, the most prevalent example, has reshaped and distended contemporary cities and compounded the need for comprehensive planning. More recently, the adoption of a series of communications technologies has triggered a new era of rural growth, commonly known as the "rural rebound" (Johnson, 1999). Fax machines, personal computers, satellite links, E-mail, and even the annoyingly ubiquitous cell phone afford citizens the opportunity for choice in residence location, making them so footloose that agricultural communities marked by decades of sustained population-drain are experiencing unprecedented growth rates.

The influence of communication and information innovations is widely apparent; less understood is the role of agricultural technologies in the re-peopling of rural America. This is counter-intuitive. For decades innovations in the agro-economy have sent surplus labor to the cities. However, mechanization of irrigation, and specifically, the advent of the Center Pivot Sprinkler is an exception. This device draws local planners into a classic confrontation between rival interest groups to determine the best use of productive farmland. Among the issues are agricultural practices, environmental quality, and the compatibility of sometimes-conflicting life-styles. In this volatile arena, the local land-use planner is regularly called to be strategist, referee, judge, and policeman for the enforcement of the legislated public good.

A TECHNOLOGICAL NICHE

To those who have never seen a Center Pivot Sprinkler (other than from a high-flying jet), imagine a gigantic lawn sprinkler, one capable of irrigating two hundred acres and more with only occasional human assistance. In the nation's semiarid and arid regions, this technology represents the classic substitution of capital for labor in order to achieve more efficient water-use. Moreover, the shift from traditional labor-intensive irrigation methods to these computerized rainmakers markedly reduces farming's physical toil, an appealing prospect for an aging generation of farmers.

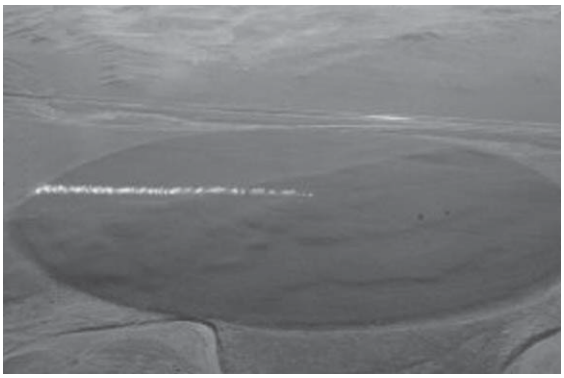
Apart from well-drilling, pond-construction, and the laying of water and power lines, a basic sprinkler begins at approximately $100,000. Add the cost of energy to pump the water and propel the sprinkler, maintenance and repair, and replacement every fifteen to twenty years, and the scope of a farmer's financial commitment becomes a bit more evident. Despite such costs, the proliferation of these ingenious devices - - now watering approximately 40 percent of all irrigated land in the U.S. - - is more rapid than for any other system of irrigation.

With every innovation, adjustments are necessary if the new technology is to integrate successfully into the existing culture and landscape. With the Center Pivot Sprinkler, a particular challenge is to accommodate the circular watering pattern to a landscape of rectilinear farms and fields,

The automobile... has reshaped and distended contemporary cities and compounded the need for comprehensive planning.

especially common in western states where the devices are most common. Consider, for example, how a sprinkler fits on a standard unit of land, a quarter section (160 acres). Where the land survey system creates a grid of mile square sections (640 acres), public roads crisscross at one-mile intervals. Within this pattern the quarter section will typically be a square, each side one-half mile long. Farms or fields of 160 acres will have two adjacent sides bounded by public roads and two by fencerows and/or abutting fields.

Assuming one seeks to refrain from watering public roads or the neighbor's property, a sprinkler with its pivot placed at the center of the field can adequately irrigate approximately 130 acres. Initially, at least, some farmers felt the loss of 30 acres was excessive, especially in view of the high start-up cost of the system. Unirrigated, however, the corners produce little except weeds and an unkempt appearance. Yet when tilled to control weeds, dry corners become a net loss. Weed control is not just a matter of compulsive "farmer culture" and personal pride, but practical economics since weeds will spread to the rest of the farm and nearby neighbors.



Few farmers find it practical to irrigate these small, odd-shaped, dry corners apart from some modification of their sprinkler systems. Thus, to even a casual observer of contemporary mechanistic American culture, it should be no surprise that problems arising from technology are most often addressed by more technology. One relatively simple option is to fit the sprinkler with an end gun, a high-pressure, long-distance nozzle programmed to start and stop at specific points, thereby reaching into the dry corners. But even an end gun, because it travels in a circular arc, fails to reach the entire corner without sending water beyond the field's

boundaries. If scaled back to prevent over-watering, part of the corner remains dry and unproductive. A more complex solution is a "corner system" that attaches to the primary sprinkler arm but trails behind. This alternative is programmed to extend outward as the main sprinkler approaches the corner and to retract once the corner is passed.

Corner systems require separate wheels and motors, a more powerful pump, additional nozzles, and much more complex programming to coordinate their operation. Consequently, this add-on inflates the base cost of a sprinkler a full 50 percent, or approximately $50,000. With this investment only an additional five acres can be watered in each corner, but at an added equipment cost of approximately $1000 per acre. Simply stated, production from the four detached plots will not offset the added expense. Also, these corner systems occasionally go awry owing to programming glitches, mechanical failure, or tracking problems, sending expensive equipment to tangle with fences, careen into ditches, or even climb onto the county road. After an initial popularity, sprinklers with corner systems have lost comparative appeal.

For most of the forty-year history of functional center pivot sprinklers, dry corners have been a frustration, even a nuisance; one might consider them the price paid for innovative technology. Moreover, it is possible to attribute to the Center Pivot a minor part of the blame for rural depopulation. Sprinklers set people free (or push them) to

seek their future away from agriculture, and commonly away from rural America. Yet, when linked to the set of communications' innovations mentioned earlier, the impact of computer-driven, automated irrigation is reversed, and as will be shown, aids and abets the rural rebound. The small corner plots that once were considered unfit for serious farming have become a hot commodity, a rural residential niche on the way to becoming a ranchette.

COUNTRY LIVING?

In established irrigation districts created by heavy investments in water and water engineering, there is a tradition of attempting to protect prime farmland from urban sprawl and encroachment. Many states and counties seek to direct aspiring rural rebounders into existing small towns, many of which have experienced population decline and now provide affordable alternative housing sites. It is further reasoned that such towns already possess facilities to provide new residents with necessary services without sacrificing farm or ranch lands. This arrangement bolsters the economic well being of the small town while giving new arrivals something that approximates "country living." To this end, minimum parcel size criterion for agriculturally zoned land, typically thirty-five acres but sometimes more, is imposed to discourage parceling. A second approach is creation of urban growth

boundaries that facilitate residential development within the designated zone and maintain restrictions beyond it. Despite these preservation tools, many people persist in their pursuit of their "Personal Ponderosa" and are often willing to sacrifice service levels and challenge governmental regulations in order to experience the allure of country living.

Minimum parcel size is typically administered in conjunction with specific exemptions to the general rule. Original owners of farm and ranch land, their immediate family members, and hired workers directly involved in the farm or ranch operation, are entitled to parcel-off home sites. But even such exemptions are laden with restrictions controlling how frequently an owner may create a second interest or split off a piece of property for residential sale. These limitations vary, but usually range between five and ten years.

A second category of exemptions to minimum parcel size permits the conversion of "less important" farm or ranch land, thereby establishing a hierarchy of developable lands. Functionally, corner parcels left by center pivot irrigation may fit this lower priority categorization. The planning premise underlying both restrictions and exemptions is preservation of agriculture, protection of resources, and conservation of rural environments by preventing the piecemeal creation of de facto rural subdivisions.

Initially, small corner parcels were purely serendipitous from a realty point of view. Farmers and ranchers were often surprised when asked to "sell off a corner." The novel experience of being offered what seemed a significant sum of money for nonproductive land prompted some farmers and ranchers to listen. And even for those adamantly opposed to fragmenting their properties, the weak farm-and-ranch economy made such unsolicited offers tempting. Some who sold did so only in order to continue farming, to cover previous crop losses, or to pay for the

"...quiet country living" often includes large, noisy, dust-raising equipment throughout the day, well into the night, and most of the year.

"wife's cancer treatments." However, what began as a buyer's market rather quickly shifted to a seller's. Quite naturally it occurred to some that selling off a corner or two left by the center pivot was a logical means of defraying part of the cost of that investment. It is at this point that public policy becomes involved because many potential buyers and some landowners are not aware of state or local restrictions concerning subdividing agricultural land, or at least pretend not to be. Simultaneously, public policy and local planners are involved when a significant portion of the new rural residents, the ranchetters, discover they are uninformed or ill-prepared for the rural life, with its limited services, unfamiliar farm and ranch practices, and frequent demands on their pocketbooks and patience. Indeed, it is the planner who usually hears the first complaint, whether it comes from the newcomer or the old-timer.

In the past five years, conversion of sprinkler

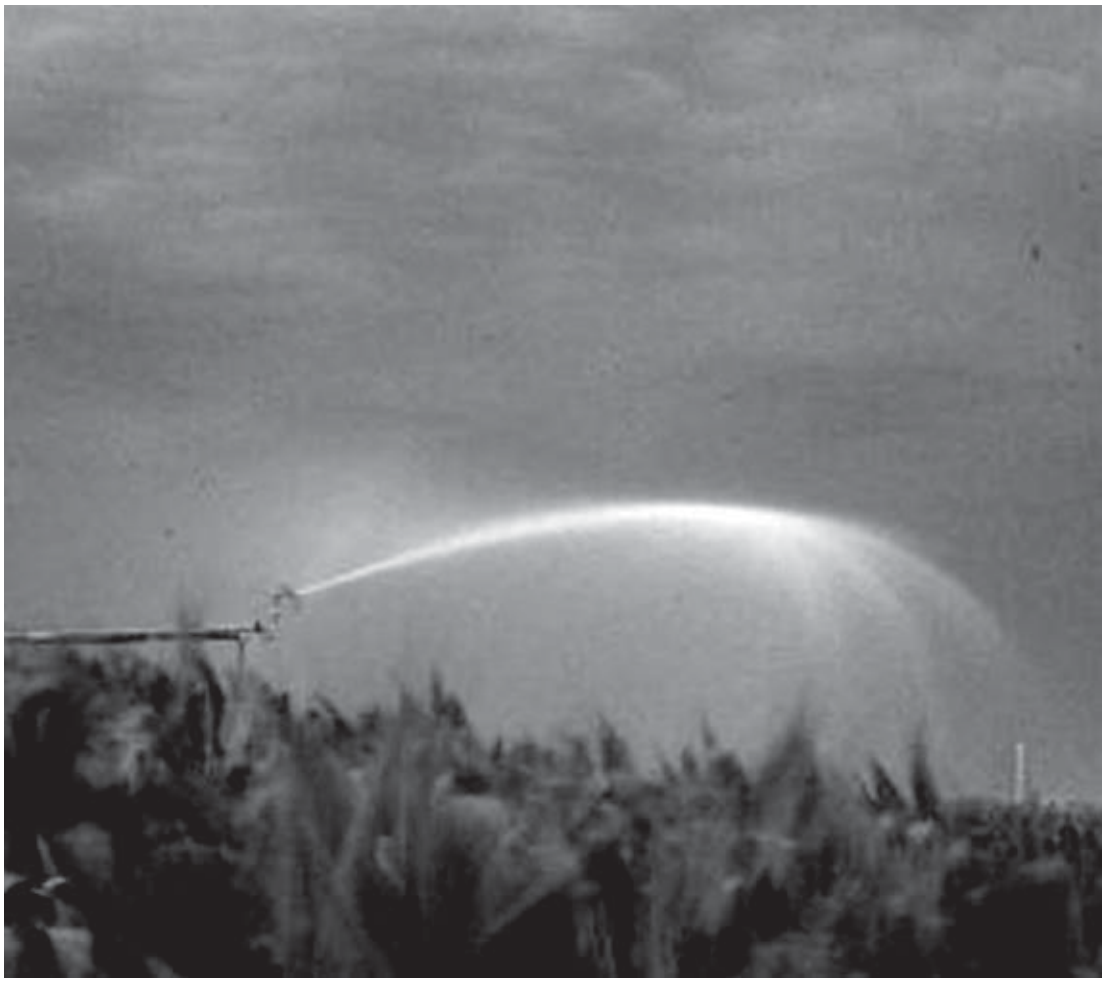
corners to residential use has entered a new chapter. It is now a standard strategy for some farmers and ranchers who wish to finance or expand their operations. Clearly, the marketing of sprinkler corners is standard operating procedure for speculators and the real estate community as they capitalize on national interest in living in places that are perceived as smaller, quieter, cleaner, and safer.

The conversion of sprinkler corners raises tough questions. Previously, most farm corners were productive, and public policy usually dictated their protection. However, the language of land-use regulations, as well as the content, typically leaves some latitude for interpretation. One question that must be addressed is whether sprinkler corners are viewed in their inherent state, i.e., productive farmland, or as obsolete lands resulting from a higher and functionally improved irrigation technology. Where owners seek to sell a parcel that has never been irrigated or is incapable of being irrigated, or where cultivation is limited by rockiness, high water table, or other conditions, the planning decision is less complicated. But use conversion owing to technological change is less easily defined and defended. Compounding all decisions is short-term versus long-term perspectives and entrenched attitudes ranging from anti-growth to anti-planning, and virtually every position between.

The question of community good in this context, or any land-use debate, is often swayed by local sentiment and personal interest. Planners are lobbied by groups ranging from property rights advocates, to no growth constituents, to aspiring country dwellers. Planners also find themselves

Most local-planning offices in the Colorado Front Range are in a chronic catch-up mode.

the target of criticism from one group for interfering with an individual's "right" to do what they wish with their personal property, and from another for denying anyone the "right" to live where they wish. It is also asserted that planners are frequently outsiders whose education, non-local heritage, and environmental agendas make them poor arbiters of what is good for a rural community. Finally, additional issues emerge



when elected officials with authority over planning agencies do not share the same attitudes about planning for growth, the environment, or ultimately, the established land-use ordinances in force.

RANCHETTES

The recent proliferation of new home sites in rural America raises complex land-use planning issues. Often termed "ranchettes," these small, dispersed tracts of land account for an increasing portion of the rural rebound.

In more than eighty case studies around the U.S., it has been demonstrated that low-density residential land-use does not pay its way.

Participants, and supporters of this rural-ward migration, contend that this is an exercise of a fundamental right, that is, to live anywhere one can afford. They hasten to add that their entrance into rural communities increases the taxable base and injects money into local economies that have struggled or even been in decline. And, they add, the land actually taken up is essentially nonproductive so there is minimal impact on agricultural production. A moot point, some contend, in light of large agricultural surpluses in many commodities.

While public opinion seems to generally favor a *laissez faire* policy regarding all real estate, there are exceptions. These include organizations like the American Farmland Trust and sundry environmental groups, as well as long-term rural and small town taxpayers suddenly facing bond issues for new schools, better roads, and professional fire protection. Opposition from the latter citizenry is not so much opposition to new population, but to the rate, distribution, and manner of the growth. But more than a decade into the rural rebound there appears little slackening even though the price of a five-acre sprinkler corner has risen from perhaps $10,000 to $50,000 or more. Comparatively, however, this is still acceptable since it is about the price one might expect to pay for an urban building site of one-third to one-half acre.

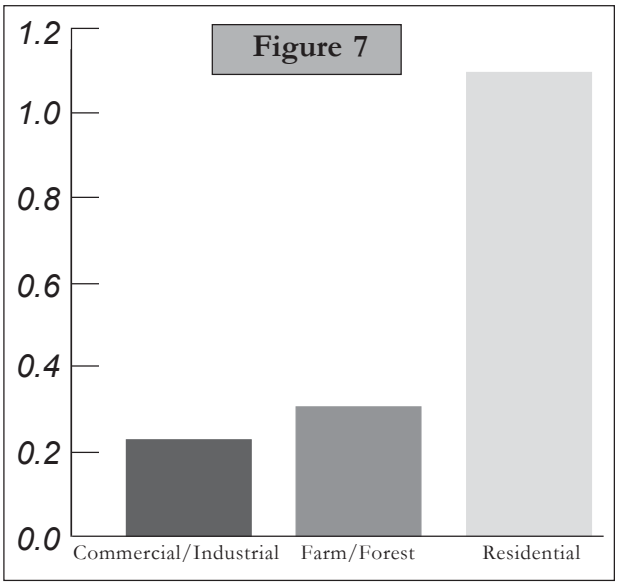
Owing to its specific location, the sprinkler-corner ranchette is an inherently challenging new land-use practice. First, the parcel is immediately adjacent to actively farmed fields. This means its occupants must be prepared for the realities of modern, large-scale, intensive farming. The ranchetters are likely dealing with a farm operator who is managing many acres, much equipment, and hired labor, primarily equipment operators. It is not Old McDonald just across the fence. The anticipated "quiet country living" often includes large, noisy, dust-raising equipment throughout the day, well into the night, and most of the year. Feedlots and dairies contribute their charm to country living with noise, dust, and smells that are both alien and offensive to those unaccustomed to modern agriculture. This development has

prompted one rapidly growing Colorado county to produce and distribute *The Code of the West*, a pamphlet whose intent is to minimize misunderstandings between agricultural and ranchette interests. In fact, most impacted rural communities now issue warnings to prospective new county dwellers as a matter of course.

While communications technologies provide a degree of residential freedom, the fact remains that most ranchetters are still city bound to a degree, some commuting every workday. But even when it is an occasional trip to the office or hauling kids to the orthodontist and soccer practice, roads take on a critical importance to newcomer and old-timer alike. Sharing a two lane county road, paved or not, with large feed, grain, and manure trucks (not to mention slow moving tractors towing massive implements) requires a willingness to adapt to potholes, delays, and dust. If the new home site is a sprinkler corner, the issue is twofold. First is a quantum increase in the number of so-called "blind" corners caused by buildings, fences, and trees. When this is compounded by a significant increase in traffic volume occasioned by new growth, frustrations and fatalities both rise. Speed, always a risk factor, has clearly increased with more long-distance commuters who tend to travel either early in the day or late in the evening (Lucy, 2000). More

governmental intervention seems the likely response to road and traffic woes but hardly anyone -- farmer, truck driver, or ranchette commuter -- favors impeding the traffic flow, not to mention higher taxes for road improvements.

Beyond issues of traffic or the condition of roads, an ongoing debate exists concerning the compatibility of ranchettes with intensive irrigated agriculture. The discussion can be joined at the corner café or followed in the local daily; occasionally, it finds its way into national news sources. Distilled to its essence, it concerns the methods of modern, large-scale agriculture and the ranchetters' visions of country living, and whether these can coexist in close proximity. At the core of contention is the unwillingness, or inability, of



established farming and ranching operations to change their way of doing business, despite the urging of their new neighbors to do so. High on the list of contested practices are storage and use of manure, use and manner of application of agricultural chemicals, field and ditch burning, feedlots, and the virtual round-the-clock use of large equipment at certain seasons. Farmers and ranchers respond with their own list of grievances: loose animals, especially dogs, use of fields for horse riding, failure to control weeds, out-of-control fires, the "borrowing" of irrigation water, theft of hay, or trash disposal in irrigation ditches. At a personal level such unresolved conflict may mean nothing more than hard feelings and mutual annoyance between adjacent property owners. If the discord escalates, local planners or the planning agency are frequently summoned by one party, or both, seeking support for their position, though the authorized role of local government and its staff is often quite limited in resolving these disputes. Unfortunately, aggrieved citizens often carry their complaints to law enforcement, lawyers, and ultimately the courts.

THE NEW SUBURBS?

Where ranchettes scatter across the countryside in significant numbers, a situation arises impacting all local residents, recent and otherwise. In more than eighty case studies around the U.S., it has been demonstrated that low-density residential land-use does not pay its way. Intuitively, it would seem that the corner of a field will yield more tax revenue if used for a home site than growing crops (not to mention weeds!). And this can be easily documented. In fact, as home sites multiply, property taxes go down because the tax base is raised. What is less apparent is the negative balance between revenue generated and the cost of required infrastructure and services to accommodate this form of land-use change.

The relationship of tax revenue to cost of services is graphically depicted in Figure 7. While the figures represent the median values from the case studies mentioned earlier, the total range of costs for residential community services varies from a low of $1.02 (per $1.00 of tax generated) to a high of $2.11 (American Farmland Trust). Not once in eighty-three community studies, conducted in eighteen states, did rural residential land-use give back to public coffers as much as it demanded. The low-density development that imparts much of the charm to country living, the "peace and quiet" sought by ranchetters, stretches services and community resources. Road maintenance and improvement, domestic water supply, phone and electrical service, mail delivery, fire protection and law enforcement all experience increased levels of demand. Stated in another fashion, when rural rebounders speak of "getting away from it all," few have in mind paved roads, next-day delivery, or quick response to emergency calls as aspects they wanted to leave behind.

The conventional wisdom is that houses increase the tax base, and you can make more money growing houses than corn or cattle. On a case-by-case basis and in the short run, this is a difficult argument to refute, especially in communities with economies that are in trouble. However, planners must be able to project land-use trends into the future and assess the long-term impacts upon not only the local economy, but also resources and the environment, and the quality of life for all citizens. Planners must also consider issues like the "tipping point," that future time when ranchettes could outnumber farms and ranches in a community with a resulting shift in the local political power base, and potentially, fundamental changes in attitudes and policies regarding farming and ranching practices (Smith and

Krannich, 2000).

What lies beyond such a tipping point? One scenario might be described as a dispersed, low-density suburb with significant farming surviving only in isolated islands. Even in such enclaves of agriculture, legislated restrictions for the common good would increase both the difficulty and the cost of farming and ranching. Meanwhile, public service demands could be expected to grow as the now majority ranchetters sought to bring something near urban quality services to their New Ponderosa (Nelson, 1992).

Unfortunately, the implications for retaining a sense of rural culture, for conserving open vistas, for wildlife protection, for soil and water quality, and control of plant and animal pests, are not promising in the long-term. And if the critics of suburbia are correct when they charge that a sense of community is unlikely within low density commuting neighborhoods, what are the prospects that socially viable neighborhoods will emerge from dispersed commuting ranchetters? (Kunstler, 1993)

PLANNING IMPLICATIONS

Planners are challenged daily by evolving land-use practices and patterns. Nowhere is this truer than in the case of the rural rebound, which literally caught most of us off guard. With no prospect for an end to innovations in communications technology or in agriculture, we should expect the demand for "Country Living" to continue and grow. Should the rural economy continue to falter, opportunity for the rural rebound will only expand.

Most local planning offices in the Colorado Front Range are in a chronic catch-up mode. Ironically, proposed legislation to help manage local land-use often sparks a modern day land rush as aspiring rebounders, and those who wish to serve that market, converge upon the Planning Office to beat deadlines. But it is not merely the volume of work that may frustrate good planning, but the very nature of the rural rebound. Consider the two primary populations involved. Traditionally, farmers and ranchers have bridled at what they consider excessive restrictions upon "their" freedoms from government programs intended to benefit them. Consequently, when the planning office involves itself in land sales and use, it seems but another example of "too much government."

As for the rebounders, they have aspirations of a simpler, more self-sufficient life-style. Whether returning to the countryside, or merely following a dream, land-use restrictions do not fit into their vision of this new, rural life-style. In essence, then, the planner must deal with at least

two potentially resistive parties that have very different experiences and frames of reference. In this context, not only is the planner to function as interpreter and enforcer of existing regulations, but also may be expected by either party (or both) to interpret the "strange" behavior of the other.

What fundamental role can planners and planning play in this contemporary drama beyond trying to deal with daily demand while hopefully reducing the backlog of work? Two things seem essential:

1. There must be a graphic, ongoing means to inform the public about the magnitude of rural land-use changes that have already occurred. These must be the basis for addressing the social, economic, and environmental impacts that attend such changes.

2. Planners and policy must continue to hold a view and vision of rural land-use that provides for the well being of future generations, not the satisfaction of whomever walks through the door on any given day.

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**Photos provided by Dr. Charles Collins and Monica Daniels-Mika*

BALLOT INITIATIVES AND THE (SUB)URBAN/RURAL DIVIDE IN COLORADO

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During the 1990s, Coloradans witnessed firsthand the dramatic population boom that occurred in several Western states. According to the 2000 U.S. Census Bureau, Colorado grew by more than a million people during the decade, an increase of nearly 30%. Growth in the state was not limited to the Denver Metro region and Front Range counties. All but five of the state's 63 counties (excluding newly created Broomfield county) grew during the decade, and many rural counties experienced exponential growth (in percentage terms) in their own right.[1] Still, as two trenchant observers of Colorado's politics noted nearly a decade ago, the state's "image as a rural state with much of its population living on ranches or farms or in small mountain communities" is belied by the fact that "Colorado is one of the more urban states in the country" (Cronin and Loevy 1993: 30). In absolute terms, the handful of (sub)urban counties that comprise the Front Range – Denver, Jefferson, El Paso, Arapahoe, Adams, Boulder, Larimer, Weld, Douglas, and Pueblo – continue to account for the bulk of the state's population. In 2000 (as was the case in 1990), 81% of Colorado's now 4.3 million residents reside in these 10 contiguous counties.

While certainly not new, Colorado's (sub)urban-rural divide appears to have become increasingly divisive in the making of public policy. On issues such as growth and wildlife management, gun control, agriculture, and water rights, (sub)urban and rural legislators (and their respective constituents) have conflicting attitudes of what kinds of public policies should be enacted. Since at least the 1960s, legislators representing rural areas of the state have seen their legislative clout diminish, as the voting power of rural constituencies has declined relative to (sub)urban constituencies (Cronin and Loevy 1993: 154-55). The erosion of rural voting power is especially true when policy matters are taken directly to the citizenry via the initiative process.

In this paper I assess whether the initiative process has a bias against rural Coloradans. Axiomatically, of course, the process of direct democracy is an inherently majoritarian system of representation. Due to sheer demographics, there is the potential that citizens residing in the 10 Front Range (sub)urban counties may completely dominate the initiative process. But are rural voters, who make up a minority share of the state's overall population, systematically losing out to the preferences of (sub)urban voters on ballot measures?[2]

Using a data set that combines 1990 and 2000 U.S. census data with aggregate county-level electoral data, I analyze the spatial voting patterns on the 40 statewide initiatives Colorado citizens considered in the five general elections held between 1992 and 2000. The analysis of the spatial voting patterns on statewide ballot initiatives highlights the voting

Table 1 - Colorado Ballot Initiatives, 1992 - 2000

Year	Ballot #	Subject	Statutory/ Constitutional Amendment	Votes For	Votes Against	Total Votes	Percent For	Initiative Approved
1992	1	Voter Approval for Tax and Spending Increases ("TABOR")	C.A.	812,308	700,906	1,513,214	53.68%	Yes
1992	2	Prohibits Anti-Discrimination Law for Sexual Orientation	C.A.	813,966	710,151	1,524,117	53.41%	Yes
1992	3	Limited Gaming	C.A.	448,779	1,060,168	1,508,947	29.74%	No
1992	4	Limited Gaming	C.A.	414,699	1,087,136	1,501,835	27.61%	No
1992	5	Legalize Limited Gaming	C.A.	414,489	1,087,713	1,502,202	27.59%	No
1992	6	Sales Tax for Education Reform	C.A.	693,231	826,787	1,520,018	45.61%	No
1992	7	Vouchers for Education	C.A.	503,162	1,011,901	1,515,063	33.21%	No
1992	8	Lottery Revenues for Parks, Recreation, Wildlife	C.A.	876,424	629,490	1,505,914	58.20%	Yes
1992	9	Limited Gaming	C.A.	292,961	1,200,336	1,493,297	19.62%	No
1992	10	Restrictions for Black Bear Hunting	C.A.	1,054,032	458,260	1,512,292	69.70%	Yes
1994	1	Tax on Tobacco	C.A.	429,847	685,860	1,115,707	38.53%	No
1994	11	Workers' Choice of Care	C.A.	369,741	730,963	1,100,704	33.59%	No
1994	12	Election Reform	C.A.	246,723	848,140	1,094,863	22.53%	No
1994	13	Limited Gaming	C.A.	90,936	1,007,557	1,098,493	8.28%	No
1994	15	Campaign and Political Finance Reform	C.A.	508,029	588,072	1,096,101	46.35%	No
1994	16	Regulate Obscenity	C.A.	404,156	696,040	1,100,196	36.73%	No
1994	17	Term Limits	C.A.	554,238	531,521	1,085,759	51.05%	Yes
1994	18	State Medical Assistance	C.A.	334,029	714,653	1,048,682	31.85%	No
1996	11	Property Tax Exemptions	C.A.	242,543	1,211,637	1,454,180	16.68%	No
1996	12	Term Limits	C.A.	768,257	654,124	1,422,381	54.01%	Yes
1996	13	Initiative and Referendum Reform	C.A.	435,995	967,266	1,403,261	31.07%	No
1996	14	Prohibited Methods of Taking Wildlife	C.A.	752,413	691,733	1,444,146	52.10%	Yes
1996	15	Campaign Finance Reform	C.A.	928,148	482,551	1,410,699	65.79%	Yes
1996	16	State Trust Lands	C.A.	708,502	656,095	1,364,597	51.92%	Yes
1996	17	Parental Rights	C.A.	615,202	837,606	1,452,808	42.35%	No
1996	18	Limited Gaming	C.A.	440,173	958,991	1,399,164	31.46%	No
1998	11	Partial-Birth Abortion	Stat.	618,310	654,824	1,273,134	48.57%	No
1998	12	Parental Notification of Abortion	Stat.	710,320	582,688	1,293,008	54.94%	Yes
1998	13	Uniform Regulation of Livestock Operations	C.A.	476,481	753,274	1,229,755	38.75%	No
1998	14	Regulation of Commercial Hog Facilities	Stat.	791,671	441,284	1,232,955	64.21%	Yes
1998	15	Water Meters in the San Luis Valley	Stat.	293,125	937,948	1,231,073	23.81%	No
1998	16	Payments for Water by the Rio Grande Water Conservation District	C.A.	297,921	932,822	1,230,743	24.21%	No
1998	17	Income Tax Credit for Education	C.A.	516,593	784,966	1,301,559	39.69%	No
1998	18	Voluntary Congressional Term Limits	C.A.	613,839	604,706	1,218,545	50.37%	Yes
2000	20	Medical Marijuana	C.A.	915,943	794,983	1,710,926	53.53%	Yes
2000	21	State, Local and Special Dist Tax Cut	C.A.	569,788	1,107,165	1,676,953	33.98%	No
2000	22	Background Checks at Gun Shows	C.A.	1,197,593	512,084	1,709,677	70.05%	Yes
2000	23	Increased School Funding Pre-school-12	C.A.	882,626	791,934	1,674,560	52.71%	Yes
2000	24	Citizen Management of Growth	C.A.	551,886	1,188,138	1,740,024	31.72%	Yes
2000	25	Women's Informed Consent	C.A.	664,420	1,020,029	1,684,449	38.44%	No

schism on an array of public policy questions that exists between Colorado's 10 Front Range (sub)urban counties and residents living in the state's other 53 predominantly rural counties.

"RURALITY" AND RURAL REPRESENTATION

Public opinion polls continually reveal that on a variety of issues, rural and (sub)urban voters hold widely divergent positions. Unfortunately, scholars have not considered this spatial dimension in their investigations of how (sub)urban and rural citizens vote on ballot measures. This is somewhat surprising, as there is a long-standing recognition of spatial (i.e., (sub)urban-rural) differences in the American states among scholars of state politics. In his classic study of southern politics, Key (1949, 115) finds that, "[a]ll over the South actual or fictional antagonisms between urban and rural areas are exploited for political purposes." Elsewhere, Key (1956, 227-37) documents a "metropolitan-outstate cleavage" existing across the American states, noting that "[t]he strand of rural and small-town politics contributes special color and tone to the American political system." Others have investigated the historical urban-rural split in state legislatures and the rural dominance of state legislatures (Jewell 1964; Broach 1972), as well as how rural legislators have lost much of their clout due to legislative redistricting in the 1970s and 1980s and the imposition of term limits in the 1990s (Price 1992; Rosenthal 1998; Weberg 1999). According to a National Council of State Legislatures publication, term limits may especially "prevent rural communities from building the seniority of their representatives" (Dire 1998).

The erosion of rural voting power is especially true when policy matters are taken directly to the citizenry via the initiative process.

In several other contexts, scholars of state politics have considered spatial differences in the American states. Some have shown how the social context in which citizens participate – i.e., the sharing of a common social space (Huckfeldt, Plutzer, and Sprague 1993; Huckfeldt and Sprague 1995) – can shape electoral participation and outcomes in candidate and ballot elections (Hero 1998; Hill and Leighley 1999; Alvarez and Butterfield 2000; Gay 2001), with others demonstrating how urban-rural distinctions help to explain popular support or opposition for public policies at the state level (Voss and Miller 2001; Erikson, Wright, and McIver 1993, 83-86). Furthermore, scholars examining legislative apportionment have highlighted (sub)urban-rural dissimilarities when it comes to questions of redistricting state legislative seats (Monmonier 2001, 23), as the courts have generally upheld the notion of distinct geographic "communities of interest," including the "classic bifurcation urban and rural" (Scher, Mills, and Hotaling 1997, 155-157).

Certainly in the subdiscipline of rural sociology, the appreciation of urban-rural spatial differences is not new. Since the 1940s, if not earlier, rural sociologists have documented the gradual decline in the rural population in the United States,[3] and more importantly, how inhabitants in rural parts of the United States have culturally distinct interests from residents living in predominantly urban and suburban areas (Nichols 1940; Bealer, Willits, and Kuvlesky 1965; Pahl 1966). Unfortunately, among rural sociologists there is little consensus on a definition of "rural." Though the concept of rural is widely understood amongst the general populace, rural sociologists have tacitly agreed not "to undertake the impossible derivation of a definitive meaning for rural" (Bealer, Willits, and Kuvlesky 1965, 266).[4] While defining "rural" may well be an "impossible" task, a common theme underlying many sociological understandings of rurality is the spatial dimension, which includes both the "particularistic" (a distinct "place" in which "social relationships transpire") and the "relational" (i.e., "the position of an area with regard to others of similar or different spatial scales") (Lobao 1996). It is this dimension that may help policymakers better understand spatial voting patterns on ballot initiatives and how a collective understanding of social space can forge and politicize a population's identity when faced by a perceived a threat to its shared "life-style."

EVIDENCE OF COLORADO'S SPATIAL DIVIDE: COUNTY SUPPORT FOR BALLOT INITIATIVES

In the five general elections held in Colorado between 1992 and 2000, a majority of voters approved 16 of the 40 initiatives placed on the ballot (40%). The slate of initiatives dealt with a variety of issues, from tax cuts and increased funding for education, to providing for open space and controlling growth and guns, to animal protection and abortion restrictions, to gay and parental rights. (See Table 1)

A cursory look at the election results of the 40 ballot initiatives supports both the anecdotal perceptions of rural dwellers and the empirical findings of rural sociologists. At the aggregate level, there are indeed wide differences in the way (sub)urban and rural citizens vote on ballot measures. Citizens living in the 10 Front Range counties voted significantly differently than a majority of those residents of the 53 predominantly rural counties in 25 of the 40 ballot measures (62.5%).

Table 2 - Comparison of Mean County Votes on Colorado Ballot Initiatives, 1992-2000

Year	Ballot #	Subject	Mean Percent Vote on Ballot Measures of 10 Front Range Counties	Mean Percent Vote on Ballot Measures of 53 Rural Counties	Mean Percent Vote Difference Between Front Range and Rural Counties	Independent Samples T-Test*	Initiative Approved	Outcome Biased Against Preferences of Rural Counties
1992	1	Voter Approval for Tax and Spending Increases ("TABOR")	54.3%	51.6%	-2.7%	-1.249	Yes	No
1992	2	Prohibits Anti-Discrimination Law for Sexual Orientation	54.1%	58.2%	4.1%	1.078	Yes	No
1992	3	Limited Gaming	30.4%	33.3%	2.9%	1.031	No	No
1992	4	Limited Gaming	28.6%	29.5%	0.9%	0.428	No	No
1992	5	Legalize Limited Gaming	27.7%	24.3%	-3.4%	**-1.740**	No	No
1992	6	Sales Tax for Education Reform	46.7%	40.8%	-5.9%	**-2.098**	No	No
1992	7	Vouchers for Education	34.0%	28.9%	-5.1%	**-3.060**	No	No
1992	8	Lottery Revenues for Parks, Recreation, Wildlife	58.3%	50.8%	-7.5%	**-1.695**	Yes	No
1992	9	Limited Gaming	20.2%	18.2%	-2.0%	-1.550	No	No
1992	10	Restrictions for Black Bear Hunting	71.3%	54.8%	-16.5%	**-4.505**	Yes	No
1994	1	Tax on Tobacco	39.9%	29.4%	-10.5%	**-3.060**	No	No
1994	11	Workers' Choice of Care	34.0%	31.0%	-3.0%	-1.302	No	No
1994	12	Election Reform	23.0%	18.8%	-4.2%	**-2.772**	No	No
1994	13	Limited Gaming	8.7%	7.9%	-0.8%	-0.863	No	No
1994	15	Campaign and Political Finance Reform	46.4%	41.4%	-5.0%	-1.590	No	No
1994	16	Regulate Obscenity	37.0%	33.8%	-3.2%	-1.464	No	No
1994	17	Term Limits	51.7%	44.8%	-7.0%	**-2.772**	Yes	**Yes**
1994	18	State Medical Assistance	32.6%	26.3%	-6.4%	**-3.451**	No	No
1996	11	Property Tax Exemptions	16.4%	16.3%	-0.1%	-0.035	No	No
1996	12	Term Limits	54.9%	47.5%	-7.4%	**-3.142**	Yes	**Yes**
1996	13	Initiative and Referendum Reform	31.1%	27.5%	-3.6%	**-1.841**	No	No
1996	14	Prohibited Methods of Taking Wildlife	53.9%	34.3%	-19.6%	**-4.138**	Yes	**Yes**
1996	15	Campaign Finance Reform	66.0%	57.2%	-8.8%	**-2.544**	Yes	No
1996	16	State Trust Lands	52.9%	38.2%	-14.7%	**-3.336**	Yes	**Yes**
1996	17	Parental Rights	42.7%	44.7%	2.0%	0.872	No	No
1996	18	Limited Gaming	32.2%	30.4%	-1.8%	-0.928	No	No
1998	11	Partial-Birth Abortion	49.9%	47.7%	-2.2%	-0.609	No	No
1998	12	Parental Notification of Abortion	56.0%	55.3%	-0.7%	-0.185	Yes	No
1998	13	Uniform Regulation of Livestock Operations	39.6%	32.4%	-7.2%	**-0.119**	No	No
1998	14	Regulation of Commercial Hog Facilities	65.3%	54.6%	-10.7%	**-3.368**	Yes	No
1998	15	Water Meters in the San Luis Valley	25.3%	14.0%	-11.3%	**-5.634**	No	No
1998	16	Payments for Water by the Rio Grande Water Conservation District	25.7%	15.0%	-10.7%	**-4.888**	No	No
1998	17	Income Tax Credit for Education	40.6%	34.4%	-6.2%	**-3.165**	No	No
1998	18	Voluntary Congressional Term Limits	51.5%	41.2%	-10.3%	**-5.477**	Yes	**Yes**
2000	20	Medical Marijuana	51.7%	44.2%	-7.4%	**-1.708**	Yes	**Yes**
2000	21	State, Local and Special Dist Tax Cut	32.8%	25.5%	-7.3%	**-3.818**	No	No
2000	22	Background Checks at Gun Shows	70.4%	49.2%	-21.2%	**-5.392**	Yes	**Yes**
2000	23	Increased School Funding Pre-school-12	50.8%	43.7%	-7.1%	**-2.450**	Yes	**Yes**
2000	24	Citizen Management of Growth	28.7%	22.2%	-6.5%	**-2.201**	Yes	No
2000	25	Women's Informed Consent	38.4%	35.1%	-3.3%	-1.475	No	No

As a general rule of thumb, rural citizens in the five general elections were less likely to support ballot initiatives at the polls. As Table 2 reveals, only four ballot initiatives (Amendments 2, 3, and 4 in 1992 and Amendment 17 in 1996) received more support from voters in the state's 53 rural counties, on average, than from those residing in the 10 Front Range counties, though the difference between the means in all four cases was not statistically significant. Of the remaining 36 initiatives, the average vote in favor of each measure was considerably higher in the 10 Front Range counties than in the 53 rural counties; the difference in the average level of support between (sub)urban and rural counties was significant in 25 of the cases (69.4%).

In the sub-discipline of rural sociology, the appreciation of urban-rural spatial differences is not new.

The difference between (sub)urban and rural counties in the mean support for the 40 initiatives is striking. With 23 of the 40 ballot measures (57.5%), the average vote in favor of the measure among rural counties was at least 5% less than the average level of support of the 10 Front Range counties. The mean support for nine of the measures was at least 10% less in rural counties than their (sub)urban counterparts. The widest average spread in support of a ballot measure between Front Range and rural counties was on Amendment 22 in 2002, the successful measure regulating background checks for purchasing weapons at gun shows. While the measure passed with 70% of the statewide vote, the average support for the measure in the 53 predominantly rural counties was only 49.2%, a full 21.2% less than the 70.4% mean approval for the measure in the 10 Front Range counties. Similarly, rural voters were much less likely than (sub)urbanites to support two successful animal protection measures sponsored by the United States Humane Society. The average level of support in the 53 rural counties was nearly 20% less than that of the 10 (sub)urban counties on Amendment 14 in 1996, which banned the use of leghold snare traps, and more than 16% less than the Front Range counties on Amendment 10, in 1992 which prohibited the hunting of black bears with bait and hounds. There was also significantly less support in rural counties for ballot measures that dealt with the regulation of commercial hog farms, two initiatives that sought to regulate water in the San Luis Valley, and a measure expanding state trust lands.

While we might expect there to be significant differences between (sub)urban and rural counties in the level of support for ballot initiatives dealing with land and water usage, agriculture, and anti-hunting measures, what is surprising is that the (sub)urban/rural divide also is evident on a host of other issues. Rural voters were less likely to support several governance measures, including term limits (Amendment 17 in 1994 and Amendment 12 in 1996, and Amendment 18 in 1998), campaign finance reform (Amendments 12 and 15 in 1994 and Amendment 15 in 1996), and reforming the initiative process itself (Amendment 13 in 1996). Voters in rural counties were also less likely to support tax cuts (Amendment 1 in 1992 and Amendment 21 in 2000), education vouchers, and tax credits (Amendment 7 in 1992 and Amendment 17 in 1998), as well as tax increases for education programs (Amendment 6 in 1992, Amendment 1 in 1994, and Amendment 23 in 2000). Finally, rural voters were less likely to support measures aimed at controlling sprawl (Amendment 24 in 2000) and expanding state parks (Amendment 8 in 1992), as well as legalizing the use of marijuana for medical purposes (Amendment 20 in 2000).

Clearly, there are widespread differences in the preferences of voters living in predominantly rural counties, compared with those voters living in largely (sub)urban counties. The spatial preferences of voters are not only divergent when considering the usual suspects – land-use and animal protection measures. Rather, rural and (sub)urban initiative voters do not see eye to eye on a range of ballot measures, including those dealing with governance, education, taxation, and moral issues.

ARE RURAL COUNTIES SYSTEMATIC LOSERS ON BALLOT MEASURES?

A deep preferential chasm exists between rural and (sub)urban voters, as evidenced by the votes on Colorado's 40 ballot initiatives between 1992 and 2000. But this important finding begs the central question driving this inquiry: Are rural voters consistently ending up on the losing side of statewide majority votes on ballot initiatives? Although rural citizens tend reject ballot measures more than (sub)urban voters, are the majority preferences of voters living in primarily (sub)urban counties trumping those majority preferences of voters living in mainly rural counties?

As the final column of Table 2 reveals, the mean majority preferences of voters residing in largely rural counties were trumped by those of a majority of voters living (sub)urban counties on eight of the 40 ballot measures (20%). In these eight cases, the ballot measures were approved by statewide majorities, despite the fact that the average vote of the citizens in the state's 53 rural counties was less than 50% on each initiative. On the flip side, the mean preference of (sub)urban counties was never topped by the mean preferences of rural counties.

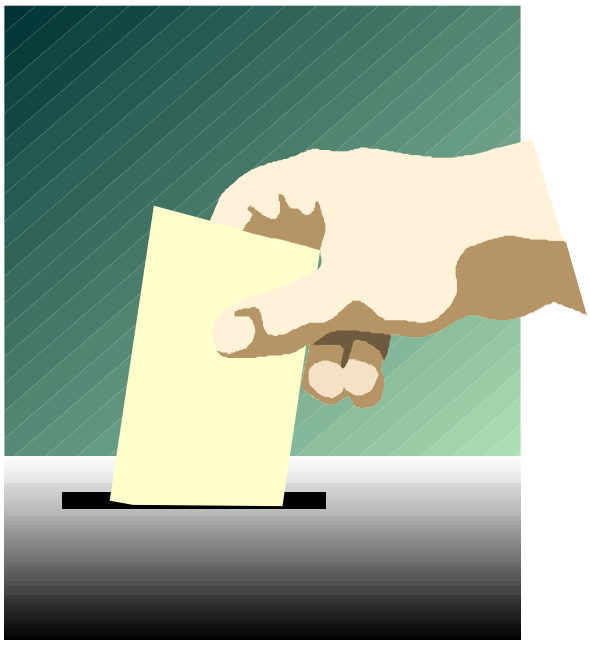
Three of the eight successful initiatives biased against the mean preferences of voters living in rural counties dealt with term limits. In 1994, the mean vote in the 53 rural counties in support of Amendment 17, an initiative to impose term limits on nonjudicial elected officials, was 7% less than that of the Front Range counties. The measure passed with 51% of the vote, despite the fact that, on average, the measure received less than 45% support in the 53 rural counties. Similar spatial voting patterns occurred on the other two term limit measures approved by statewide majorities; on average, a majority of voters living in rural counties opposed the successful initiatives, Amendment 12 in 1996 and Amendment 18 in 1998. Rural counties were also on the losing side to mean preferences of voters living in Front Range counties on two other measures in 1996. The average support for two measures – Amendment 14, an anti-hunting

Citizens living in the 10 Front Range counties voted significantly differently than a majority of those residents of the 53 predominantly rural counties in 25 of the 40 ballot measures.

measure that banned leghold traps, and Amendment 16, which expanded public lands of the state held in trust – averaged less than 40% in the 53 rural counties. Yet both initiatives received roughly 51% of the statewide popular vote, thereby amending the state constitution. Finally, the preferences of a majority of voters residing in rural counties were defeated by (sub)urban majorities on three liberal initiatives in 2000. The support of rural counties, on average, was less than 50% for legalizing marijuana for medical purposes (Amendment 20), for background checks on individuals purchasing weapons at gun shows (Amendment 22), and increasing the funding for K-12 education (Amendment 23).

CONCLUSION

The implications of these aggregate level findings for rural constituencies, of course, may be interpreted as the glass being either half-empty or half-full. A majority preferences on ballot measures of voters living in rural counties, after all, are trumped by those of (sub)urban voters *only* 20% of the time. In 32 of the 40 cases, rural and (sub)urban majorities in Colorado's 63 counties either supported or opposed the initiatives in like fashion. But it



should concern public policy leaders that a majority of voters in rural counties have significantly different preferences on ballot issues than their Front Range cohorts. More significantly, one-fifth of the time the majority preferences of rural voters are being drowned out by those of (sub)urban voters at the polls. It should be of special concern to policymakers that the spatial divide of initiative outcomes occurs on issues that are of substantive import to rural citizens.

Term limits on legislators and local officials, for example, have greater negative consequences for rural areas than urban areas. Lacking numbers, rural interests have had to rely on the seniority of rural lawmakers to help counterbalance urban interests. At the local level, term limits may limit good governance, as many rural areas have a paucity of qualified individuals to hold public office once term limits are in effect. Rural interests are more likely to be directly affected by animal protection and land-use issues than the (sub)urban majorities that supported the measures. Furthermore, of the eight cases where the mean preference of voters in rural counties was trumped by that of voters living in (sub)urban counties, six were approved in presidential elections (3 in 1996 and 3 in 2000). This may have to do with the fact that voter turnout is higher in presidential elections, especially in urban areas; while turnout in rural counties is generally higher than urban counties, this advantage is mitigated somewhat in general elections. Finally, the (sub)urban/rural divide on ballot issue voting may only worsen in the future, as the preferences of citizens living in

the Front Range diverge even more than those of the state's rural citizens.

Unfortunately, scholars have not examined the possibility of an urban/rural divide in direct democracy contests. Unlike a republican form of government, whereby elected representatives are able to deliberate and modify policies prior to their adoption, procedurally, direct democracy is a "winner-take-all," majoritarian institution. As such, "direct democracy requires majorities of voters to support a particular policy and, by definition, minority groups are disadvantaged" (Donovan, Wenzel, and Bowler 2001, 173). Procedurally, critics decry, direct democracy undermines iterative deliberation. Because the process "introduce[s] an extreme form of majoritarianism that is inappropriate for deep constitutional questions," Chambers (2001) laments, it "often present[s] the voter with the image of inflexibility (debate cannot alter the framing of the question) and irreversibility (constitutional proposals are entrenched outside the on-going iterative process of normal politics)." While it is certainly the case that minority interests lose their share of battles in republican settings, there is at least the possibility that they may alter the substance of the legislation during the "normal" legislative process.

While the preliminary comparison of the mean votes of counties on ballot initiatives offered here does not control for other factors that might affect aggregate votes on initiatives, such as partisanship and socioeconomic factors, it does suggest that majorities of citizens residing in largely rural counties do vote differently on most ballot than those citizens who live in (sub)urban counties. Due to the asymmetric (sub)urban-rural population distribution in Colorado, the question of whether or not the initiative process is biased against rural citizens is a real one. As such, policymakers should take note, as ballot initiatives will inevitably continue to shape the contours of public policy in the state.

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FOOTNOTES

[1] Only the populations of Nevada (66 percent) and Arizona (40 percent) grew faster. San Juan, Cheyenne, Kiowa, Jackson, and Baca counties lost population during the 1990s. U.S. Census Bureau 2002.

[2] More generally, the debate over the impact of direct democracy on minority rights is far from settled. Though the minority rights question has been a staple among those investigating the process for nearly a hundred years (Haynes 1907; Barnett 1915; Beard 1912), there is little consensus as to whether minority rights are compromised in ballot contests. The classic argument advanced by Bell (1978) – that the initiative process, when contrasted with state legislatures, systematically disadvantages racial and ethnic minorities – has found limited anecdotal evidence (Eule 1991; Linde 1993; 1994; Magleby 1984). More recent research reveals that some initiative outcomes may have harmful consequences for racial, ethnic, sexual, and language minorities (Gamble 1997; Tolbert and Hero 1996; Chavez 1998), and that the process of direct democracy itself may contribute to the suppression of minority rights by negatively affecting public attitudes towards already marginalized groups (Wenzel, Donovan, and Bowler 1998). Conversely, there is a growing body of research revealing that many initiatives do not deprive minorities of their rights (Hajnal, Gerber, and Louch 2002; Zimmerman 1999; Donovan and Bowler 1997; 1998; Frey and Goette 1998; Baker 1991). Furthermore, some scholars argue that even if ballot initiatives can be shown to curb minority rights, they do so incrementally and not radically (Donovan, Wenzel and Bowler 2001). When compared with republican form of governance, as Cronin (1989, 92) dispassionately writes, "direct democracy devices can only rarely be faulted for impairing the rights of the powerless."

[3] In 1950, the U.S. Census Bureau reported that 36% of households in the United States were rural; by 1970, the figure dropped to 26.3%, and by 1990, slightly less than one quarter (24.8%) of all household were classified as rural. U.S. Census Bureau 1993.

[4] Scholars have identified several aspects of rurality, including functional (e.g., ecological, occupational, and cultural) (Bealer, Willits and Kuvlesky 1965), identity (Falk and Pinhey 1978), and relational (Falk 1996). In his research on the lay conception of rurality, Jones (1995) finds "the idea of the rural emerged as a heterogeneous conglomerate drawn from a wide spectrum of more specific elements," which "ranged through such ideas as village life or community, agrarian economy, the presence of agriculture as spectacle, proximity of nature, remoteness, contrast with the urban, aesthetic quality of landscape and/or building, peace and quiet, security, and tradition."

THE BUSINESS POTENTIAL OF INNER-CITY DENVER: *Universities and Private Capital as Complements**

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INTRODUCTION

Inner-city areas are often significantly "under-stored" (Loukaitou-Sideris, 2000), with inadequate opportunities for residents to shop near their homes. More residents are transit dependent in inner-cities than in the general metro area, making them even more constrained to local choices. But which types of establishments are needed in which locations? Given their isolation from the economic mainstream, marginalized communities may be the least able to provide information regarding development possibilities. Yet they would also be likely to benefit substantially from such knowledge, given that inner-city markets are the focus of less attention than those of economically successful communities.

This paper shows that such informational gaps in fact exist. Such gaps produce particularly regressive forms of market failure, where economic isolation and stagnation reinforce each other. Business opportunities are likely to exist in the inner-city, but private capital's focus needs to be reoriented to such possibilities. Public entities may help more by analyzing and providing information than by organizing and implementing top-down programs. Universities may be particularly well suited to bridging informational gaps (Weiler, 2000a). In that spirit, this study represents a further effort in constructing a new form of public-private partnership, where each party concentrates on its relative advantage. Under this scenario, publicly supported actors such as universities analyze and disseminate promising economic information, while private actors construct and manage the resultant entrepreneurial efforts.

Retail sales gaps have been found to be significant for a number of cities. Boston, New York City, Miami, Chicago, Atlanta, Oakland, Baltimore, and Memphis have been examined closely (BCC and ICIC, 1998; Porter, 1997; and REDC, 1998). The U.S. Department of Housing and Urban Development (HUD) published a report estimating retail sales gaps for dozens of cities across the nation (HUD, 1999), which highlights many substantial retail gaps in inner-city areas. The case study of inner-city areas in Denver itself suggests numerous retail gaps that present the potential for private capital to initiate socially beneficial entrepreneurship and the overall potential value of public/private partnerships in such settings.

THE OVERLOOKED PROMISE OF INNER CITIES

When many retailers consider locating in the inner-city, they think of the drawbacks and decide to move elsewhere. Companies' perceptions of the inner-city are that crime is

too high, local governments are obstacles rather than facilitators, and good employees are difficult to find, to name a few of the most common problems (BCC & ICIC, 1998). The negative aspects of the inner-city, conventional wisdom suggests, are greater than the positives. This thinking is shortsighted at best. Inner-city areas offer numerous benefits that may outweigh the negatives on which retailers initially focus (Porter, 1997). The inner-city may in fact be an unusually promising place for business development.

To satisfy an inner-city's retail shopping needs, a variety of stores may be needed. In some cases, local entrepreneurs with detailed, personal knowledge of the target market can successfully fill niche markets. Their stores may be small to mid-sized, depending on the needs of the community and their accessibility to start-up capital. Other times, existing stores will be able to fulfill local demand by expanding their operations on a scale determined by community needs. In extremely under-stored areas, local demand may warrant the introduction of a large retail establishment. Under each scenario, specific information about the size and type of retail establishments (food, clothing, household goods, or department store) that are lacking can aid entrepreneurs and established business owners in securing funding for retail development.

This study represents a further effort in constructing a new form of public-private partnership.

Inner-city households have under-appreciated buying power. Residents' low average household incomes tend to deter potential retail firms. However, this number is misleading, since households with low averages often spend more than they apparently earn. This ratio of household expenditures to reported income is very large (around 4) for the poorest households, then declines as income increases to a ratio of approximately .6 for the most affluent households (REDC, 1997, 1998). Even though their incomes are just 54% that of other urban residents, inner-city households spend 62% as much in total, 89% as much on food at home, and 67% as much on clothing as other urban residents (HUD, 1999, pp. 7). Inner-city spending on retail is greatly underestimated if only comparative household average incomes are considered rather than expenditures.

Common methods of reporting income — medians or averages – thus distort the market potential of a community and create misleading information about inner-city neighborhoods, particularly given their relative density. The informal economy tends to be particularly important in struggling rural and urban populations, which can lead to significant undercounting of actual household income (Weiler, 1997; Eisner, 1988). Part of this is due to the estimated $1 trillion— more than 10% of current GDP— that goes unrecorded in today's economy. Legal activities such as gardening, childcare, housekeeping, tips, and street

vending represent most of this income, although illegal sources contribute as well (BCC & ICIC, 1998). In addition, temporary unemployment, savings depletion, student loans, and self-employment income losses can give residents with low incomes higher purchasing power than their earnings indicate (REDC, 1998).

Population density per square mile makes inner-city markets especially appealing. Even though median household incomes may be low, the density of suburban purchasing power pales when compared to inner-city purchasing power per unit area. For example, a 3.5 square mile area of inner-city Memphis, Tennessee, has the same retail spending as the 700 square miles of a nearby urbanized Kentucky county (REDC, 1998). As suburban markets become saturated with retail stores and profits per square foot decrease, the higher untapped profits in the "under-stored" inner-city should become more attractive to retailers, given proper information on prospects. Store after store bears out this hypothesis, with many chain stores report their highest earnings from inner-city locations (Taneja, 1998). The opportunities presented by inner-city markets are becoming simply too large to ignore.

Even practiced estimates of consumer demand within the inner-city tend to underestimate actual sales. For instance, after seventeen years of refining their methodology for projecting store sales, one successful fast food company reported that for fully half of their stores, the average underestimate of sales ranged from 20% to 25% (Okoruwa

TABLE 1 - 1997 Retail

Zip	HH	Median Inc	Mean Inc	Expenditures	Sales	Gap	Gap/HH
80207	*7,652*	*$46,746*	*$58,441*	*$157,501,193*	*$76,444,014*	*($81,057,179)*	*($10,593)*
80218	*9,283*	*$32,835*	*$56,404*	*$187,189,422*	*$141,843,417*	*($45,346,006)*	*($4,885)*
80219	*18,738*	*$37,763*	*$43,889*	*$326,392,267*	*$336,043,872*	*$9,651,605*	*$515*
80205	*8,940*	*$24,502*	*$37,351*	*$141,663,928*	*$192,873,067*	*$51,209,139*	*$5,728*
80211	*14,303*	*$31,517*	*$39,294*	*$233,490,164*	*$288,900,274*	*$55,410,111*	*$3,874*
80203	*11,099*	*$28,212*	*$39,750*	*$182,416,773*	*$288,467,065*	*$106,050,292*	*$9,555*
80223	*7,456*	*$33,172*	*$40,806*	*$124,443,492*	*$295,129,596*	*$170,686,104*	*$22,892*
80204	*12,074*	*$26,621*	*$36,132*	*$187,635,107*	*$379,526,457*	*$191,891,350*	*$15,893*
80216	*2,854*	*$29,653*	*$36,214*	*$44,411,459*	*$377,753,824*	*$333,342,365*	*$116,798*
Sum	*92,399*	*$32,336*	*$43,142*	*$1,585,143,806*	*$2,376,981,587*	*$791,837,781*	*$8,570*
Denver	*217,450*	*$32,900*	*$32,900*	*$3,995,185,462*	*$5,783,276,898*	*$1,788,091,436*	*$8,223*

50% Capture of Local Gap

Zip	New Est	New Emp	New Inc	New Sales
80207	*26.5*	*392*	*$6,536,844*	*$40,528,590*
80218	*14.8*	*219*	*$3,656,922*	*$22,673,003*
Sum	*41.3*	*611*	*$10,193,766*	*$63,201,592*

et al, 1994). This finding is mirrored in a grocery store chain's claim that they must generally add 20% to presumably reputable estimates of food expenditures by inner-city residents. Currently, firms gain experiential knowledge like this only through time, trial, and error (HUD, 1999). Better initial information on retail prospects is clearly needed, which still is likely to result in conservative assessments of market potential.

Another factor that determines the demand for retail establishments close to inner-city neighborhoods is the percentage of residents who are transit dependent. For the United States as a whole, some 90% of people commute to work by car. The remaining 10% are divided almost equally between those who use transit and those who work at home or walk to work (Mills and Lubuge, 1997). However, inner-city residents are more likely to use transit, since as many as 30% or even 50% of them may not own cars (Loukaitou-Sideris, 2000; REDC (S. Memphis), 1998). Shopping far from home is therefore more difficult for many inner-city residents, particularly for items needed regularly such as food. They will often use available retailers, such as drug stores or smaller grocery stores, to fulfill shopping needs (BCC & ICIC, 1998). This situation is less than ideal in terms of price and merchandise options for the inner-city customer and represents yet another indicator of retail gaps in the inner-city.

A vicious circle of economic isolation can and has ensued in both inner-city and rural markets.

Given these promising features, what feeds businesses' fears about setting up shop in the inner-city? The inner-city stigma of crime and infrastructural problems tend to be cited first, but past experience has shown such issues generally to be overstated relative to the business potential of such locations (HUD, 1999). However, these concerns underline the fact that retail firms simply face considerable uncertainty in inner-city areas (Forester, 2000). Niche markets presented by inner-city neighborhoods are hard for outsiders to analyze, although this situation underlines the advantages of local participation.

In that sense, highlighting such opportunities is particularly important for more resource constrained entrepreneurs targeting a local market. Space constraints of dense urban locations often do not allow for the necessary scale of chain store arrivals; chain stores anyway tend to have their own location calculus based on broader market and distribution characteristics.

Yet similarly standardized market information for potential entrepreneurs on inner-city retail sites is both crucial and lacking. In areas with "thicker" transactions, such as well-traveled suburban real estate and retail markets, such information is plentiful. However, inner-city and rural areas have considerably "thinner" informational markets, given the lesser number of local transactions. Such thin markets thus have additional difficulties in attracting private capital, as the latter faces greater uncertainty in the face of untested sidewalks and storefronts. Financing is likely to be especially difficult to secure in such "new" markets, as lenders have no local benchmarks to consider a potential business' viability. A vicious circle of economic isolation can and has ensued in both inner-city and rural markets. Providing objective information on market prospects can help alleviate this cycle of isolation and neglect.

INNER-CITY RETAIL GAPS IN DENVER

Universities may be particularly well-placed to develop broad objective studies of otherwise neglected areas. Land-grant schools such as Colorado State University in fact have such service-oriented research as an explicit part of their mission. Businesses tend to shy away from unknown markets because of the higher uncertainty and risk associated with areas that have a "thin" history of business transactions. Universities can shoulder the informational part of that risk by objectively analyzing such areas precisely for their business

TABLE 2 - 1997 Food at Home

Zip	HH	Median Inc	Mean Inc	Expenditures	Sales	Gap	Gap/HH
80207	*7,652*	*$46,746*	*$58,441*	*$24,856,860*	*$4,270,776*	*($20,586,084)*	*($2,690)*
80203	*11,099*	*$28,212*	*$39,750*	*$31,991,946*	*$17,721,368*	*($14,270,578)*	*($1,286)*
80211	*14,303*	*$31,517*	*$39,294*	*$41,079,982*	*$32,366,443*	*($8,713,539)*	*($609)*
80223	*7,456*	*$33,172*	*$40,806*	*$21,666,893*	*$15,804,124*	*($5,862,769)*	*($786)*
80205	*8,940*	*$24,502*	*$37,351*	*$25,276,200*	*$28,815,263*	*$3,539,063*	*$396*
80216	*2,854*	*$29,653*	*$36,214*	*$7,992,122*	*$14,083,640*	*$6,091,518*	*$2,134*
80204	*12,074*	*$26,621*	*$36,132*	*$33,787,313*	*$45,539,386*	*$11,752,073*	*$973*
80218	*9,283*	*$32,835*	*$56,404*	*$29,825,120*	*$69,188,947*	*$39,363,827*	*$4,240*
80219	*18,738*	*$37,763*	*$43,889*	*$55,696,091*	*$102,756,756*	*$47,060,664*	*$2,512*
Sum	*92,399*	*$32,336*	*$43,142*	*$272,172,528*	*$330,546,704*	*$58,374,176*	*$632*
Denver	*217,450*	*$32,900*	*$48,075*	*$664,860,809*	*$875,565,872*	*$210,705,064*	*$969*

50% Capture of Local Gap

Zip	New Est	New Emp	New Inc	New Sales
80207	*3.0*	*63*	*$1,233,356*	*$10,293,042*
80203	*2.1*	*44*	*$854,980*	*$7,135,289*
80211	*1.3*	*27*	*$522,046*	*$4,356,769*
80223	*0.9*	*18*	*$351,251*	*2,931,385*

potential. While certain areas may indeed feature little possibility for private capital, research could identify other neglected markets with considerable entrepreneurial promise.

In that spirit, a joint project between CSU, the Denver Mayor's Office, and the federal Economic Development Administration was initiated to better understand the business potential of inner-city neighborhoods of Denver. These neighborhoods were identified by their various economic indicators, such as high unemployment and poverty alongside lower per capita

incomes, as well as through broader social measures, including crime, birth, education, and welfare statistics. The resulting target neighborhoods formed a rough half-donut around the downtown area from the southwest clockwise to the northeast. These neighborhoods include some of the most ethnically diverse and also fastest growing areas in Denver. For example, Cole's population grew by 52.4% between 1990 and 2000 (versus Denver's overall 18.6% growth), but its Hispanic component grew by 97.8%, which now comprises 71% of the neighborhood's population. Valverde, Westwood, Whittier, Clayton, Elyria Swansea, Jefferson Park, Northeast Park Hill, and West Colfax are other target neighborhoods that have had similar demographic dynamics (Census, 2000).

A methodology was developed to estimate both the local sales (supply) of three broad sets of retail activity alongside the household expenditures (demand) for such goods, using a variety of local and federal data along with a range of statistical techniques (Weiler et al, 2002). 1997 was chosen as the focal year, as it was the date of the most recent retail Economic Census. Tables 1-4 present the results from comparing the resulting demand and supply estimates on total retail, food at home, apparel, and household products for Denver, respectively. Information is presented first by target zip codes, with comparative results for the entire city. For reference, the first columns indicate the number of households, followed by median and mean incomes. Comparing local expenditures and local sales yields an estimate of local opportunities. When sales are greater than expenditures, the zip code has a surplus in that category and is net exporting goods to other areas. If expenditures are greater than sales, a retail deficit or "gap" exists for that zip code. Residents are therefore on net shopping outside the area for products, as indicated by insufficient local sales volume. Zip codes are ranked by decreasing size of gaps.

Denver as a whole has a surplus for general retail and food, but has a gap for apparel and household items. This finding implies that Denver as a whole exports general retail and food items to outside visitors, but must shop outside the city for much of its apparel and home needs. These results corresponds to understood retail patterns in the state's central city, where visitors often buy general retail items in the city but residents need to shop in suburban malls for clothing and home products. Again, cross-shopping between areas is likely, but retail prospects are driven by the fact that, all other things being equal, closer access to shopping is superior to more distant alternatives.

Estimates for new establishments, employees, employee income, sales, sales new to Denver, and new sales taxes are explored in the final columns at a hypothesized 50% capture rate of local gap spending. The 50% rate reflects a benchmark for potential outcomes as local retail gaps are addressed. It also reflects the average spending done by shoppers outside of neighborhoods stores (e.g. in regional malls), which suggests opportunities for local establishments (Silverstein, 2001). Average characteristics of establishments, employees, and income are based on city means for stores in

Information is the missing link to draw private capital to otherwise ignored possibilities.

the three retail categories based on the 1997 County Business Pattern data. Table 5 outlines this information, with department stores appended to show potential combinations of apparel and household items in a single establishment. As noted above, there are currently no significant department stores in the target areas.

Finally, sales and sales taxes are based on the same 50% capture rate of the existing gaps. New sales taxes would accrue to the city if spending that previously had occurred outside the city's boundaries were redirected to Denver stores. Retail and food have net surpluses citywide, so they would likely yield no new sales taxes. Since Denver food sales are not subject to sales taxes, increased spending on food would

TABLE 3 - Apparel

Zip	HH	Median Inc	Mean Inc	Expenditures	Sales	Gap	Gap/HH
80211	14,303	$31,517	$39,294	$23,124,182	$1,356,303	($21,767,880)	($1,522)
80219	18,739	$37,763	$43,889	$32,617,555	$13,270,948	($19,346,607)	($1,032)
80218	9,283	$32,835	$56,404	$18,902,730	$1,431,701	($17,471,029)	($1,882)
80203	11,099	$28,212	$39,750	$18,084,890	$1,951,856	($16,133,034)	($1,454)
80207	7,652	$46,746	$58,441	$15,906,088	$679,964	($15,226,124)	($1,990)
80204	12,074	$26,621	$36,132	$18,430,131	$3,530,369	($14,899,762)	($1,234)
80205	8,940	$24,502	$37,351	$13,962,075	$1,093,079	($12,868,996)	($1,439)
80223	7,456	$33,172	$40,806	$12,365,642	$413,115	($11,952,527)	($1,603)
80216	2,854	$29,653	$36,214	$4,363,275	$6,137,365	$1,774,090	$622
Sum	92,399	$32,336	$43,142	$157,756,569	$29,864,701	($127,891,868)	($1,384)
Denver	217,450	$32,900	$48,075	$401,484,289	$23,353,552	($171,130,737)	($787)

50% Capture of Local Gap

Zip	New Est	New Emp	New Inc	New Sales	NewDen Sales	NewSalesTax
80211	12.6	117	$1,929,501	$10,883,940	$4,639,227	$162,373
80219	11.2	104	$1,714,880	$9,673,304	$4,123,199	$144,312
80218	10.1	94	$1,548,629	$8,735,514	$3,723,471	$130,321
80203	9.3	86	$1,430,029	$8,066,517	$3,438,314	$120,341
80207	8.8	82	$1,349,641	$7,613,062	$3,245,031	$113,576
80204	8.6	80	$1,320,712	$7,449,881	$3,175,476	$111,142
80205	7.5	69	$1,140,706	$6,434,498	$2,742,674	$95,994
80223	6.9	64	$1,059,470	$5,976,264	$2,547,354	$89,157
Sum	75.1	69.5	$11,493,569	$64,832,979	$27,634,744	$967,216

not change tax revenues in any case. Both apparel and home products are imported into Denver, though, with a coincidentally proximate 42.6% of Denver's clothing needs being purchased outside the city and 43.0% of household items also bought elsewhere. Shifting the current external spending into new, local shops would create a new sales tax base. The new amount of sales to be taxed is estimated by using the citywide percentage of outside purchases (i.e. 42.6% and 43.0%) to approximate the proportion of sales in new local stores. Multiplying this new tax base by the city sales tax rate of 3.5% yields expected new city taxes, as shown by the final column in Tables 1-4. However, these taxes are not net creations of new revenue, but rather shifts of revenue from the suburbs to the city.

As hypothesized, inner-city areas in Denver have often substantial retail gaps despite lower resident incomes, suggesting neglected opportunities in these struggling areas. Total retail gaps were large in both 80207 and 80218. However, to properly assess business opportunities, a more focused look at specific product areas is required. Food stores do not fulfill residents' needs in nearly half of the target zip codes, with more than 20% of total food expenditures being made outside their residential zip code. Even accommodating half those needs would yield 159 new jobs, along with reduced transportation costs for already constrained residents.

TABLE 4 - 1997 Households

Zip	HH	Median Inc	Mean Inc	Expenditures	Sales	Gap/HH
80219	*18,738*	*$37,763*	*$43,889*	*$49,794,265*	*$3,305,445*	*($46,488,820)*
80211	*14,303*	*$31,517*	*$32,294*	*$34,702,730*	*$2,758,297*	*($31,944,433)*
80218	*9,283*	*$32,835*	*$56,404*	*$30,263,440*	*$4,867,013*	*($25,396,427)*
80207	*7,652*	*$46,746*	*$58,441*	*$25,668,978*	*$3,328,995*	*($22,339,983)*
80205	*8,940*	*$24,502*	*$37,351*	*$20,802,593*	*$3,334,528*	*($17,458,065)*
80203	*11,099*	*$28,212*	*$39,750*	*$27,186,185*	*$12,093,518*	*($15,092,667)*
80204	*12,074*	*$26,621*	*$36,132*	*$27,335,813*	*$23,748,943*	*($3,586,870)*
80223	*7,456*	*$33,172*	*$40,806*	*$18,661,839*	*$25,188,625*	*$6,526,819*
80216	*2,854*	*$29,653*	*$36,214*	*$6,473,637*	*$22,087,797*	*$15,614,160*
Sum	*92,399*	*$32,336*	*$43,142*	*$240,889,480*	*$100,723,192*	*($140,166,288)*
Denver	*217,450*	*$32,900*	*$48,075*	*$622,617,703*	*$355,103,665*	*($267,514,038)*

50% Capture of Local Gap

Zip	New Est	New Emp	New Inc	New Sales	NewDen Sales	NewSalesTax
80219	*18.5*	*161*	*$3,282,658*	*$23,244,410*	*$9,987,198*	*$349,552*
80211	*12.7*	*111*	*$2,255,653*	*$15,972,217*	*$6,862,626*	*$240,192*
80218	*10.1*	*88*	*$1,793,287*	*$12,698,214*	*$5,455,917*	*$190,957*
80207	*8.9*	*77*	*$1,557,466*	*$11,169,992*	*$4,799,301*	*$167,976*
80205	*7.0*	*60*	*$1,232,745*	*$8,729,033*	*$3,750,518*	*$131,268*
80203	*6.0*	*52*	*$1,065,720*	*$7,546,334*	*$3,242,359*	*$113,483*
80204	*1.4*	*12*	*$253,275*	*$1,793,435*	*$770,568*	*$26,970*
Sum	*64.7*	*562*	*$11,460,804*	*$81,153,633*	*$34,868,485*	*$1,220,397*

Opportunities for apparel and household sales are even more significant. As a whole, Denver imports these items, but the target zip codes have considerably higher gaps. Spending leakage in the target areas are 81% and 58% for apparel and household goods, respectively. As previously discussed, the discrepancy is still sizeable for Denver as a whole, but considerably smaller at 42.6% in apparel and 43.0% in household items. Applying the 50% capture rate yields over 1000 new jobs in inner-city areas. The combination of apparel and home needs suggest the viability of small-scale department stores as well, as none of the target areas is served by such establishments currently. Maps of the potential food and apparel/household markets are included in the appendix.

The gaps themselves suggest that these inner-city areas are underserved. A further simple statistic based on these results underlines this fact. Dividing area sales by area expenditures provides an estimate of the proportion of each dollar of local retail need that can be covered by local retail establishments. For the city of Denver as a whole, the proportions for food, apparel, and home are 1.317, 0.574, and 0.570 respectively. For the target zip codes, the corresponding figures are 1.214, 0.189, and 0.418. Distressed areas of Denver are indeed underserved by retail, both relatively and absolutely. Opportunities for private investment in retail are clear.

TABLE 5 - Benchmarks

Denver County 1997 Sales and County Business Pattern Data

						Per Est.			Per Emp
SIC	Sector	Est	Sales	Emp	Wages	Avg Emp	Avg Wage	Avg Sales	Avg Wage
5200	Retail	3,777	$5,783,276,898	55,867	$932,783,000	15	$246,964	$1,531,183	$16,696
5300	Dept. Store	42	$379,663,087	2,914	$42,166,000	69	$1,003,952	$9,039,597	$14,470
5400	Food	255	$875,565,872	5,368	$104,914,000	21	$411,427	$3,433,592	$19,544
5600	Apparel	267	$230,353,552	2,470	$40,837,000	9	$152,948	$862,747	$16,533
5700	Home	283	$355,103,665	2,461	$50,149,000	9	$177,205	$1,254,783	$20,377
56+ 57	App + Home	550	$585,457,216	4,931	$90,986,000	9	$165,429	$1,064,468	$18,452

As noted by Table 5, the income per job in the resulting retail positions is low, but still approaches the average wages for employed workers in the target areas. Furthermore, given substantial unemployment in these areas, new jobs at appropriate skill levels may provide valuable new resources for these communities. Existing slack resources lead to net social returns being substantially higher in marginalized areas (Weiler, Scorsone, and Pullman, 2000). Such positions may be particularly important for younger workers. Early labor force attachment is a strong predictor of eventual labor market success, so developing stable jobs for youths in struggling neighborhoods could be of considerable importance.

New income would also remain within the community through these new jobs, rather than leaking to outlying stores. The retention of local spending can create significant multiplier effects on local economies (Blair, 1995). These feedback effects are in turn enhanced by the new availability of consumer products locally, further reducing leakages and increasing the local multiplied impact of new income. Transport costs for shopping can also be significantly reduced. Existing community networks and neighborhood social fabric are both reinforced by internal shopping patterns.

CONCLUSIONS

Neglected urban areas may harbor considerable opportunities for private entrepreneurship. However, these opportunities tend to be overlooked given their marginal locations, since capital gravitates towards thicker markets and proven niches. The key bridge to these new sparks of economic activity is information regarding the business prospects of particular regions. Universities can provide such information for otherwise neglected areas, which private capital can go on to use in entrepreneurial efforts. The results of this project's findings have in fact been solicited and used by a wide variety of private, non-profit, and public entities. While the methodology is applied to urban areas in this study, the technique is potentially applicable to more rural areas that may face similar retail sector gaps. The CSU team is currently assisting efforts at enhancing the city of Leadville's downtown development efforts in similar fashion.

The results for Denver support the use of this approach. Despite lower incomes in the inner-city areas, there are clearly potential opportunities for retail development in these marginalized areas. This gap can be partly explained by the purchasing power of lower income households, where spending exceeds reported income. Furthermore, these areas tend to feature denser housing patterns, which further concentrate spending power. But most importantly, these areas are simply undersupplied by the retail sector. In all three categories, the target areas' sales to expenditure ratios are lower than for the city as a whole.

It could be argued correctly that new retail development in struggling inner-city areas is simply a zero-sum game, with retail sales being redistributed within the same metropolitan area. In fact, while sales themselves may simply be redistributed, the multiplied benefits of new economic activity and income combined with lower resource (e.g. labor) opportunity costs, are likely to lead to considerably greater social returns for inner-city locations (e.g. Weiler, Scorsone, and Pullman, 2000). Furthermore, such infill business activity can help mitigate the sprawling tendencies of metropolitan areas (Atkinson & Oleson, 1996; Ciscel, 2001). Current research is matching the identified retail opportunities with inner-city brownfield sites to further enhance such development's infill effects, as well as help

alleviate environmental blight and associated stigmas from such neighborhoods.

Private capital seeks profit. In thick, established markets, opportunities are subject to intense scrutiny, while thinner markets tend to fall into a pattern of neglect, uncertainty, and stagnation. Yet these neglected markets can provide significant opportunities for private profit. If private economic activity in thinner markets increases, substantial slack resources will be used due to their lower opportunity costs, and social welfare will be increased in areas that most need enhancement. Information is the missing link to draw private capital to otherwise ignored possibilities, underlining the potential complements between university research and the entrepreneurial sector (Weiler, 2000a).

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DISCUSSANT COMMENTS SESSION 1

STEVEN JENNINGS
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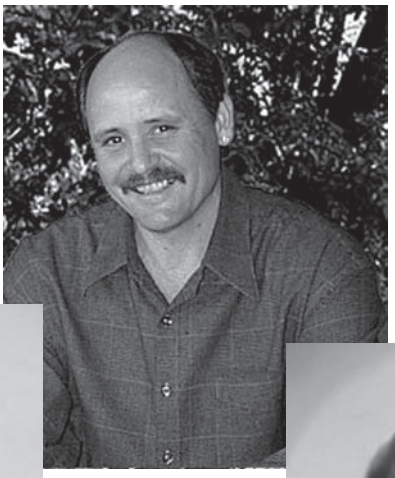
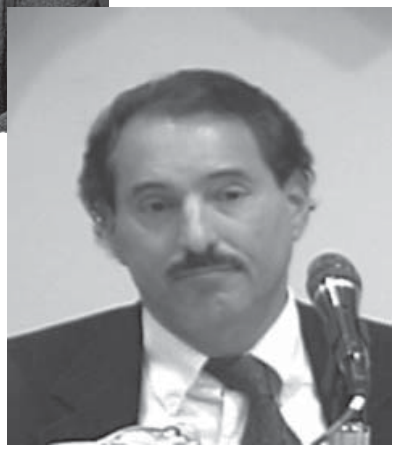
(B.S., M.S. Geography, University of Utah; Ph.D., Geography, UC-Davis) is Associate Professor and Chair of the Department of Geography and Environmental Studies at the University of Colorado at Colorado Springs. As a biogeographer interested in the distribution of plants, he is studying the impacts of human activity on the forests of the Pikes Peak region. He has published on prehistoric environmental change, teaching geography and impacts of streams on plant communities.

These presentations underscore the disconnect between perception and reality in Colorado. A perception is that Coloradans are a group of independent mountaineers. In reality, urbanites and suburbanites dominate the state. Each paper addresses policy problems in the context of the state's reality with implications that might surprise those with only passing familiarity of Colorado's demographics. The impacts of the re-peopling of the Great Plains, voting inequalities, and underserved inner-city residents are different, yet have their roots in the changing spatial characteristics of Colorado. Policymakers are well advised to take a close look at the characteristics of Colorado's population before making decisions that affects that population.

SESSION 2
PRESERVING THE QUALITY OF LIFE IN COLORADO





CHAIR OF SESSION 2
MARIJANE AXTELL PAULSEN

(Ph.D., University of Southern California; M.S., Whittier College; B.S., Arizona State University) is President Emeritus of Pikes Peak Community College. She served as President from 1989 until 2000, during a period of significant growth in student enrollments, campus facilities (including the new Rampart Range Campus, which opened in 1998), model instructional programs (including the ICFab Institute and the IT Institute) and international activities for students and faculty (including exchanges and visits with colleges and universities in Denmark, Argentina, Uruguay, Russia, Czech Republic, China, Mexico, and Kyrgyzstan). She has served on numerous boards and committees, including the Colorado Springs Economic Development Council, U.S. Bank Board, Mayor's Global Advisory Council, World Affairs Council, Colorado Technical University, Friends of Edison Schools, Women's Forum, and Challenger Learning Center. She is a former Chairman of the Board of the Greater Colorado Springs Chamber of Commerce

KEYNOTE SPEECH
JOHN PARR
Center for Regional and Neighborhood Action
(J.D., University of Denver College of Law; B.A., Political Science, Purdue University) has written for the University of Chicago Policy Review and was formerly President of the National Civic League. He is currently chair of the Pew Civic Entrepreneur Initiative, trustee of the Institute for Regional Community, and a commissioner of the Denver Urban Renewal Authority. He was formerly Director of the Center for Public-Private Sector Cooperation, a technical assistance and research center at the University of Colorado, director of the Colorado Front Range Project on growth issues in Colorado's urban corridor and has taught for the Graduate School of Public Affairs of the University of Colorado at Denver, Harvard University, Massachusetts Institute of Technology, University of California at Los Angeles, and the University of Denver.

Our group interviewed leaders across the state of Colorado -- local officials, environmentalists, business leaders, state officials -- to look at where should we be focusing on this whole issue of growth, quality of life, and livable communities as well as workforce issues. While we have had enormous population increase, the bigger issue is that we are consuming land 3 to 20 times faster than population growth. One challenge in dealing with sprawl or revitalizing inner-city neighborhoods is to think differently about how we develop to accommodate increased population. Let me show you what that means graphically.

Metro Denver in 1990 was 343 square miles -- by 2000 it was 537 square miles. Today if you took all the comprehensive plans from the cities and counties in the metro region, this is what it is projected to look like in 2020 : 1047 square miles. The Metro Mayor's Caucus, DRCOG and 80% of the counties and municipalities within the Denver metro region have all adopted urban growth boundaries. We can do things in Colorado regardless of the unwillingness of the state legislature to take action. The real work occurs with local governments at the regional level with the Denver or Pikes Peak Council of Governments.

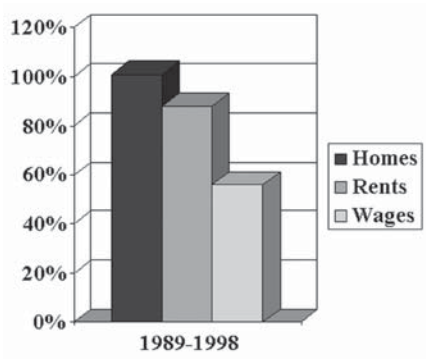
When our economies were "in the tank" in the late '80s, we had a comparative advantage in two big areas: housing costs and transportation. We were able to attract a lot of businesses and get businesses to expand because of these two factors. In the intervening ten years, we lost that comparative advantage in terms of housing costs and we "gained" congestion.

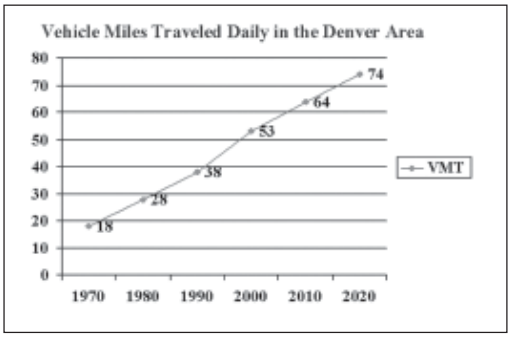
So in our interviews we started looking at what the key opportunities are in these areas. What do we need in Colorado to be successful in land-use planning and implementation of that land-use planning? One of the things we realized in *Blueprint Denver* is that this is not just about regulation. This is about public infrastructure investments and partnerships between government and non-profits in the business community, particularly around development. We don't focus on that enough in Colorado.

In regional planning and implementation, a lot is happening in the metro area and the northern Front Range. We've got GOCO (Great Outdoors Colorado) and a number of local open space efforts. But we've done very little prioritization around what lands are going to be saved. There is an argument that once you say "This land ought to be saved" the price of the land goes up. But at the same time, with 41 land trusts in Colorado and 5 national organizations doing land preservation in addition to GOCO, we are probably not getting the "bang for the buck" that we could with some prioritization.

When it comes to transportation, the legislature made it possible for the metro area to float increasing the sales tax in metro Denver from 6/10 of a cent to a full penny. That would allow for 105 more miles of light rail to be built. We are a state that now spends almost no money from state government on buses, light rail, rail commute, or other

HOUSING COSTS HAVE OUTPACED WAGE GROWTH IN COLORADO BY ALMOST 2:1





alternative transportation. We have to figure out a way to change that. When it comes to travel along I-25 and I-70, we found that there was a lot more happening than meets the eye. The Northern Front Range Council of Governments, the transportation group, is doing great work in Ft. Collins and Greeley in connecting it to the metro area. There are tremendous opportunities to make things happen. But they are way ahead of us in Florida, Texas, and parts of the Midwest in terms of figuring out how to fund similar types of corridors.

Fiscal policy and tax structure are also key things that we tend not to look at enough in this state. The cost of growth issue from our sprawling development patterns is not so much an environmental question as much as it is a fiscal question. If we are going to have that kind of development the costs are going to be greater and we need to understand that. There is a very destructive competition between municipalities in Colorado with generating sales tax revenues. In the Denver metro area you find a King Soopers that was getting old literally moving across Sheridan Boulevard from Federal Heights to Westminster where they were willing to fund redevelopment.

There hasn't been a major tax study in this state since Prof. Reuben Zubrow of CU-Boulder headed one in the late '60s. While there have been a couple of attempts to do another they have not gotten off the ground. We need to be doing one. In the next couple of years, an initiative to create a housing trust fund (probably coming from a real estate transfer tax) is likely to be on the ballot. It would allow us to have stable funding to do more housing development work. Right now almost none comes out of state government, and the last major budget cuts wiped out almost all funding that was happening.

Another of the great opportunities is community redevelopment. Ben Widner's earlier paper shows a lot of what is happening in the Denver metro area. Not only is there a "donut" in terms of the inner-city neighborhoods, there is also a donut in the old suburbs. We've done work recently that shows a lot of the poverty in Denver was actually moving to western Aurora, eastern Lakewood, Commerce City, and Englewood. At the same time, Cinderella City is now a vibrant downtown for Englewood on the transit line. Villa Italia in Lakewood is going through the same phenomenon. Tremendous opportunities exist over the next 20 years to do redevelopment.

There is a supply and demand question here on land. If we can make more land available within the urban footprint there is going to be less pressure at the edge for sprawl. So we need to be focused as much on redevelopment as we are worried about issues at the edge. One of the things that everybody said to us is that we have to get people more involved in these issues. We have to get new coalitions with the home builders and the affordable housing advocates on the same page.

In Colorado some of us are having conversations about what is happening to the economy. In local governments they are looking at different ways of working together through inter-governmental agreements and all kinds of different revenue sharing structures. The environmental community is talking about livable communities. The neighborhood and community based organizations are asking, "How does this all fit together?" We argue that we need to push all those discussions together to become overlapping discussions. We need to find better ways to work together to deal with more than what is called "smart growth" or how to have livable communities in Colorado.

SCHOOL SPENDING AND THE TAXPAYER BILL OF RIGHTS*

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According to the U.S. Bureau of the Census report, *Public Elementary-Secondary Education Finances: 1999-2000*, Colorado ranked 32nd among the 50 states plus the District of Columbia in total current spending per pupil and 36th in current spending for instruction per pupil. As a percentage of state personal income, the state's total current spending ranked it 49th in the nation, and its instructional spending put it in 48th place.

On November 3, 1992, a majority of Colorado voters approved a state constitutional amendment called the Taxpayer's Bill of Rights (TABOR) that became Section 20 of Article X of the Colorado Constitution. That amendment sets limits on the annual increase in spending and revenues of all governmental units in the state. These limits can be exceeded in any governmental unit only with the approval of its voters. School districts are singled out explicitly in the amendment; their maximum annual percentage increase in spending is set at the sum of the prior year's inflation rate plus the percentage change in student enrollment, while for other local governments the cap is the inflation rate plus the net percentage change in the actual value of taxable real property. A natural question is, therefore, whether Colorado's low rank in school spending was the result of the TABOR limitations over the past ten years, or whether that ranking is the result of other forces. Just how, and to what degree, has TABOR affected school spending levels in Colorado? What has been the role of the Public School Finance Act of 1994? And what is the likely impact of the adoption of Amendment 23 in November 2000?

An initial bit of evidence concerning TABOR's impact on Colorado's ranking among the states is provided by the Census Bureau report, *1992 Census of Governments, Vol. 4, No. 1, Public Education Finances*. Colorado's ranking among the states for per-pupil current spending in 1991-92, before the adoption of TABOR, was 30th for all current

spending and 29th for instructional spending. As a percentage of state personal income, Colorado's total current spending in 1992 put the state in 35th place, and its spending for instruction in 36th place. Thus there definitely was some slippage in the rankings from 1992 to 2000, especially in relation to personal income. However, this slippage might or might not have been due to TABOR restrictions.

In 1999-2000, Colorado's total current school spending as a percentage of state personal income ranked it 49th in the nation.

It would seem much more likely that TABOR spending limits have had a significant impact if each local school district had a high level of discretion to set its own property tax rate and its own spending level, and that discretion was then constrained by TABOR. School districts did have a great deal of discretion throughout the first half of the twentieth century. But a chain of events beginning in 1971 has greatly curtailed that discretionary spending authority.

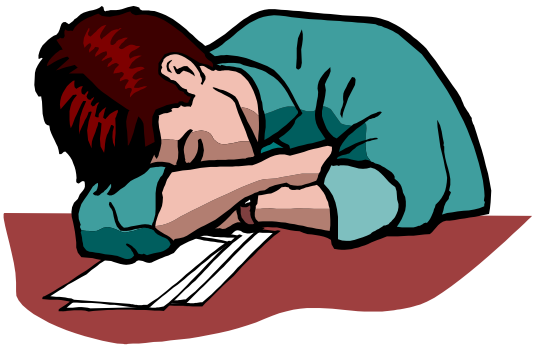
THE 1971 *SERRANO* DECISION

In 1971, in the case of *Serrano v. Priest*, the California Supreme Court ruled that California's school finance system was in violation of constitutional guarantees of equal protection of the laws because it made the level of expenditure for a child's education dependent on the level of taxable wealth in the school district in which she lived. This ruling shook the system for financing schools across the United States to its foundations. Although the *Serrano* case was limited to California, it was quickly recognized that similar cases and rulings were possible in all of the fifty states, and the California Supreme Court was widely regarded as a trend-setter in such matters. All of the states began a long, slow march toward greater equality of educational opportunity, while trying to balance that concern with the time-honored principle of local control of school systems.

In 1973, in the aftermath of *Serrano*, the Colorado General Assembly adopted a new system of state school aid that provided enough state aid to guarantee that every school district would generate a certain minimum number of dollars per pupil for each mill of property taxes levied. If the local district's property tax base was insufficient to generate the minimum, state aid made up the difference. While this system did not insure equal spending per pupil, the idea was to equalize the *capacity* for financing schools, since a given mill levy would generate the same number of dollars per student in every district. Each district could then choose for itself how much to utilize that capacity by setting its preferred mill levy.

However, responding to political pressure to relieve property taxes in even the wealthiest districts by making more state funds available, the General Assembly added a provision that no district was to receive less than a minimum level of state aid per pupil per mill of property taxes levied, regardless of the wealth of the district's assessed valuation per pupil. This provision thus *guaranteed* that wealthier districts could spend more per pupil than poorer districts. In 1974, nearly 80 of the 181 districts in the state received the guaranteed minimum in state aid.

Despite this limitation, substantial progress was made in reducing disparities in school spending per pupil. In 1969-70, the highest-spending district in Colorado spent 6.3 times as much per pupil as the lowest spending district. By 1978 this ratio was only 2.8-to-one. But inequities continued. For example, in 1978, the property tax base in the Rangely School District generated $339.68 per student per mill. With a state minimum of $11.35 per student per mill in state aid, the District's property tax rate of 5.74 mills generated $1,950 per student in local revenues plus $65 per student in state aid for a total of $2,015 per pupil. On the other hand, the tax base in the South Conejos School District generated $6.10 per pupil per mill. For that year, the system of state aid guaranteed every district a total revenue of $35 per pupil per mill (from local revenue and state aid combined),



so the South Conejos District qualified for $28.90 per pupil per mill in state aid. It levied a property tax rate of 33.75 mills and thus produced $206 per pupil in local funds plus $975 per pupil in state funds for a total of $1,181 per student. Thus levying a tax rate almost six times as large as Rangely's produced a spending level of just under 60 percent of that in the Rangely School District. For reasons like these, the court cases continued, and so did the movement toward greater equality of opportunity across districts.

THE PUBLIC SCHOOL FINANCE ACT OF 1994

What a difference a generation can make! In 1994, a new chapter in Colorado school finance opened with the passage of the Public School Finance Act. That legislation provides for the establishment of a common base amount of spending per pupil for every district across the state. Adjustments are made for cost-of-living differences (and therefore salary differences) among districts, for differences in economies of scale achievable in large districts but not possible in small districts, and for differences in the number of at-risk children. With the adjustments, the amount determined is called the total program funding per pupil from both state and local sources that the district is allowed to spend. The Act does include a provision that allows a local district, with voter approval, to levy and collect additional property tax revenue, called an override, to supplement its spending, provided the amount does not exceed 20 percent of the total program or $200,000, whichever is greater. A district's voters may also approve a bond issue to be redeemed by an additional dedicated mill levy.[1] In addition, there are several categorical state grants for specific purposes–transportation, special education for disabled and for gifted and talented students, vocational education, English language proficiency, and others–that add to each district's total spending. But ignoring these various adjustments, the ratio of highest per-pupil spending to lowest per-pupil spending is now capped by law at 1.20-to-1.

The long march toward the elimination of the correlation between school funding and assessed valuation that began with Serrano in 1971 has reached its fruition.

Because of the various adjustments and categorical programs, the actual situation is somewhat different. In fiscal year 2001, for example, the lowest level of current expenditures (excluding transportation) per pupil was $5,024 in Ellicott School District 22 in El Paso County, while the highest was $12,592 in Silverton School District 1 in San Juan County. The ratio of highest to lowest was thus 2.5-to-1. However, this disparity is no longer attributable to differences in income or assessed valuation per pupil. Silverton had only 85.3 full-time equivalent students and therefore high overhead costs per pupil. The size factor in the state formula for total program funding compensated for these higher costs. Moreover, about half of these students lived in families with incomes low enough to qualify them for free lunches under the National School Lunch Act. This meant the district received substantial funding for at-risk pupils under the state formula. For all 178 school districts in fiscal year 2001-2002 (FY02), the correlation coefficient between per-pupil operating revenues and assessed valuation per pupil was only 0.135.

As for the local overrides, there are 49 districts whose voters have approved some amount. For FY03 the amounts

range from $15,862 to $35,560,000, with an average of $4,802,847. Half of these districts, however, have approved overrides for $1,181,000 or less. For the 129 districts without overrides, the mean assessed valuation per pupil is $88,466 and the mean FTE pupil count is 1,422. For the 49 districts which have approved an override, mean assessed valuation per pupil is $170,868, and the mean FTE pupil count is 10,823. The differences in these means are statistically significant for both of these variables. Thus the districts with approved overrides tend to be larger districts with higher assessed valuation per pupil. The amount of the override per pupil ranges from $43 to $1,748 with a mean of $569.

Nevertheless, the per-pupil amount of Public School Finance Act total program funding plus overrides (if any) plus categorical grants has negligible correlation with assessed valuation per pupil. The long march toward the elimination of that correlation that began with *Serrano* in 1971 has reached its fruition.

THE PUBLIC SCHOOL FINANCE ACT AND TABOR

An important historical fact is that the Public School Finance Act of 1994 was not adopted in a vacuum. Its enactment followed the adoption of TABOR by just two short years. TABOR had a strong influence on the shaping

of the Public School Finance Act of 1994. For one thing, the Act prescribed that in generating the local share of the total program funding, each district's property tax rate was to be kept the same as in the previous year unless that mill levy would generate an increase in property tax revenues greater than that allowed by TABOR (the inflation rate plus the percentage change in enrollment). If a district's growth in assessed valuation would cause the previous year's mill levy to generate more revenue than allowed, then the Act requires the property tax rate to be scaled back to the level that would meet the TABOR maximum. In addition, in very wealthy districts, the Act caps the mill levy at the rate that would fund the district's entire total program, less the minimum state aid of $73.40 per pupil in FY03, and also reimburse the state for ("buy out") the cost of its categorical programs.[2] For FY03,

At the level of the local school district, TABOR seems to have little direct impact on school spending.

there are no districts subject to this mill-levy cap, and no districts receiving only the minimum in state aid per pupil. There were 45 districts whose mill levies were capped by the TABOR limit.

Note that this TABOR limit on the increase in school district property tax revenues does not actually limit district spending under the school finance act. It limits the increase in the local share of total program funding. But since the amount of state aid under the 1994 Act is determined by the total program minus the local share, any limit on the local share that TABOR imposes is made up by the state aid. Of course, TABOR also limits the annual percentage increase in state spending to the sum of the inflation rate plus the percentage change in state population, but this limit applies to total state spending, not just to state school aid in isolation. So in this particular instance, TABOR affects the division of total program costs between the state and the local school district, but does not directly impact the total program amount.

A second provision of the 1994 Act that was strongly influenced by TABOR concerns the maximum annual percentage increase in a district's total program. The Act prescribes a maximum percentage increase equal to the inflation rate plus the district's percentage change in enrollment. However, the TABOR limit itself applies only to a district's total spending. Because districts may receive additional funding beyond their total program–from state categorical grants, federal grants, and other miscellaneous sources–it is possible that a district could meet its TABOR limit on total spending even though its total program funding grows by a larger percentage, provided its other

funding grows by a smaller percentage than the TABOR limit or actually decreases. If a district finds that this will be the case, it may certify that fact by December 1 and receive the maximum amount of total program funding that will still keep its total spending from all sources within the TABOR limit. Furthermore, a district's voters may authorize the collection, retention, and expenditure of revenue in excess of the TABOR limit for all future years. As of FY03, voters have now approved such authorizations, commonly known as de-Brucing, in all but eight of Colorado's 178 school

Amendment 23 will continue the shift toward a growing state share in school funding.

districts.[3] Consequently, this limit on total program funding is now binding in only 4.5 percent of school districts. In the 170 districts that have passed de-Brucing elections, TABOR still requires voter approval of any new tax or tax rate increase in a school district, as well as voter approval of multiple-year school district debt. The electoral success of de-Brucing authorizations is hardly surprising, given that the authorizations remove the limit on growth in total program without changing the restrictions on the property tax rate. Thus, the effect of the authorization is simply to increase a district's total program by increasing the state contribution.

At the level of the local school district, then, TABOR itself seems to have little direct impact on school spending. The constraint on the property tax rate simply shifts funding from the local property tax to the state, and the constraint on the annual increase in spending has been overridden by the voters in all but eight districts.

TABOR AND STATE SCHOOL SPENDING, BEFORE AND AFTER AMENDMENT 23

At the state level, however, TABOR most definitely constrains spending for schools. TABOR limits the annual percentage increase in total state spending to the sum of the inflation rate plus the percentage change in state population. Thus TABOR makes the state budgeting process a zero-sum game. The greater the increase in public school spending, the smaller the increases must be for prisons, higher education, highways, Medicaid, and/or human services. Since elementary and secondary education spending is by far the largest share of total state spending (about 40 percent of the total), a slight increase in the growth of state school spending would require substantial reductions in the growth of other spending areas to keep the total within the TABOR limit.

However, school spending was given a priority status in this budgeting process under the TABOR restrictions when Colorado voters adopted Amendment 23 of the Colorado Constitution in November 2000. This amendment added a Section 17 to Article IX of the Constitution. It requires that for the fiscal years FY02 through FY11, the statewide base per pupil funding that is the starting point for the Public School Finance Act of 1994 must be increased each year by at least the rate of inflation plus one percentage point. Total state funding for all categorical programs must increase by at least this rate as well. In the years following FY11, the minimum increase in both cases is the rate of inflation. The amendment established the State Education Fund and earmarked a portion of the state income tax, namely an amount equal to one third of one percent of taxable income, for this Fund (and exempted this amount from the TABOR spending limit). Appropriations from this Fund may only be made to meet the Amendment's minimum spending increases and for certain other prescribed educational objectives. These appropriations are specifically exempted from TABOR limits or any other limits on spending. The State Education Fund appropriations must not be used to replace General Fund appropriations for total program funding and categorical programs. In fact, the Amendment requires that General Fund appropriations for total program be increased annually through FY11 by at least 5 percent, except in a fiscal year in which the increase in Colorado personal income was less than 4.5 percent in the previous calendar year.[4]

TABLE 1
Local and State Shares as Percent of Total Program

Fiscal Year	Local Share	State Share
1994-95	45.7%	54.3%
1995-96	45.2%	54.8%
1996-97	44.2%	55.8%
1997-98	44.3%	55.7%
1998-99	43.4%	56.6%
1999-00	43.3%	56.7%
2000-01	42.9%	57.1%
2001-02	42.2%	57.8%
2002-03	40.7%	59.3%

By requiring significant annual increases in base per-pupil funding, while doing nothing about the limitations on school district mill levies, Amendment 23 will continue the shift toward a growing state share in total program funding, and in school funding generally. Table 1 shows the historical trend this share has followed. The Amendment will also be likely to bring significant increases in overall school spending per pupil.

But will the increase be enough to push Colorado up in the rankings of spending per pupil among the states? Only time will tell. But between FY92 and FY00, the U.S. average of total current spending per pupil increased at an average rate of 4.0% per year, and instructional spending per

pupil grew 4.1% per year. Over the same period, the U.S. consumer price index increased by an average of 2.6% per year. Thus the growth in U.S. spending per pupil exceeded the inflation rate by 1.4-1.5 percentage points. That would suggest that if this trend continues, and if the Colorado General Assembly continues to just meet the Amendment 23 minimum of one percentage point above inflation, then Colorado's rankings among the states are likely to continue to fall.

If the recent national trend continues, and if the Colorado General Assembly continues to just meet the Amendment 23 minimum of one percentage point above inflation, then Colorado's rankings among the states are likely to continue to fall.

FOOTNOTES

[1]Voters may also approve an additional levy of up to ten mills for up to three years for installation of instructional technology or for construction. And districts may seek voter approval for an additional levy to cover transportation costs not reimbursed by the state.

[2]The minimum state aid per pupil is set each year in the General Assembly's long appropriations bill. It is based on the amount of school land revenues and mineral lease receipts. The amount for FY03 is 12.9% less than in FY02.

[3]The eight districts which have not yet passed de-Brucing authorizations are in Arapahoe County, Cherry Creek School District 5; in El Paso County, Harrison School District 2, Colorado Springs School District 11, Cheyenne Mountain School District 12, Academy School District 20, and Hanover School District 28; and in Yuma County, Liberty School District J-4 and Idalia School District RJ-3.

[4]From the first quarter of 2001 to the first quarter of 2002, Colorado personal income increased only 0.4%. According to preliminary data, the increase from 2000 to 2001 was 3.8%.

**I want to express my thanks to my colleague, Dr. Stephan Weiler, for his encouragement and suggestions, to Jim Sarchet, Assistant Superintendent of Business Services, Poudre School District, for his insider's perspective on the intricacies of Colorado school finance, and to Dr. Jim Henderson, President of the Manitou Springs School District Board of Education, for correcting a significant misstatement of fact. If there are mistakes left in this paper, they are, alas, all my own fault.*

PROMOTING URBAN SUSTAINABILITY AS A COLORADO QUALITY*

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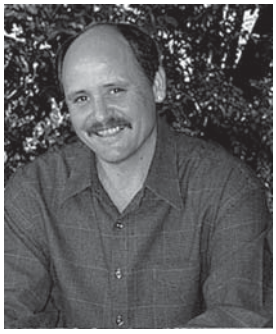


spent the 2001 calendar year as Visiting Professor and Fulbright Fellow at the Instituto de Geografía of the Universidad Católica de Valparaíso, Chile. His research interests center on environmental justice, sustainability, and the political economy of urban place-building. He is coauthor with Harvey Molotch of the book, Building Rules: How Local Controls Shape Community Environments and Economies (Westview, 2000). He has recently joined the editorial board of the international journal, Local Environment.

GROWTH IS A MAJOR CONCERN, BUT WE JUST KEEP GROWING

For Coloradans the impacts of growth have long been a leading public concern. We know this from the public opinion polls, but even more immediately, from our own day-to-day experience and conversations about how Colorado is changing. Even recent arrivals have their stories of some rural landscape that is no more or of how bad traffic is getting. Long-timers have whole lists of places that they no longer recognize: I think of the open countryside that I biked through between Denver and Cherry Creek reservoir when I was a kid, or the beautiful landscapes between Dillon and Kremmling we passed through when we went to raft the Upper Colorado twenty-some years ago that are now being urbanized. Despite the level of public concern, the growth machine seems to barrel ahead, stumbling occasionally on the details of individual projects but advancing steadily up the ridgelines and over the prairies with new subdivisions, tract mansions and commercial strips.

As we think about the future of Colorado, we should find how to manage growth so that community and environmental values are preserved. Even further, we should get serious about building more sustainable urban environments. This is more easily said than done, and Colorado presents challenges rooted in political culture and, sometimes, plain stubbornness. Fortunately, we are not alone in grappling with these issues. Urban sustainability is considered one of the keys to balancing development and the environment at the global level; for example, it is one of the principle focus areas of UNESCO's Management of Social Transformation program.[1] In the United States, too, there is a growing desire to reform the way we build urban places. Some frame this in terms of smart growth, while others think in terms of healthy cities, or new urbanism, or sustainability. Changing the way we think and talk about development is an important step, but even after we make the conceptual shift, sustainability must be translated from a general value into the specific practices that can make it a reality. Communities around the world have begun this process of translation and implementation, some through the Agenda 21 process. In the U.S. this has brought together new configurations of ¨stakeholders¨ in an effort to design reforms and to actually measure outcomes (Miringoff and Miringoff, 1999). Organizing at local and regional scales, these groups have crafted indicators that include everything from ecological footprints, to the number of community

gardens to adult literacy rates. Maureen Hart (1999), one of the leading trainers on sustainability indicators, divides them into twelve major areas: Economy, Education, Environment, Government, Health, Housing, Population, Public Safety, Recreation, Resource Use, Society, and Transportation.

SUSTAINABILITY IS NOT JUST ABOUT THE ENVIRONMENT

As we begin to define sustainability in concrete terms, we should remember that this is not just an environmental issue in the traditional sense of the word; social, economic and cultural dimensions are also critical. This point is well understood by developing countries in which the overlap between socioeconomic and environmental disadvantages is obvious, but has been more elusive in the U.S. context. Here, it took the environmental justice movement to make the point that environmental protection is not just about endangered species and greenhouse gases, but also about toxic threats and environmental quality for poor people and communities of color. Much of the work of environmental justice advocates has been understandably defensive in its orientation, protecting local communities from imminent threats and trying to correct long-standing problems. Their critics have argued that environmental justice advocates are unwilling to move beyond these defensive postures to engage in more proactive forms of leadership. On the other hand, U.S. sustainability movements have done little to directly address environmental justice or incorporate this aspect of social equity into their work.[2] Taking environmental justice "beyond the toxics" to broader aspects of environmental and urban policy has the potential to invigorate urban sustainability efforts and to create bridges with other communities concerned with quality of life issues. This broadened scope of environmental justice based on ¨the principle that all people and communities are entitled to equal protection of environmental and public health laws and regulations¨ (Bullard, 1996: p. 493) is being articulated by scholars and activists and is opening up new and important areas of public policy such as transportation and land-use control (for example, Bullard, Johnson, and Torres, 2000). At the same time, sustainability can be defined so as to underline the dimension of social equity. For example in the following recent formulation: sustainability is ¨the need to ensure a better quality of life for all, now, and into the future, in a just and equitable manner, whilst living within the limits of supporting ecosystems¨ (Agyeman, Bullard, and Evans, 2002).

URBAN SUSTAINABILITY SHOULD BE BUILT-IN AT THE REGIONAL LEVEL

Urban sustainability also calls for a scope of planning and policymaking that goes beyond the usual narrow jurisdictional limits. From an environmental perspective, these jurisdictional borders are obviously artificial. The health

of a watershed is not determined within one set of city limits, instead the number of parking lots upstream directly affect waterflow and the erosion of ranchlands twenty miles downstream. And, it is clear that wildlife corridors do not stop at the city limit. However, there is little provision for exercising governmental authority at the regional, metropolitan level within the U.S. political structure. Though many have advocated regional planning, these efforts are largely voluntary and nonbinding. For years this has limited the effectiveness of such regional groupings as councils of government. Only a scattering of metropolitan areas, such as Portland and Minneapolis/St. Paul, have begun to grapple with dimensions of sustainability and social equity. Increasingly, however, regional thinking is being advocated by people concerned with the future of inner-city populations. For example, the nonprofit organization PolicyLink describes regionalism as one of their "bedrock" issues. According to their web materials, the organization "supports a regional approach to reducing inequity and has shaped and advanced the framework of equitable development as a solution to the urban disinvestment that has resulted from sprawl."[3] The Denver-based Center for Neighborhood and Regional Action is another resource supporting this type of work.[4]

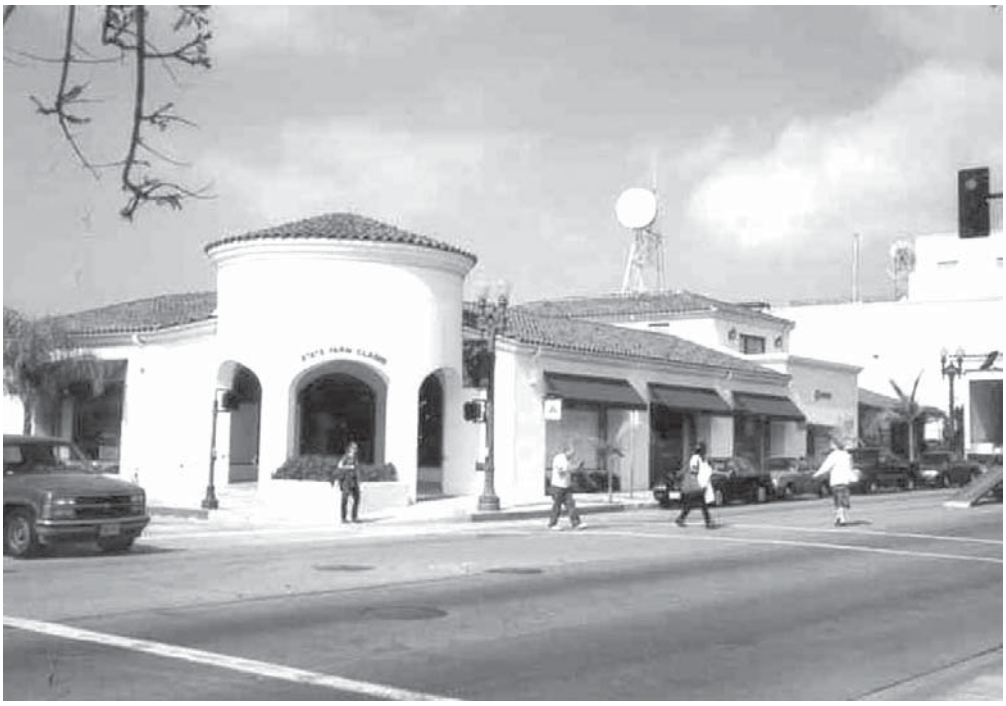
Just below the surface in these discussions of sprawl and regional inequities lies the persistent American dilemma of racial inequality. As Massey and Denton (1993) demonstrate in their book *American Apartheid,* patterns of racial segregation in U.S. cities are as strong as ever, particularly with regards to African Americans. As a result, geographical inequities often reinforce racial inequities. Sociologist William Julius Wilson (1987) argues that resolving racial inequalities requires more ambitious strategies to improve the conditions for middle to lower income working people in general. This work draws attention to the need to build an economic base that provides genuine opportunities to disadvantaged neighborhoods and populations, while creating a broader base of political support for such initiatives. Such approaches could complement, rather than replace policies that counteract more direct forms of racial discrimination. A focus on the structural conditions that reinforce disadvantage also has potential to bring minority and lower income communities into the realm of regional politics to begin renegotiating the costs and benefits of regional urban growth. This point is made most succinctly by John Powell from the Institute on Race & Poverty who says, "Today's racial justice advocacy community must steer regional efforts and forge new endeavors in order to contend with contemporary manifestations of structural racism" (2002: p. 5).

The fragmentation of regions not only impedes cooperative efforts, it promotes cutthroat competition between places in which localities try to "land" development projects that are rich in tax revenue and low on public costs by lowering planning standards and by using public resources

Changing the way we think and talk about development is an important step, but even after we make the conceptual shift, sustainability must be translated from a general value into the specific practices that can make it a reality.

to write down private developments costs. This pressures communities to lower their expectations, but, ironically, it is the localities with stronger local regulations that are positioned to gain more of the elements they consider to be important from development projects, whether these local values be aesthetic, environmental or social. This is a point that Molotch and I confirmed in our research on growth management in Southern California (Warner and Molotch, 2000) using a methodology I will describe a little later. Within a more regional framework, the negative "spillovers" (or externalities) from local development decisions might be turned around. Instead of displacing new demands for housing and the attendant public services to other parts of the region, localities could "ratchet up" the standards so that other places could also expect and ask for more. Of course, to be legal these sorts of controls and mitigations would have to be justified in terms of the direct impacts of development at the local and regional level, the so-called rational nexus. While local builders may claim that stronger standards threaten to put them out of business, this is contradicted by the fact that developers and builders successfully adapt to more stringent planning controls in other places.[5]

Over and above the issue of fairness, it turns out that the regions that are more equitable are also more economically viable. A number of studies have shown the strongest metropolitan economies in terms of per capita growth in income are those with robust central city economies and lower levels of regional inequality, suggesting that suburbs benefit from the strength of the central city (for example, Voith, 1992; Savitch et al., 1993). More recently, Pastor and his colleagues (2000) have demonstrated that this is not just a correlation due to exogenous factors. In their analysis of seventy-four of the largest MSA's and central cities in the country, they carried out a series of regression analyses



that both controlled for exogenous factors and accounted for the direction of causation between regional inequalities and per capita economic growth. They found that "rising inequality can dampen growth and that growth can lessen inequality; the first result is significant while the second is not, again lending credence to those who worry that trickle-down often doesn't" (Pastor et al., 2000: p. 113).

The types of coalitions that might coalesce around such a regional orientation could go beyond even the class-based groupings described by Wilson (1987), linking those concerned with urban disinvestment and its associated ills with those that are worried about what sprawl is doing to the suburbs and surrounding countryside. These are the types of coalitions that are advocated by such people as Minnesota lawmaker Myron Orfield (1997, 2000) and former Albuquerque mayor David Rusk (1999). Ultimately, these build on overlapping and complementary interests in the use values of place, rather routinely privileging the exchange values of place, as in the growth machine model (Warner, 2001).

LEARNING FROM OTHERS

The shifts that are necessary to establish urban sustainability as a Colorado quality are significant and multifaceted: they are economic, political, social, and cultural. Creating broader citizen participation is critical and of intrinsic value, but citizen participation should deepen to become a process of education and collaborative research. It is not enough to gather together people's wish lists about what they would like to see the community become in five years. Participatory planning must be informed by data and clearly connected with subsequent policy or it will just feed cynicism. At the same time, inclusive planning should not depend solely on participation because there are many "stakeholders" that should be taken into account even though they are unable or unwilling to engage in lengthy planning processes. Such inclusive planning is a challenge, but we cannot just rely on the supposed wisdom of either the "free market" or voter initiatives to guide us to sustainability. Instead, we need to improve our understanding of the costs and benefits of urban growth as they filter across urban regions and hone our capacity to work out feasible alternatives. At this point, I will present some examples of techniques that could contribute in these directions, beginning with some more specific methodologies and moving on to more comprehensive approaches.

Taking environmental justice "beyond the toxics" to broader aspects of environmental and urban policy has the potential to invigorate urban sustainability efforts and to create bridges with other communities concerned with quality of life issues.

First, we turn to the evaluation of specific development projects, an admittedly narrow focus, but crucial because this is where the impact of policies is ultimately determined.

Project peddling is a methodology I developed in collaboration with Molotch in our research on growth control in Southern California (2000). We wanted to devise some tangible measure of what localities gained for each unit of development that was approved. We began by trying to add up all of the exactions and fees that were collected for the mitigation of development impacts, but found that it was very difficult (if not impossible) to put together information that was complete and that could be compared from one place to another. More importantly, the collection of development fees did not account for benefits that might come from limiting the size, character and content of a project or requiring that certain activities (such as childcare) be made a part of the project. Our alternative methodology was to ask planners in the three main jurisdictions (Santa Barbara, Santa Monica, and Riverside) to select for us case studies that typified the requirements that they usually imposed. One project was to be what they considered a routine approval and the other a "best case" scenario from the city's perspective in which developers had made extraordinary concessions. For these six cases, we then put together project descriptions detailing the proposal and the conditions of approval. We then "peddled" these projects to the other two planning departments to see whether they would approve the project and under what conditions. With these comparisons we then showed how cities with stronger growth controls created broader benefits from development approvals. Table 1 shows the proportion of potential exactions that were broken down by locality, project type, and type of exaction. For example, in Santa Barbara 50% of the exactions were applied in to residential projects, 33% to the office/retail projects and 30% to Office/Retail/Residential projects.

This is a strategy that could be used within a region, so that planners, developers, and other stakeholders could compare the conditions of development among different localities. Case studies might be posted on a website so that local planning departments could submit their conditions of project approval. The different local responses could then be compiled and published for consideration across the region.

Table 1 - Use of Exactions by Project and by Type

Land Use	*Santa Barbara*	*Santa Monica*	*Riverside*
Residential	50%	50%	25%
Riverside Arms			
Office/Retail	33%	40%	20%
Barbara Place			
Monica Tower			
Monica Center			
Office/Retail/Residential	50%	100%	25%
Rancho Barbara			
Riverside Plaza			
Routine vs. Best Case			
Routine Projects	33%	27%	20%
Best Case Projects	40%	100%	20%
Exactions by Type			
Traffic	100%	50%	0%
Housing	83%	83%	0%
Parks	0%	83%	100%
Social Welfare	0%	50%	0%

Table 2 - Project Sustainability Matrix

	Economic Security	Environmental Integrity	Quality of Life	Empowerment with Responsibility	Total
Valparaso Coastline	0	1	1	1	3
Laguna Verde	-1	-2	-2	0	-5
Via del Mar Malls	-1	-2	-2	0	-5
Curauma	-1	-2	-1	-2	-6
Reaca/Con Con Coastline	-2	-2	-2	-2	-8

2 - Very Sustainable
1 - Somewhat Sustainable
0 - Neutral
-1 - Somewhat Unsustainable
-2 - Very Unsustainable

The Project Sustainability Matrix is a methodology that interprets sustainability on a project by project basis. The standard at this level is not whether a project in itself is sustainable, but whether it contributes toward urban sustainability. In a study completed with Jorge Negrete (Warner and Negrete, forthcoming) at the Universidad Católica de Valparaíso, Chile, we rated six key development projects in the Valparaíso region in terms of four dimensions of sustainability: economic security, environmental integrity, quality of life, and empowerment with responsibility (see Kline, 1997, 2001). This was based on a qualitative evaluation of the projects with a narrative justification of each value. Only one of the projects, the redevelopment of the Valparaíso coastline, including the port facilities, earned a positive

sustainability rating (see Table 2). Among the other projects, we were able to appreciate how the different dimensions of sustainability vary from one project to another. The measures of each dimension of sustainability can be further refined and systematized; however, the process of considering the breadth of impacts of a project is of intrinsic value and takes us beyond the limited considerations that usually comprise project reviews. Also, evaluating projects with respect to these general themes allows for comparisons between places that may be quite distinct in terms of local environmental, social and regulatory contexts.

The next two examples examine interdependencies within urban regions so that policy proposals can be assessed in terms of metropolitan sustainability.

Instead of displacing new demands for housing and the attendant public services to other parts of the region, localities could "ratchet up" the standards so that other places could also expect and ask for more.

The *Policy Options Model* is a decision-making tool developed by DRCOG to illustrate how the subareas of the Denver metropolitan region are interconnected in terms of the distribution of jobs and housing.[8] It is premised on patterns that were observed in the 1997-1998 Travel Behavior Inventory, a survey of 5,000 households in the urban region. The Policy Options Model can be used to track interconnections between nineteen regional subareas, encompassing the fifty-one jurisdictions that make up DRCOG. DRCOG staff-members have demonstrated the model to local government staff and others to help "get people thinking regionally" by showing that decisions made in one jurisdiction have ripple effects elsewhere and vice versa. For instance, the model can estimate where workers are likely to live throughout the region if a new employment center is created in one community. Or, in a more complex scenario, it can be used to estimate which subareas will experience higher housing demand, if one subarea limits the amount of new housing without restricting commercial and industrial development. At this point the model is being used to help educate people in regional thinking and can also be run for particular project. It was recently run for Aurora planners in regards to the redevelopment of Fitzsimmons Hospital. DRCOG staff intends to refine the model using 2000 Census Data so that it will be possible to carry out analyses for the

level of individual jurisdictions. Also, they want to make the model "friendlier" by incorporating graphic displays in addition to generating tabular data.

The *Smart Growth Strategy/Regional Livability Footprint Project* is a comprehensive attempt to integrate citizen participation, impact analysis, and policy formation. This multi-year effort is being carried out under the auspices of the Association of Bay Area Governments with the cooperation of the Bay Area Sustainability Alliance. Workshops were held throughout the nine county region to generate three alternatives for future development in the region.[9] In terms of analysis, PolicyLink provided detailed case studies of how five impoverished communities from different parts of the region would be affected by each alternative, particularly with regards to the match between new jobs and the skills of the existing workforce and the match between new job growth and affordable housing.[10] In this case, the examination of interdependencies feeds directly into the development of new policy. The three alternative development scenarios are being evaluated in a second round of workshops in order to devise a preferred regionwide alternative for growth that maps out location and types of future development and designates open spaces for protection. Coming from the council of governments, the plan will be advisory in nature but other regional agencies, such as the Metropolitan Transportation Commission, local jurisdictions, state lawmakers, and other project partners will be asked to develop "incentives and regulatory changes" to implement this plan.

Table 3 - Comparative Environmental Risk Indices

Pueblo						
CERI	=	(at risk non-whites/total MSA non-whites)	=	0.49261	=	1.137
		(at risk whites/total MSA whites)		0.43316		
CERIh	=	(at risk hispanic/total MSA hispanic)	=	0.48443	=	1.157
		(at risk non-hispanic/total MSA non-hispanic)		0.41874		
CERIp	=	(at risk poor/total MSA poor)	=	0.52019	=	1.229
		(at risk non-poor/total MSA non-poor)		0.42300		
Normalized Composite CERI						
	=	(1.137 + 1.157 + 1.229) / 3 * (0.73140)	=	0.8555		
Colorado Springs						
CERInw	=	(at risk non-whites/total MSA non-whites)	=	0.64966	=	1.331
		(at risk whites/total MSA whites)		0.48804		
CERIh	=	(at risk hispanic/total MSA hispanic)	=	0.63478	=	1.272
		(at risk non-hispanic/total MSA non-hispanic)		0.49896		
CERIp	=	(at risk poor/total MSA poor)	=	0.64093	=	1.292
		(at risk non-poor/total MSA non-poor)		0.49596		
Normalized Composite CERI						
	=	(1.331 + 1.272 + 1.292) / 3 * (0.85891)	=	1.1143		
Denver						
CERInw	=	(at risk non-whites/total MSA non-whites)	=	0.81796	=	1.308
		(at risk whites/total MSA whites)		0.62529		
CERIh	=	(at risk hispanic/total MSA hispanic)	=	0.79929	=	1.266
		(at risk non-hispanic/total MSA non-hispanic)		0.63120		
CERIp	=	(at risk poor/total MSA poor)	=	0.84605	=	1.338
		(at risk non-poor/total MSA non-poor)		0.63227		
Normalized Composite CERI						
	=	(1.308 + 1.266 + 1.228) / 3 * (1.21948)	=	1.5902		

Measuring Environmental Justice—Researchers can also contribute to urban sustainability efforts by developing measures that are valid and easily understood—especially to illuminate such complex issues as environmental justice. On our campus, a team of four social scientists collaborated to design a measure of comparative environmental risk to quantify the relative exposure of low-income and minority populations to toxic hazards within the urban region (Harner, Warner, Huber, and Pierce, 2002). Much of the previous quantitative research on environmental justice had focused on testing whether injustices existed or on the relative importance of race vs. class as a predictor of environmental risk. Our intent was to offer a measure that was easily understood and could be used to make comparisons between places and over time. Geographer John Harner devised a GIS methodology to identify all the block groups that were closest to toxic sites throughout the metropolitan area (MSA). The research team then evaluated several measures and selected the Comparative Environmental Risk Index (CERI) as the most appropriate measure of environmental justice. To give an example of how the CERI index can be interpreted, we can look at the three case studies of Pueblo, Colorado Springs, and Denver (see Table 3). We found that lower income populations were at least 22.9 % (Pueblo MSA) more likely to live in the vicinity of a toxic site, and in Denver they were 33.8% more likely. In the case of Colorado Springs, non-whites were the most likely bear a higher risk, whereas in Pueblo and Denver, poor people were most exposed. Our analysis focused on toxic sites, a long-standing environmental justice concern, but the methodology may also prove useful in examining the distribution of other environmental costs and benefits within urban regions, such as air quality or pedestrian access to healthy natural habitats.

The shifts that are necessary to establish urban sustainability ...are economic, political, social, and cultural. Broader citizen participation is critical and of intrinsic value, ...to become a process of education and collaborative research.

Best Practices Database—The final research example is the development of a cross-national database of best practices dealing with the integration of environmental justice into sustainability efforts with a specific focus on the processes of urban place-building. In this project with Prof. Agyeman from Tufts University (Agyeman & Warner, 2002), we offer a framework for understanding and analyzing different sorts of local policies. At the same time, we hope to help local policymakers learn from their counterparts in other parts of the world and to encourage dialogue, comparative analysis, and collaboration. On the global stage, urban sustainability is one of the most important issues of our times. Even though the circumstances of Colorado cities may seem entirely removed from other parts of the world, this sort of interchange, as I experienced very directly on my Fulbright last year in Chile, can be very fruitful. For instance, planners and decision-makers elsewhere may be acutely aware of the urgency of making cities more socially equitable and environmentally sustainable, but can benefit from the institutional and analytic tools that American planners take for granted. American planners, on the other hand, may benefit from knowing that their work has an importance and a reach that goes beyond the specifics of particular project approvals or local ordinances.

FINAL REFLECTIONS

One of the differences that I noticed during my year in Chile was the relationship between professors and policymakers. Policymakers there readily turned to the university for research and advice on a whole range of policy matters, and some of the most important consulting teams were based in university faculties. I had the opportunity to participate in several research teams engaged in strategic planning and community development for local jurisdictions and to see how eager local officials were to work with the university. On the other hand, faculty members were personally and professionally interested in topics that had immediate local importance and they were encouraged to do this type of work. Universities, in effect, "loaned out" professors to the public sector in the early nineties as the country reestablished democratic institutions after seventeen years of military rule. One of my colleagues spent several years heading up the regional departments of planning and tourism. Students also benefited from this by having the opportunity as undergraduates to participate in research that directly fed into policy formation. The circumstances in Colorado are different for a whole variety of reasons, but there are an equal number of good reasons to more closely link academic research with policy design, implementation and evaluation, particularly at a public university. I have offered some examples of how this may occur in terms of understanding and facilitating urban sustainability.

As the discussant for this session, Allan Wallis, correctly pointed out, having better information about development impacts does not mean that better policy decisions will naturally follow. Knowledge, in itself, will not set us free, or in this case make our cities sustainable. Whatever

the intrinsic analytic value of the tools I have described, they will only improve the quality of development in Colorado if they begin to inform public debate and decision-making locally, regionally, and within the state. New ways of thinking about development, figuring its costs and benefits, and generating alternatives must catch hold beyond the ranks of professional planners and dedicated urbanists. They must extend to elected official and to diverse sectors of a participating public. Strategies to broaden and deepen public participation in the processes of place-building should be a central component of sustainability. Enhanced community capacity will be made effective by a well grounded and accessible knowledge base and ongoing analyses. Forums such as this conference and initiatives such as the Center for Colorado Policy Studies that bring together scholars, policymakers, and citizens are important moves in this direction.

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FOOTNOTES

[1] www.unesco.org/most

[2] In a review of web pages for sustainability in the largest U.S. cities, I found only a handful that even mentioned environmental justice (Warner, 2002).

[3] http://www.policylink.org/region/regionalism.html

[4] www.cnra.net

[5] For example, see Warner and Molotch (1994) for a description of how developers adapt to new regimes of growth control.

[6] from Warner and Molotch (2000:p. 124)

[7] from Warner and Negrete (2002)

[8] Phone interview with Jeff May, Director of Metrovision Resource Center of DRCOG, 9/11/02

[9] http://www.abag.ca.gov/planning/smartgrowth/context.html

[10] http://www.abag.ca.gov/planning/smartgrowth/AltsTechApp/SGFPCaseStudy.pdf

[11] from Harner, Warner, Huber, Pierce (2002: p. 324)

**Photos provided by Dr. Kee Warner*

DISCUSSANT COMMENTS SESSION 2

ALLAN WALLIS
Graduate School of Public Affairs
University of Colorado at Denver

(Ph.D., Graduate School of the City University of New York) teaches courses in leadership and ethics, urban policy, growth management policy, and innovation in public management. He has also taught courses in architecture, city planning, and urban design. He is currently working on a metropolitan regionalism project in South Florida and Chicago under a grant from the MacArthur Foundation. He has authored numerous articles, book chapters, and a book—Wheel Estate: the Rise and Decline of Mobile Homes.

Garrett Hardin referred to the "tragedy of the commons" for common pool resources like free grazing land. There is an obvious benefit to each individual adding more sheep, but only a rather vague disincentive of potentially reducing long-run productivity. People go with the more obvious benefit, and the collective consequence is ultimate collapse. Tragedy is the slow but slippery slope that leads us to an end which we refuse to acknowledge. In Professor Revier's presentation I was on that slope. The good news is that TABOR didn't shoot us in the foot on school funding, but the bad news is that we are still on the slippery slope.

Steve Jennings pointed out that in Colorado we are dealing with bizarre and out-of-date perceptions that misinform our behavior. Not only outsiders but people in our state also think of this as a Rocky Mountain state. Maybe it's the success of Coors advertising? We know that the vast majority of our population lives on the Front Range -- not in the mountains -- and that a lot of this state is in the high plains. This perception of a limitless resource directs us toward land consumption behavior that is completely unsustainable.

I build on that theme to suggest that we have three challenges in terms of changing perception. Our current perceptions are leading us to a "tragedy of the commons." Our current way of thinking directs us to think about short-term benefits rather than the long-term issue of sustainability. It also directs us to look at local rather than regional costs and benefits. We also tend to look at outcomes quantitatively and not qualitatively. In each case it is easier. It's much easier to say there is a benefit to me and I am going to realize it immediately and realize it in a way that I can actually count. Shifting our way of thinking from that is enormously difficult, but it supports the role of this conference.

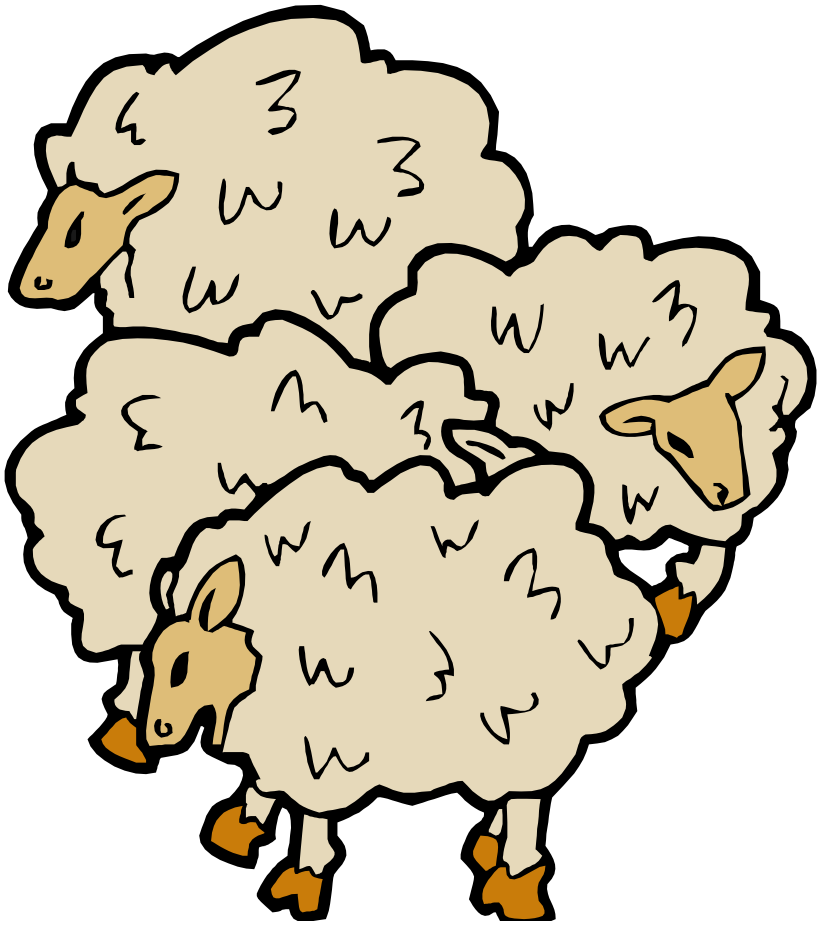
How can policy analysis change perception? It is an enormously difficult task. We have a culture that believes academics are to be distrusted in terms of not being connected with reality. This morning's papers demonstrate that is just not true. Charles (Revier) pointed to the need to quantify outcomes of the education process. But unless we can connect the declining rate of support per pupil with the outcomes, it will not be seen as important. Unfortunately, the CSAP (if we take the C out, we sap the energy from education) directs education to achieve scores. There is a lot

of debate over what outcome exactly those scores are measuring.

Kee Warner's presentation attempts to provide scores of the sustainability consequence of doing bad development. However, we know of many bad land-use decisions with obviously negative consequences, but we often continue the same behavior. We build very expensive, dense developments in the path of hurricanes. We even have federal insurance that provides a perverse incentive to engage in bad behavior like this. In Colorado we build new development in areas we know are prone to fire hazards. Despite the fact that we as taxpayers will pay insurance when the disasters happen, we keep building in those areas. If the hope is that we can change perception with good data, I am sorry to say that past history doesn't give me enormous hope.

On the other hand, one of my former colleagues, Jorge Rivera, did a study as to whether people will pay more to go to a resort that was "green friendly." In Costa Rica tourists who perceive themselves as sharing those values would pay a premium. The bottom line is that you can make a profit by being environmentally conscious if consumers are also. So one of the indicators we should look at is whether there is going to be a greater return on housing or commercial investment that is "green" or "sustainable."

The Greenbelt Alliance in the San Francisco Bay area did an extraordinary job of "connecting the dots" – something we all need to do. To make tangible and visible the potential loss of open space, they created a map from satellite photos. It showed the most endangered lands to the least endangered. Everyone could look at it and say "I live here." We have a significant challenge as academics not only to do good work, but also to boil it down to one picture. Then people can understand the implications of what is happening in various policies and potentially change the way they vote or the way they live or the way they invest.



MAKING BETTER POLICY DECISIONS FOR COLORADO'S FUTURE: *How Can University Research Be Accessible and Useful to Policymakers?*

Pamela Shockley

Jim Jacobs

Rutt Bridges

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MODERATOR
Daphne Greenwood
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(Ph.D., University of Oklahoma) is Professor of Economics and Director of the Center for Colorado Policy Studies, University of Colorado at Colorado Springs. She has published work in the areas of health and education policy, measuring poverty and wealth, and tax policy. Most recently, she has been working on how community indicators can be used to measure quality of life and sustainability and how to measure the full costs and benefits of different patterns of local growth. Dr. Greenwood was formerly an elected representative to the Colorado legislature, Honors Professor at the U.S. Naval Academy, visiting scholar at the U.S. Treasury Department, and corporate economist with Esmark, Inc., a Fortune 100 company. She is on the Board of Directors of the Catamount Institute and is a member of the City of Colorado Springs' Trails and Open Space Advisory Committee.

DAPHNE GREENWOOD:
First, let me welcome Dr. Pamela Shockley-Zalabak, our new Chancellor at the University of Colorado at Colorado Springs. We are thrilled to have her in that leadership role because she is a longtime faculty member as well as former Vice Chancellor for Student Success. She did an outstanding job of bringing our campus to the forefront in student services and retention, and we know we can expect great things from her as Chancellor.

On my right is Jim Jacobs, Director of Policy and Research for the Colorado Commission on Higher Education. Jim heads the staff for the Governor's Blue Ribbon Panel on Higher Education and earlier served as the Director of Finance at CCHE. For nearly twenty years, Jim was the Director of Research for the Colorado Public Expenditure Council (CPEC), a group which we relied on heavily at the legislature for timely analysis of issues of taxation, school finance and government spending.

On my left is Rutt Bridges, CEO of the Bighorn Center for Public Policy, a nonpartisan think tank focused on quality of life issues for Colorado. Rutt was also founder of a firm which became the leading international provider of 3-D seismic imaging software and is currently board chairman for Colorado Public Radio. Rutt, you have done a great job at Bighorn influencing public policy, and we are looking forward to hearing from you.

Last, but not least, Wade Buchanan is president of the Bell Policy Center, another nonpartisan organization focused on public policies that promote opportunity for all Coloradans. Wade was senior advisor, policy director, and chief speechwriter for Gov. Roy Romer. He has also served as acting executive director of the Colorado Department of Natural Resources, director of the Colorado Office of Energy Conservation, and chair of the metro area Regional Air Quality Council.

I'm delighted to see that we have a packed audience waiting to hear from our distinguished panel on the subject of how researchers can work better with policymakers. Let's start with some words from Chancellor Shockley and then brief remarks from each panelist.

CHANCELLOR SHOCKLEY:
First, let me start with how excited I am to have all of you here today discussing issues that are of critical importance to all of Colorado. That includes not only policymakers and citizens, but the educational community as well. I feel privileged to be a part of this panel. Let me frame some issues now and later respond to questions from you.

This conference speaks to the need to take a new approach to applied research and how it relates to the establishment of public policy. The complexity of the issues we face in public policy is rapidly increasing. We have had many examples of failed public policy when we have looked too simplistically at issues such as our state's growth policies, education, and revenue structure, to name just a few. We need to focus our research talents on the issues that are facing the state of Colorado, along with the nation and arguably the globe in the 21st century.

We have in our faculty and in our students a wealth of in-depth expertise as well as interest and awareness in methodologies that can be applied to these increasingly complex problems. University faculties bring an orientation to examining issues that is based on analysis of data. All of us are notably opinionated on certain subjects, but at the university, if we are to have credibility in our academic fields, we must also demonstrate an ability to look critically and analytically at data. An expanded rigorous examination of some of our public policy problems is an important contribution to informing those issues. As policymakers, concerned citizens, or university faculty we all have mutual interests in these issues.

If you look at the topics of today's sessions, you are face to face with some of the critical issues confronting Colorado and much of our nation. The interest in these issues that is already demonstrated among the faculties of Colorado and

the kind of research that they have done provide us with a rich framework of information to the policy arena. When you think about creating policy over time, you have to think about how we educate citizens to have an awareness of both the impact of policy and what generates good public policy.

A closer linkage between policy and applied research would do more than benefit the "policy of the moment" under examination. Having those linkages on university campuses provides students who work with faculty a learning

environment. That creates a better link between the citizenry of the future and the issues that face what we would like to be an informed public.

One of the barriers, from the university side of the equation, to making those linkages is our ability to be accessible and available. We need to translate what we know and regularly generate new information and analysis for the public policy community. This conference brings into focus the kinds of bridges that need to be built. This institution is not an ivory tower and has never been in the twenty-seven years that I have been here. Nor would we want it to be because that would not reflect the type of work we do. Neither are the institutions of many of our colleagues from across the state and nation.

We need to think hard about how partnerships can be built between faculty and policymakers without becoming intrusive in the university or in the public policy arena. Unfortunately, in the last decade or so, the university community has been viewed (more than in the past) as a "special interest" and therefore a partisan community. We are a special interest community only in the sense of our acknowledged support for higher education and how we it serves the state and its citizens. But that does not diminish what we can bring through applying our research to the many issues facing the state. So, I welcome my colleagues on the panel on behalf of the University of Colorado at Colorado Springs.

(Applause)

JIM JACOBS:

First, let me give a disclaimer. I am not necessarily representing the views of Tim Foster and/or the CCHE. I notice Commissioner Jim Stewart in the audience — if he starts throwing a glass of water at me, I have obviously overstepped my bounds on this one!

When it comes to the university and the policymaking community, there is a cultural and linguistic gap that needs to be seriously looked at. If you could sit behind a glass wall and watch first the House State of Affairs Committee and then that last group of presenters, the way they each operate is totally different. The academics need to figure out how the politicians and the policymakers think, how they talk, how they react to things. Until you do that, the perception out there is going to be that while it may not be an ivory tower you are in, it is definitely a brick tower. And that is a very serious matter, especially as we look at higher education today. The higher-education community has to prove to the citizens and thereby to the politicians their importance overall and their importance in terms of solving the problems of this state. If you can do that, I have hope that there will be a greater willingness to give additional resources to higher education. After all, we are the most highly educated state in the country, and higher ed is significant to our growth and development as the seventh wealthiest state.

One of the previous speakers was talking about K-12 education and how our various rankings have gone during the last ten years. In my previous job I used to compare Colorado with states in terms of various taxes, and in 1993 when TABOR was implemented, Colorado ranked 48th in state government tax collections per 1000 dollars of income. In 2001, we ranked 46th. Therefore, you could argue that if we did not have TABOR, we would have jumped higher, but I don't know if that is the case. It turns out that Colorado is a "local control" state, and we not only preach that -- we practice it. There is more power at local government than there is at state government. So, if you really want to engage

in change, the local community is where it really happens in this state. That does not mean that you should not look at state government, but real power and activism occurs at the local level. Moreover, one of our problems is the disparity among the local governments. I don't want Mr. Sam Mamet

to come up here and beat me up, but that is an important issue, and I am glad that you are all beginning to address it.

In terms of how you get your information out, a) you have to build a track record of integrity, honesty, and sustainability, b) you need to develop links with the media. I notice there is somebody here from the Colorado Springs *Independent*. You need to get more newspapers, and TV and radio at these types of functions so that the reporter will know here is a problem on X, and I heard somebody talk about that, let me give them a call.

Perhaps an intermediate step between the state house and the university would be groups like the Colorado Municipal League or Colorado Counties, or the School District Association. The staff of those organizations certainly know how to talk to you and know how to talk to the politicians, and help bridge some of the gaps. Finally, web pages like the Center for Colorado Policy Studies are the way to the future. I noticed there is a group here called the Center for Research on the Colorado Economy. I have not heard of that group, and it is important that they get themselves known by policymakers. A good way to do that is to put things out on the web because that is where people are going to start finding information more and more. Finally, if a consortia of higher ed colleges and universities would put some kind of web page together about what these various groups are doing that would be great. I would obviously like to offer that for a CCHE project, but I fear that we will not have any money after... Well, you know what I mean. But I am certainly happy to be part of this discussion.

(Applause)

DAPHNE GREENWOOD:

Thank you, Jim. We did invite many members of the press to this event and are happy to have John Weiss from the *Independent* here today. Actually, I did get a call from Kyle Henley at the *Gazette* yesterday, and he said, "Daphne, this looks like a fantastic program you have put together, but the president of the United States is going to be in Denver, and they want me to go there instead." I said, "Kyle I am SHOCKED that we've been upstaged, but then again it is the president of the United States." (laughter) However, many of you hearing the presentations might say that John Weiss made the right decision by being here today.

JOHN WEISS:

Actually, I wasn't invited to Denver.
(more laughter)

RUTT BRIDGES:

I really was struck by what Kee Warner said earlier about the relationship between universities and the political world in Chile. I have seen this same thing in Asia and Europe and a lot of places. There is a real honoring of the university, a recognition of the importance and role of the university in the community and in determining right decisions in public policy. That is not the case in America today. It is a sad fact that it is not because there is a lot of great research here and good ideas here. The connection has been broken and has not been nurtured.

We've got to examine the fundamentals of how we reconnect with the political world because in the end it is great to do research, but it is a lot better to change the life of a child. If you want to be able to do that, you've got to build the relationships that it takes. You've got to know who the players are in this arena, you've got to understand what is possible

to do, and then you've got to engage on the issues. So who are those players? It is a real mistake to think that all the players on these issues work and live under the gold dome in Denver because it is not true. There is a lot of decision - making that is happening at a local level, and frankly, there is more in budgets at a local level these days than there is at a state level. If you are talking about new ideas and new initiatives at the state level, a lot of the focus is going to be on where does $388 million dollars (or however many more) come from to balance the state budget this year. That is what

a lot of the business of the legislature in the next session is going to be. I suggest that there are a lot of other avenues in the short term where you can have an impact.

There are going to be some big topics that will be dealt at the legislature other than just budget. Vouchers in public schools will be a huge issue this coming session. There is going to be a lot of discussion on health care issues. Programs that impact youth, where you can sit down with a sharp pencil and calculate a 10–20% return on investment from these kind of programs -- well, guess what, that is not the thinking right now! The thinking is I have got to balance the budget by state law, where's that money going to come from? And a lot of programs, which have terrific long-term benefits, are going to go down the tubes in this coming session. We have a law that says we run with a balanced budget.

About relationships between people in the academic world and the legislature, if you don't have those relationships, and they see you as a supplicant and not a partner in making the decisions that we need for the future of Colorado, then you are going to be a prime target for cost reductions. And if you want to engage on these issues and make a difference, you've got to build relationships at a local level with municipal governments, with county governments, and at a state level with legislators. Those relationships have to be relationships of trust. It is a bad mistake to put a legislator in a small and narrow box. I do not assume because they happen to be pro- life that they are going to be conservative on every other issue. Great example of this: Rep. Lynn Hefley was the champion of a bill to take drug offenders who are caught with a gram or less and who are almost certainly addicts and put them into treatment instead of sticking them into prison. That bill had a very positive fiscal impact. Bighorn was involved in that effort and in some of the research.

There are ways to identify people who are passionate about a particular issue that you wouldn't necessarily think they would be passionate about. When you deal with legislators, you have to realize that they are complex people and not put them in a narrow box. Get to know the things that they really care about and the things that they are passionate about, and learn individually how you can add value to that and how the university as a whole can add value to that. There are certainly a lot of other policy organizations to build relationships with; Wade Buchanan is here from the Bell, I am here from the Bighorn, the Independence Institute has had a lot of policy impact in Colorado.

There are also a lot of non-profits like the Colorado Trust and Urban Peak who are represented here today. It is not just governmental agencies that you can connect with and that you can add value to. Many times these other organizations can be champions of the ideas that you have. The Blue Ribbon Panel on Higher Education is a great example of that. They have some tough problems to deal with and are looking for solutions, and some of you out there may have ways to add value. School boards and municipalities often see a connection with the university quite differently than people in higher government levels do. They may take real pride in working with DU or working with the University of Colorado to address some specific problem that they have. It is easier to work with a group when you are welcomed in than it is to have to fight your way in.

I saw a great example here this morning in the presentation of business development in urban neighborhoods. My target

for new development would probably be the big retailers. We may say we like the "mom and pop" model, but the reality is that finding capital for them in this economic environment is very difficult. It may be easier and more effective to focus on a Target than on creating a "thousand points of light" in the community. I ran a small business for 15 years, and it's tough expanding, it's tough finding capital. We are entering a period right now where it is going to be a lot tougher than it has been for a long time in Colorado. If I had to pick a business to go into right now, I would like to go to state government and say, hey, I'll provide that drug treatment for those people if you'll give me the future savings on building and maintaining prisons. That would yield a terrific return on investment. Unfortunately, we say we like outsourcing, but we are not quite ready to go that far in Colorado today.

(Applause)

WADE BUCHANAN:

It is great going last in a panel because you can sound profound and take ideas you have heard the others give and say, "That's my idea, too!" So, I agree with everything that was said and thought of it before I got here!

My background is on the policy side. I have an academic background I am proud of, but when I got my degree I went to Governor Romer's policy shop, first lobbying, then chairing a coalition of local governments around air quality issues, and finally running a state department. Now I'm running something that looks like a think tank. So when I was presented with this question of how to make research more accessible in order to make better decisions, I really started thinking of it from a public policymaker's point of view.

The first thing I would say is that there is a missing party in this conversation, and that is the funding community. A lot of what we all do we can't do unless there is somebody who is willing to pay for it. It is important to make sure that folks in the foundation community understand the importance of linkages. Bridging this gap is a critical step that we should not forget. Just recently, the Rose Community Foundation, the Colorado Trust and the Caring for Colorado Foundation have committed to a five-year effort to create a Colorado Health Institute, which serves as a model of something I think we should look at.

These are definitely different worlds we live in. We are all talking about some of the same issues and worried about some of the same issues, but the world of policymakers and the world of academics are very different. One is the world of the search for truth and knowledge and the other is the world of the art of the possible. One is a world where you have multi-year timelines, and the other is a world where you have 120-day timelines and immediate needs and annual budgets that need to be dealt with. One is a world of precision and specialization, and one is a world of multi-issue trade-offs. One is a world of tenure, and one is a world of term limits. We need to understand that these are different worlds we are trying to bridge.

It's not just a gap between people who have questions and people who have answers. It's a gap between people who have different languages, who have different traditions, different skills, different definitions of what quality is, different definitions of what success is. It may not simply be a question of introducing professor A to legislator B. It's a much more complicated question about learning to speak

one another's language and learning to understand what one another's needs and capacities are. I want to make several observations and suggestions in that spirit.

With all due respect, I would rephrase the question a little bit at least from the point of view of policymakers. I think the question from a policymaker is how can the knowledge and expertise in our academic community become a trusted resource for public policymakers in the state. It's not just a transfer of data; it's a relationship. And it's an ongoing

relationship -- a relationship of trust, as some others have said. There are some policymakers, frankly, who won't be terribly interested in it. It really has to be someone who's not ideological, so much as interested in solving problems in a way that helps all of Coloradans. And that narrows your audience.

On the policymakers side it has to be someone who is willing to listen, learn, and understand that they don't have the whole truth, that the academy has something to add. On the academic side, it has to be people who are willing to engage in the language of the possible, able to understand the context and the process that politicians use and the policymakers use to make decisions. You need to make peace with the imperfection of the process. If there is a stereotype that applies to the academic community, it is "making the perfect the enemy of the good." Policy is a messy process of trade-offs and exchanges. Those who are most helpful to the process are not those who are able to say what the perfect answer is, but those who at the end of the day can say, "that's good enough." It's usually in that gray area that decisions are made.

It has to be a willing relationship and a mediated relationship. The expertise you have is long-term and career-based. It's not just one research project, it's not just one paper, but a series of papers; it's expertise you build up over time. We live in a state where elected officials are eight years and out due to term limits. So there needs to be a way of building this relationship that survives the transient nature of the public policymaking community. I believe that is where we have the greatest work to do as a state. It really needs to be someone's job to maintain this relationship. It's a job that can be facilitated by universities, it's a job that can be facilitated by government and policymakers, but perhaps it needs to be the job of a third party. In terms of a long-term solution to this question, we really need to think about what is the connective tissue between the two communities. I think it is organizations like the Bell and like the Bighorn. It also would help if legislators, city council members, and county commissioners were willing to vote themselves a large enough budget so they can hire staff that can understand these issues. But, that is a tough thing for those people to do.

(Applause)

DAPHNE GREENWOOD:

I want to give each of the panelists time to respond to each other, but first let's take a couple of questions from the audience.

COMMISSIONER KATHY HALL, MESA COUNTY:

I agree with everything that you had to say. I think it is really important that we have the organizations that you were talking about because they are doing a lot of work. But what is important is the connect that has to happen between local governments and academia. All the things that you are here talking about are going to happen on the local level. Where the real rubber meets the road is in counties and municipalities. There needs to be this discussion going on at CCI and CML. Legislators can make the laws that allow us to do transfer development rights. But as a county commissioner, we choose whether to implement them.

In Mesa County, we work hand in glove with Mesa State College all the time. Part of our strategic planning process was to work a better relationship with Mesa State College because what they can supply for us is tremendous. We had to bring them in kicking and screaming because they have such a thing of "oh my gosh, why would I work for the county commissioners?" They think they have to work with Congress, or perhaps the Legislature, to get things done. As you know the National Governors Association brought welfare reform to Congress. They picked representatives from seven states to come to a series of meetings to figure out how to do welfare reform. Mesa County was one of the "working poor" counties, and so we met several times on a national level with this group. The one complaint that we had from all seven participating states was the disconnect in getting universities to help us on those issues. We needed training, and we still today need training. But we can't get

that out of Mesa State College. We got their professors and deans to help us on welfare reform on a local level. But we're now doing that training "in house" because we need the kind of training that we can't get on from the university.

DAPHNE GREENWOOD:
Let me try to address that concern and make a few points on behalf of the faculty. I think you are absolutely right that there is this disconnect that Wade Buchanan and others have talked about. Suspicion of people in government is unfortunate because most of the people there are trying to do a good job and often don't have all the information they need.

The traditional reward structure in academia has been for publishing in scholarly journals. That can produce very good research that is tested and looked at carefully. But there also needs to be a reward structure for work that is applied and that is directly relevant to the community. That is part of the reason that we have the Center for Colorado Policy Studies and some of the other groups represented here today. We reflect an awareness in the university of the need to recognize and reward that kind of work.

Faculty are like anyone else; they respond to incentives. If applied work isn't viewed as being very important, faculty have to say "I am very busy and that is not going to get me tenure, or promoted, or a raise, but publishing in national journals will." Centers like CSU's Center for Research on the Colorado Economy also provide a bridge or port of entry into the university for policy people. They can easily make a call and find help.

TERRY STORM, PIKES PEAK ASSOCIATION OF REALTORS:
I think you should also ask: why would conservative legislators, county commissioners, or city council members want to work with academia when they have the view that academia is on the opposite side of the political spectrum?

CHANCELLOR SHOCKLEY:
First of all, we have to recognize that we all have our own opinions on different subjects but that the essence of research is objective analysis. The reality of the issues is often less polarized than the rhetoric around them. If we begin to look at the need to bring expertise and data to real problems, we can bridge that gap. If someone looks at the academic environment and is over-stereotypical it shows they are forgetting that all our conclusions are based on what the findings have to say. The same thing goes on the other side

of the equation. If we over-generalize about any segment of our population, whether it is academia or county commissioners or city government, then we run the risk of missing our ability to be objective and look at issues. I think a lot of the rhetoric is more divisive than it needs to be.

JIM JACOBS:
Let us not forget the role of the citizens in all this. When you in the universities write your reports, try to keep in mind the impact of the recommendations you have and what it will take to pay for them. We need more three-way dialogue that includes citizens, just like we are having today.

RUTT BRIDGES:
In the end, whether we work together effectively or not is based on whether or not policymakers perceive genuine value from the academic community. If you want to motivate somebody, then understand how that person advances in his or her career. It is just as valuable to the taxpayers of this state that our universities are engaged in helping to solve problems that affect our everyday lives as that they produce traditional scholarly research. There is a very legitimate track that has to do with commitment and real results in community involvement besides the pure academic track that leads to promotion – the "publish or perish" route. In many universities that I have been associated with, there are a few people focused on the community, engaged in it, and trusted by the community. The value of those people to the university when you are dealing with the kind of budget-cutting that is

going on now is pretty significant. We have to nurture and have a mechanism to promote these activities.

I will say that I disagree very much with Wade Buchanan about the need for facilitation of that process. I say to every faculty member and university person in this room today, "It is your responsibility to make those connections." There are people out there who care about the sorts of things you are doing. If you build relationships with them, you can have a real impact on this community. But if you wait for someone else to come along, it's not going to happen. It is the responsibility of local government and state government to seek those relationships, but it is just as much or more the responsibility of the faculties to find out how to make that happen. And I hope everyone takes that charge seriously.

WADE BUCHANAN:
Well, I wasn't going to say anything until that one. I didn't mean to imply a mediated relationship as opposed to a direct relationship. But there are actors that can help make those relationships effective by translating between the two communities. That is an important role of what your organization (the Bighorn) and my organization (the Bell) do. To the extent I was interpreted as saying just stay at the academy and let some else mediate, that is not what I meant to imply. It is a difficult gap to bridge when you are speaking two different languages. There is a role for some people to make it their job to help the relationship happen effectively.

PROFESSOR MELAMEDE:
It seems that higher education in America, especially graduate education, is globally recognized as a success. So how is it that in our country higher education's reputation is "in the sewers?" It seems to me that we have become a political scapegoat for the needs of politicians.

CHANCELLOR SHOCKLEY:
Bob, I think that higher education has taken lots of criticisms (some earned and some not very justified) over the last three decades. And we do "enjoy" a different position than our colleagues in other parts of the globe. But so has the political side of the arena. It has less public trust than higher education does if the polls are to be believed. The reality is that we all have failed to look at the complexity of problems.

We have 120-day legislative sessions in which to get things done. County commissioners and municipal leaders are in the trenches over very complex issues with multiple impacts. They are term-limited but the problems we need to be working on are not term-limited! Academics are working on the same problem in entirely different ways. What the conversation really needs to be about is how we sustain progress on real problems while we all come and go in our various positions. We must recognize that there has been a public disillusionment not only with our process on the academic side but in the public trust of elected officials.

DAPHNE GREENWOOD:
That is an excellent point, and on that note, I want to turn to the one person in the room who is now simultaneously a public official and a professor, Colorado Springs city councilman Jim Null, also a Professor of Political Science at CU-Colorado Springs.

JIM NULL:
This is the first time in years that I have found myself the only person in the room with a foot in both worlds. I don't know if that is good or bad! In the seven years before the tenure decision faculty learn to do something very well and that is how to do research. We hope they learn to teach as well. But they certainly are going to learn how to go about doing research or they don't get tenured. It is a question of how you can bring this knowledge and ability to the problems in your community.

90% of what affects our lives happens right here in city government and county government but people talk more about the state and federal level. Two years ago I started a

Center here on campus, funded with private dollars, to give faculty summer money to do research projects that relate to municipal government and will be usable in our community. Now their willingness to work on this didn't have anything to do with the tenure process. Why was a summer salary important? In this state both legislators and state officials and local agencies have assumed for years that because there are faculty members on campus they can do your research for nothing.

Often, when you say you want the university to help, you're really saying, "we want you to fund it." The university pays their faculty to teach and do scholarly research. If they do community work instead of teaching a class, the university needs to raise the money to hire a replacement. So you are going to have to find a way for university faculty members to practice their art and have whatever it costs paid for. You don't expect the high school teachers to go out and do research for you for nothing. That is part of the problem. We need to look at innovative ways to entice faculty who are very good at research to do the research you want. One of the ways is to pay them. That's what happens when they get federal grants to do research. You need to look at the people in our state and community who are interested in and will offer research opportunities.

DAPHNE GREENWOOD:
I didn't pay him to say that, but we do take donations! Thank you, Jim, for sharing your thoughts. We can take a few more questions.

CHRISTOPHER JUNIPER:
At the Catamount Institute, I work with companies on sustainability. I am seeing a lot of parallels with this discussion. I agree with what you all are saying. Companies get caught up in several things. One is, they look at their environmental management people as cost centers that are a pain in the butt. And they are a big source of revenues and they are depleting the company but they are supposed to keep them out of trouble. This gets to what Jim Null was talking about -- the academic community needs to be perceived as a source of solutions. You might ask, solutions for what?

In the economy today, many business leaders don't have the imagination to understand how sustainability is a solution for the core challenge today (more revenue). But it is. Sustainability is one of the best solutions for the economic challenges we have, but few leaders know that. I think the academic community can be a great player in helping the general population, and policymakers understand and have the imagination to imagine a different future focused on the core challenges that they face.

JIM JACOBS:
I just wanted to say you might want to consider encouraging more professors to run for elective office, as the city councilman here has done. Daphne Greenwood did that years ago, and she was able to walk in both worlds (the university and the legislature) successfully. It would be significant at the state level if you had more academics being legislators as well as city council people and county commissioners. They could serve as bridges between the two communities.

DAPHNE GREENWOOD:
Thank you, Jim. I always felt there needed to be more dialogue between the two worlds, and I am delighted to see it occurring today.

WADE BUCHANAN:
Just a brief last comment. What's really important from a public policy person's point of view is the expertise of the researcher, not the study per se. When I think of the people from universities that I relied upon when I was in the governor's office, I tell you quite honestly only 10% of the time I would sit down and actually read something they wrote. I really relied upon the relationship I had with them, so that I could call them and say, "What do you know about this? Tell me about it, so I can explain it to the governor." It's not just the specific research project that you have to market, but really what you have to market is who you are, the skill you have, the expertise you have.

DAPHNE GREENWOOD:
On that note let me thank all of our distinguished panelists and our guests in the audience. We are very happy to have had your participation today and want to continue this dialogue. Please take time to give us your feedback on the conference and how we can best continue this in the future.

SESSION 3
COLORADO'S YOUTH: WHAT DOES THE RESEARCH TELL US?





CHAIR OF SESSION 3
CAROLE SCHOFFSTALL
University of Colorado at Colorado Springs

(M.S.N., University of Colorado Health Sciences Center, Ph.D., University of Maryland) is the Dean of Beth-El College of Nursing and Health Sciences. Dr. Schoffstall has been central in the facilitation of change to advance the profession of nursing and health science education. She started a new BSN program at Clayton State College in Georgia, initiated several new programs at Beth-El, including a health science degree program and a master's program in nursing and facilitated the merger of Beth-El and UCCS. Her interest in cross cultural health care has taken her to Tibet and many other countries to study traditional healing. She serves on a number of boards and task force groups to promote a healthy community for Colorado Springs.

KEYNOTE SPEECH
MARCY MORRISON
Mayor of Manitou Springs

(B. A., Queens College; Leadership Program at Harvard University) was first elected to the Manitou Springs School Board and later served several terms as El Paso County Commissioner and in the Colorado House of Representatives. She has been active in health policy and local environmental and land-use issues, serving on a number of state commissions and receiving numerous awards at the local, state, and national level in those areas. Prior to entering public service, Marcy worked as a teacher and as a social worker.

After lunch is the "down time" of every meeting that I've ever attended. So I will try to watch the body language of all of you, and when I see you slumping, I will try to think of something invigorating to say. Our topic is Colorado's youth.

What you heard about the lack of money for the state of Colorado, the disconnect that exists between different levels of government, the inability to make connections between legislators and higher ed all fit together, and they are all affecting the youth of Colorado. I worked with both health care and children's issues when I was a county commissioner and when I was the chair of the Health committee and on the Judiciary committee in the legislature. It breaks my heart to see youth programs we worked so hard to create diminished or even totally demolished.

I know at the local level programs that affect our youth are the first ones cut as we look at the budgets for 2003. What are we thinking about? Where are our priorities? Where is this connection that we have claimed is so necessary to establish between higher education, elected officials, and the public? Why isn't the public connecting those threads to understand that the youth of today growing up in Colorado are going to be affected? Somehow we haven't established enough of a baseline to know what works and what doesn't work to make sure we always keep the necessary services for our young people. Why haven't we established that baseline?

Frankly, there are many different points of view about what works with our youth. I'm talking about more than our education process. I'm talking about youth who have emotional or behavioral problems or disabilities. We have not connected well enough with our folks who study these issues to know which works the best or not well or somewhat. Programs will vary in value. What works for one segment of the population will not work for another. There is no perfect program that will solve all the problems we confront with young people. After the shootings at Columbine, all kinds of new programs were started and money was flowing left and right. Can any one of you give me any indication three years later what these programs are doing? Are they still alive? Are they continuing to be funded? Do you see how our interest level drops so quickly when it comes to youth programs and whether they work or not?

When I came into the legislature in 1992, right after the youth riots that horrible summer in Denver, Gov. Romer said, "Something has to be done." A Republican legislator by the name of Tony Grampsas was chairman of the Joint Budget Committee (or JBC, always referred to in the press as the "powerful JBC"). He wanted programs to be initiated at the local level and to have an accountability process. He promised to ensure that every year we would fund the programs and continue to build them.

We were beginning to see the results of those programs. But last June, our current governor took the entire eight million dollar budget of the fund. I share with you my frustration and my concern about what we value. I sponsored a bill the year I left the legislature to pull all seventy-seven different programs that service youth in some fashion under one roof. At CU-Boulder a professor had started doing some serious research about the programs and he gave us some excellent advice. He followed the evolution of the Tony Grampsas fund and how we progressed in terms of giving grants to the various communities.

I have to end with the fact that there is no way that we will improve the challenges that our youth face in Colorado until we focus our efforts on making sure that our young people have the opportunities to live a successful and quality life. We spend a lot on education, but I'm talking about the kids on the margins, the kids who end up in prison or are costing us $300 a day in our detention facilities. Think of how you could spend that money more effectively if we could have a continuum of programs for so many who are falling through the cracks.

INTERVENTION PROGRAMS WITH CONDUCT DISORDERED YOUTH

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Approximately 7% of young people commit 80% of violent youth crimes. It has been purported that youth violence is caused by discrimination (including sexism, racism, and bullying), poverty, lack of education, poor nutrition, illegal drug use, poor parenting, lack of religious values, child abuse, violence in the media, and diseases. However, there is a great lacunae of scientific evidence to support ANY of these factors being a strong causal agent. What does good, solid science tell us is a strong causal agent? Genes. There exists a plethora of genetic studies that support the hypothesis that some children are born mean and have a strong predilection towards future violence. This paper will argue that what has been left out the youth violence formula is the causative factor of heredity. I will also argue that we must admit that even if genes account for 60% or more of the causative variance in youth violence, we do not presently know how to alleviate this problem.

Rehabilitation is a wonderful dream. It is a nice illusion to believe that good parents, strong religious values, intelligent teachers, good nutrition, and a more than adequate socioeconomic status will make every child loving and completely unable to do harm to another person. However, this is not the case. Furthermore, about 40% of those children and adolescents who are arrested for crimes in Colorado are rearrested within a year. The true rate of recidivism is estimated to be even higher.

Recidivism takes a costly toll upon society, not only economically but also personally. For the past decade at the University of Colorado at Colorado Springs, my students and I have published a series of studies that establishes a clear link between juvenile crime, recidivism, and heritability. Despite a strong genetic link, the picture is not bleak, as the findings in these studies may give rise to programs that can be designed specifically to reduce crime and recidivism in juvenile offenders. However, these programs must be designed to alleviate the real causes of violent crime and not specious causes (i.e., ones without a scientific basis).

There exists a plethora of genetic studies that support the hypothesis that some children are born mean and have a strong predilection towards future violence.

I have already listed some specious causes of violent behavior. Let us examine one of them in greater detail, violence in the media. It has long been purported that the depiction of violence on TV and violent computer games are a cause of violence in our youth. Indeed, members of the American Medical Association, the American Psychological Association, and the American Academy of Pediatrics testified

Of these 200 scientifically sound, empirical studies, half showed no relationship between exposure to violence in the media and actual violence. Furthermore, in the remaining studies that did find a relationship, the relationship was weak, minimal, or could be explained more simply as "violent kids are attracted to violent media programs."

before Congress that over 3,500 studies have investigated the role of media violence in actual violence rates, and they said that only 18 studies failed to find a relationship between the two. Psychologist J. Freedman (2002) was very curious at such a robust conclusion. Let's just use our intuitions. Imagine if society banned all violent depictions in every media domain (TV, movies, computers games, plays, literature, etc.). Would we really expect a huge decline in violence? Would there suddenly be little or no bullying, few thefts or robbery, and no teen rapes? I do not think so. When Freedman asked for the list of studies, it turned out that there were only about 200 empirical studies (an empirical study excludes papers which express opinions without data, books which express only opinions without data, newspaper editorials, etc.). Of these 200 scientifically sound, empirical studies, half showed no relationship between exposure to violence in the media and actual violence. Furthermore, in the remaining studies that did find a relationship, the relationship was weak, minimal, or could be explained more simply, that is, violent kids are attracted to violent programs.

Emotional problems and suspected brain dysfunction have long been associated with adolescent and adult criminal behavior. My recent genetic twin research at the University of Colorado, Colorado Springs, has also shown that these two conditions have a common genetic basis (Coolidge et al., in press, *Behavior Genetics*). In adolescents, the official psychiatric diagnosis of chronic criminal behavior is labeled *Conduct Disorder* (CD). Prevalence rates range from 1% to 10% of the general population, and CD is always more common in boys than girls. The onset of CD begins as early as 5 to 7 years old, and nearly 50% of those adolescents diagnosed as CD will be diagnosed later with the adult form, Antisocial Personality Disorder. There are four general categories of symptoms of CD: (1) aggression to people and animals, (2) destruction of property, (3) deceitfulness or theft, and (4) serious violation of rules and the rights of others.

Recently in a genetic study of child and adolescent twins, I was able to establish that CD is over 60% heritable (Coolidge et al., 2001, *Journal of Personality Disorders*). Certainly one implication of this finding is that CD is a formidable problem. Simple intervention programs (just say NO to drugs) are unlikely to be very successful with CD children.

One could suggest that violent kids are very difficult to parent and that the lack of good parenting in these homes is a RESULT of having violent children and not the cause of having violent children.

However, in an earlier study (Coolidge, et al. 1994, *Indian Journal of Psychological Issues*), I found that CD children have significantly higher rates of brain dysfunction than non-CD children. More specifically, CD children characteristically showed strong evidence of frontal lobe dysfunction. The

Programs designed to help Conduct Disordered children's self-esteem are likely to fail. Programs that teach Conduct Disordered children to say NO to drugs are likely to fail. Programs that increase parental involvement, provide adequate nutrition and provide adequate education are likely to fail.

frontal lobes are thought to house the "executive functions" of the brain. Executive functions include the ability to plan, organize, and to develop long-range plans to attain goals. CD children often show the classic signs of executive function deficits, including poor planning, disorganization, and failure to attain goals despite a general ability to do so (Coolidge, et al., 2000, *Developmental Neuropsychology*). Thus, programs designed to help CD children's self-esteem are likely to fail. Programs that teach CD children to say NO to drugs are likely to fail. Programs that increase parental involvement, provide adequate nutrition, and provide adequate education are likely to fail; and indeed, as noted earlier, these programs do fail in Colorado by virtue of their substantiated high recidivism rates.

Let's examine another specious and simplistic Colorado treatment program for violent youths, boot camp. Interestingly, it produced higher recidivism rates than typical Colorado programs in its first year, although its proponents were quick to point out that these higher rates were actually not statistically significantly higher than the traditional programs. The boot camp philosophy is that children commit violent crimes because they have not been exposed to enough discipline. Note, however, that this supposition has not been supported by good scientific evidence. What little evidence that is offered has completely reasonable alternative explanations. For example, violent kids are clearly not parented well; for this there is little disagreement. These homes are more likely to have poor parenting or a lack of discipline compared to average kid's homes. However, one could suggest that violent kids are very difficult to parent and that the lack of good parenting in these homes is a RESULT of having violent children and not the cause of having violent children. Also, parents with violent genes may have kids with violent genes, and violent genes do not make for good parenting. Furthermore, some homes of violent kids show good parenting and strong discipline. Some of these homes even have excessively strong discipline. Lack of home discipline and violence is simply a specious relationship, based on personal values and what seems to be reasonable. Furthermore, unfortunately, as members of society we may just feel better knowing we are doing something about youth violence. Whether those programs are based on sound science does not appear to be a societal priority.

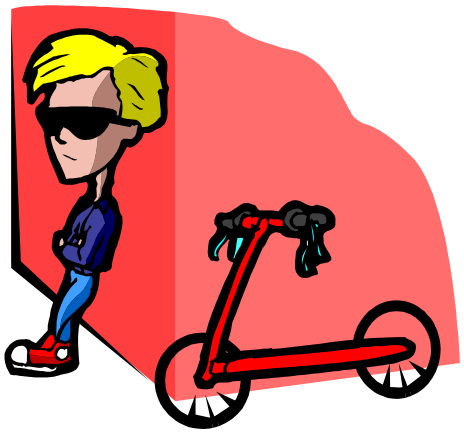
On a more positive note, my genetic research (and a host of others' research) suggests that while genes may explain 61% of the variance in the violent children's behavior, 39% of this total variance may be explained by non-shared environmental influences. In genetic research, this means that there are unique factors outside the home environment that may help to "cause" violent behavior. If we were to admit that we do not yet know what causes this 39% of variability, we might at least be on the road to a more scientific approach to treatment programs.

Few, if any, professionals suggest that learning does not play a role in children's behavior. In fact, one well-accepted theory of learning involves role modeling, that is, children consciously and unconsciously emulate other people's behavior. I cannot imagine many violent youths make a decision to model the behavior of those in charge of boot camps. If they were to model those in charge of these programs, wouldn't we rather have them model quiet people rather than screaming people?

In summary, my research suggests that one possible way to intervene in CD and to reduce recidivism in juvenile offenders may be to train these children in the executive functions. Reading intervention programs are well known and remarkably successful in the treatment of dyslexia (and dyslexia has a strong genetic basis). Why cannot "executive function" programs be similarly designed to teach appropriate executive functions to CD children? These programs might contain training in organization and planning skills and the teaching of goal-attainment strategies. Although the genetic traits (genotype) of CD would not be changed by such programs, their environmental expression (phenotype) might be ameliorated. The societal repercussions of such programs both economically and personally might be tremendous. However, much time, effort, and money

will be wasted on specious interventions. Let's use sound science and sound empirical evidence in the design of intervention programs. Let's avoid myth, superstition, and feel-good programs. Let's admit that genes play the predominant role in violent behavior. It may be scary, but it is better to begin interventions with the truth. Also, let's admit that we do not yet know the other causes of violence, but let's agree to begin with sound scientific research.

The boot camp philosophy is that children commit violent crimes because they have not been exposed to enough discipline. Note, however, that this supposition has not been supported by good scientific evidence.



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TRACKING THE WORKFORCE AND EDUCATIONAL PROGRESS OF HIGH SCHOOL GRADUATES*

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INTRODUCTION

A primary goal of American democracy has always been to produce an educated society that can accept world leadership in economics and areas of humanitarian activity. To achieve these goals, a public education system was created to teach basic literacy skills, train contributing members of society, and provide professional and personal fulfillment. In its study entitled *Do We Still Need Public Schools?* the Center on National Education Policy (1996) identified seven concepts that the founders of education in America believed any publicly supported school system ought to embrace. These concepts provide validation for public education; however, they are difficult to measure—thus leading to the current trend of questioning the utility and accountability of the system. If public education is to continue meeting the goals of the founding fathers in today's very different world, finding out what happens to high school students in the years immediately following graduation seems to be a valuable goal.

PURPOSE AND RESEARCH QUESTIONS

The goal of the study presented in this paper was to examine two primary paths, post-secondary education and employment, taken by students immediately after high school graduation. The post-secondary education factors reviewed were type of school and post-secondary program selected by students, degree programs in which students enrolled, and cumulative hours completed. Workforce employment factors included type of industries and size of company where high school graduates were employed and students' quarterly and yearly earnings.

The study's research questions looked for relationships between gender, ethnic background, and graduation year in terms of the post-secondary and workforce employment factors.

LIMITATIONS OF THE STUDY

The study is limited to students from Jefferson County Schools who chose to remain in Colorado the first year after high school graduation. In addition, it is limited to student records that could be matched with Colorado post-secondary enrollment and/or Colorado employment records. It is also limited to the correctness of the data collected by the three institutions and their ability to match data for the study.

METHODS AND DATA SOURCES

Student identification and demographic information for the 1996, 1997, and 1998 Jefferson County high school graduates were matched with employment data from the Colorado Department of Labor and Employment (CDOL&E) and enrollment data from the Colorado Commission on Higher Education (CCHE). Of the 13,500 graduation records held by the Jefferson County School District, approximately 70% contained social security numbers. However, only student records that matched enrollment and/or employment data were included for purposes of this study. The final sample contained 60% (7,964 records) of the total student population for the three graduation years. The study population included 48% male/52% female and 88.2% majority/11.2% minority graduates.

The study design included three independent variables (gender, ethnic background, and graduation year) and nine dependent variables. Some of the variables provided descriptive data, which were used to help create a more complete picture of students one year after high school graduation. Other variables were used to run statistical comparisons to look for relationships and group differences. In addition, the study offered a comparison of actual enrollment/employment data with student's intent as reported on their high school graduate exit survey. The Statistical Package for the Social Sciences (SPSS) was used to analyze the data.

A primary goal of American democracy has always been to produce an educated society that can accept world leadership in economics and areas of humanitarian activity.

FINDINGS/CONCLUSIONS

This section presents the study's findings for each of the nine variables. A table of the results is located on page 78.

1. Next Stage: 4.5% Enrolled-only, 45.8% Employed-only, 49.7% Enrolled-and-employed

- Results show that of the 1996-1998 Jefferson County high school graduates who remained in Colorado, 54.2% enrolled in post-secondary education. According to the district's high school exit survey report, 72.9% of the graduates indicated they were planning to continue their education at the post-secondary level. These percentages are lower than those reported by the U.S. Bureau of Labor Statistics and the National Center for Education Statistics. The Current Population Survey (1999) indicates that 66% of recent graduates enrolled in some form of post-secondary education. In addition, the National Center for Education Statistics (1998) reported 67% of the recent high school graduates enrolled in post-secondary education.
- The data for the current study revealed that 95.5% of the 1996-1998 Jefferson County's high school graduates who remained in Colorado were employed, at least part-time, sometime during the year following graduation. Almost 46% of the study participants were employed-only, not enrolled in post-secondary education. In addition, for the group of students enrolled in post-secondary education, over 90% were also employed at sometime during the year. This percentage is higher than the national average as measured by the U.S. Bureau of Labor Statistics. The Bureau reported that in 1999, 87% of the students attending college part-time and 53% of the students attending full-time were employed (2000).

2. Type of Post-secondary Institution: 27.6% Two-year and 72.4% Four-year

- The data show that of the students enrolled in post-secondary education, less than one-third were

Results of the Statistical Analysis of the Collected Data for the Study

Dependent Variable	Findings
1. Next stage	4.5% enrolled-only 45.8% employed-only 49.7% enrolled-and-employed Gender: More male students employed-only More female students enrolled-and-employed Ethnic Background More minority students enrolled-only More majority students employed-only and enrolled-and-employed Graduation Year Enrolled-only increasing Employed-only increasing Enrolled-and-employed increase then decrease
2. Post-secondary institution type	% Enrolled Group 27.6% two-year schools 72.4% four-year schools No significant differences for gender, ethnic background, or graduation year groups
3. Program type	% Enrolled Group 7.7% non-degree 4.6% vocational 16.7% two-year 70.1% four-year Gender: No significant differences Ethnic Background: More majority students in non-degree and vocational programs Graduation Year: Non-degree enrollment increasing Two-year enrollment increase then decrease
4. Post-secondary institution most frequently selected	% Enrolled Group 9.7% University of Northern Colorado (UNC) 13.4% Colorado State University (CSU) 15.8% Red Rocks Community College (RRCC) 16.6% Metro State College 17.0% University of Colorado, Boulder (CU) 27.5% "other" post-secondary schools Gender: More female students at UNC and MetroMore male students at RRCC and other schools Ethnic Background: Fewer minority students at CSU and UNC More minority students at CU Graduation Year: Metro decrease in 1998 and CSU increase in 1998
5. Post-secondary degree program most frequently selected	% Enrolled Group 29.6% undeclared 17.1% liberal arts 7.8% business 45.5% all "other" majors Gender: No significant differences Ethnic Background: No significant differences Graduation Year: Undeclared decreasing Liberal arts increase then decrease
6. Cumulative credit hours	Range of 0-90 hours. Mean = 27.51 Gender: No significant differences Ethnic Background: Majority students earn more credit hours (small effect) Graduation Year: Increase in 1997 then decrease in 1998
7. Industry divisions most frequently employed	42.6% retail trade, 27.2% services, and 23.1% all "other" divisions, missing 7.1% Gender: More female students in the services division; More male students in "other" division; No significant differences for retail trade
8. Company size	Range 0-13,696 employees No significant differences for gender, ethnic background, and graduation year groups
9. Quarter 1 earnings	Range $4-$15,076 Gender: Male students earn more than female students (small effect) Ethnic Background: Minority students earn more than majority students – small effect
10. Comparison of earnings for employed-only and enrolled-and-employed groups	Employed-only earn more than enrolled-and-employed (medium to large effect)
11. Comparison of cumulative credit hours and employment earnings	Negative correlation. As cumulative credit hours increase employment earnings decrease.

Note. The "other" category represents all other categories not included for specific analysis.

enrolled at two-year schools. These data are consistent with intended enrollment reported by Jefferson County students on their high school exit surveys. However, the enrollment percentages are slightly different from the Bureau of Labor Statistic's report (1996) showing that approximately two-thirds of the high school graduates who did enroll in colleges or universities enrolled in four-year institutions, and the rest enrolled in two-year institutions.

3. Type of Post-secondary Program: 7.7% Non-degree Seeking, 4.6% Vocational, 16.7% Two-year, 70.1% Four-year, 0.9% Extended Studies/High School Concurrent

- The data indicate that of the students enrolled in post-secondary education, the largest percentage enrolled in four-year programs (70%). Two-year programs were next, followed by non-degree, vocational, and extended studies/high school concurrent. No statistically significant relationships were found for gender groups. However, one sample chi-square tests (adjusted for an unequal distribution of 88.4% and 11.6%) revealed statistically significant differences for ethnic background. Data indicate more majority graduates than expected enrolled in both non-degree seeking and vocational programs.

4. Most Frequently Selected Post-secondary Institutions: 9.7% UNC, 13.4% CSU, 15.8% RRCC, 16.6% Metro, 17.0% CU, 27.5% Other schools

- Colorado's post-secondary system consists of 12 community colleges, 3 junior colleges, 5 state colleges, and 10 universities. The data show that the 1996-1998 Jefferson County high school graduates enrolled in 28 of these institutions. However, most of the study participants (70+%) were enrolled in only five of the institutions: the University of Colorado Boulder (CU), Metro State College, Red Rocks Community College (RRCC), Colorado State University (CSU), and the University of Northern Colorado (UNC). This popularity was generally the same regardless of gender, ethnic background, or graduation year, although some differences were noted in preference order.
- Results indicate a lower percentage of males than expected enrolled at the UNC and Metro State College. In contrast, there were lower numbers of female students enrolled at RRCC and the "other" post-secondary institution category. Differences in ethnic background enrollment were found at CSU, UNC, and CU. Data show fewer minority students than expected enrolled at CSU and UNC and more minority students than expected enrolled at CU.
- Other statistically significant differences noted were decreased enrollment at Metro State College between 1996 and 1998 and increased enrollment at Colorado State University between 1996 and 1998.

These concepts provide validation for public education; however, they are difficult to measure -- thus leading to the current trend of questioning the utility and accountability of the system.

5. Most Frequently Selected Post-secondary Degree Programs: 29.6% Undeclared, 17.1% Liberal Arts, 7.8% Business, 45.5% Other Majors

- Jefferson County high school graduates were enrolled in 34 of the 39 possible post-secondary degree programs (majors). According to the data, of the students enrolled in post-secondary education, 29.6% had not declared a major one-year after graduation. For those who had declared a major, the most popular area was liberal arts and sciences (17.1%), which includes general studies and humanities. The next most popular area, business

management and administration, was selected by 7.8% of the graduates. These results are similar to the findings of Claus and Quimper (1997) that 24.6% of the Michigan post-secondary students were enrolled in general studies courses or undecided about a major. They are also similar to the report by Matthews (1997) that most students are undecided or enrolled in liberal arts or business programs.

Results from this study indicate that students need to be prepared for both employment and post-secondary education as they transition from high school.

6. Cumulative Credit Hours: Mean hours completed 27.51
   - Results from a test revealed statistically significant differences in the number of cumulative credit hours earned by majority and minority students. The mean number of cumulative hours completed by majority graduates was just under 28 compared to 26 for minority graduates. However, the effect size (as defined by Cohen's guidelines) was small, which indicates that the strength of the relationship is weak.
   - A Pearson correlation test indicated a significant negative correlation between quarterly earnings and the total cumulative hours—as cumulative credit hours increased, earnings decreased. These results may indicate that students who are enrolled full time have less time available for industry employment.

7. Most Common Industry Divisions: 42.6% Retail Trade, 27.2% Services, 23.1% Other Industries
   - The largest numbers and percentages of Jefferson County high school graduates were employed by retail trade (42.6%) and service (27.2%) firms. The major groups for retail trade employment were food services, general merchandise, and miscellaneous retail. For the services division the most popular groups included amusement/ recreation and business services. Statistical analysis of the data indicates a relationship between gender and most common industry division with more female graduates employed in the services division and more male graduates employed in the "other" divisions. The types of industries employing high school graduates found in this study are similar with those reported for Michigan (Claus and Quimper, 1997) and Texas (Marable, 1995). Both studies indicate that most of the companies employing recent high school graduates were categorized as retail and services industries.

8. Size of Company Employing Graduates: Students working at companies with 1-14,009 employees
   - Data show that companies with 1 to 14,009 employees hired Jefferson County high school graduates. Results of a t-test indicate no differences in size of company for hiring male/female or minority/majority graduate groups. In addition, an ANOVA test indicates no statistically significant differences in terms of size of company for graduation year groups.

9. Earnings: Yearly Range $9-$32,603, Mean $5,682
   - The data for this variable included the earnings of Jefferson County high school graduates from the quarter immediately following their graduation (July-September) to the second quarter of the following year (March-June). The mean for quarterly earnings for all graduates ranged from a low of $1927 in third quarter to a high of $2119 for fourth quarter. The mean for yearly earnings was $5682 with a range of $9 to $32,603 per year. The disparity and broad range make it difficult to draw any conclusions on the earnings of study participants. However, it is apparent that the average earnings for students were very low.

· Results of a t-test for first quarter earnings revealed a statistically significant difference between the earnings for employed-only ($2507) and enrolled-and-employed ($1526). This difference was anticipated since graduates who are enrolled in post-secondary education are probably working part-time, whereas graduates who are not enrolled may be employed full-time. However, the data provided for this study did not differentiate between full and part-time employment; therefore, it is impossible to draw specific conclusions. Nevertheless, students who were employed-only (not enrolled in post-secondary education) only earned an average of about $10,000 a year. These results indicate that students who enter employment directly after high school may need more education and/or training to be financially independent.

· An analysis of first quarter earnings revealed statistically significant differences between male and female graduates. According to the data, males earned approximately $250 more per quarter than females. This discrepancy is consistent with Cleary, Lee, and Knapp (1998) finding that men consistently earn more than women. Statistically significant differences were also noted between majority and minority graduates. Results indicate that minority students earned approximately $185 more per quarter than the majority students. These findings are somewhat surprising and inconsistent with the current study's finding that majority students were more likely to be employed and not enrolled in post-secondary education.

It is recommended that Colorado industries work with secondary and post-secondary education institutions to provide opportunities for quality employment for all students.

RECOMMENDATIONS

The results of this study provide a unique picture of two of the paths Jefferson County high school graduates took one year after graduation. An analysis of the data leads to the following recommendations:

1. In terms of identifying the paths students take after graduation, it is recommended that Jefferson County Schools develop a three-tier comprehensive evaluation program to collect data on their high school graduates. This evaluation program could provide accurate information on the paths students plan to take (exit survey), the paths they actually take (data follow-up study), as well as their impression of secondary education and its relationship to their success (mail survey).
2. Results from this study indicate that students need to be prepared for both employment and post-secondary education as they transition from high school. Therefore, it is recommended that Jefferson County Schools provide students with opportunities to learn the skills needed for both pathways. In addition, the study results indicate that students who transition directly to post-secondary education will probably also be employed. Moreover, the study shows that students who transition directly to employment are limited in their earnings and need further education and/or training to become financially independent. Therefore, it is recommended that Jefferson County Schools, Colorado post-secondary institutions, and employment agencies work together to provide programs that help all students transition to post-secondary education and quality employment.
3. The statistically significant differences for both gender and ethnic groups indicate Colorado post-secondary education institutions need to reexamine and adjust their recruitment policies to address the needs of all students. It is also recommended that the most frequently selected post-secondary institutions work closely with Jefferson County Schools to design counseling and recruitment procedures that will increase enrollment for all student segments.
4. It is recommended that Colorado industries work with secondary and post-secondary education institutions to provide opportunities for quality employment for all students. Helping students connect employment to their education goals could increase their commitment to high academic achievement as well as improve their workplace performance.
5. Finally, a recommendation is offered that school districts from all 50 states establish cooperative agreements with employment and higher education agencies to develop procedures for matching data for the purpose of establishing secondary and post-secondary programs that best serve the needs of students in the current work/education environment.

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* Based on dissertation study: A Longitudinal Study of 1996 to 1998 High School Graduates One Year after Graduation

SAFE SCHOOLS AND ZERO TOLERANCE POLICIES IN COLORADO: *PREVENTION OR PUNISHMENT?*

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(Ph.D., University of Colorado) is an assistant professor of educational leadership. He has previously been a public school teacher and administrator, a public policy analyst for a national nonprofit organization and a professional performing artist. Dr. Carpenter's research specialties are equally diverse, including educational policy, leadership, communications, school reform, and the U.S. Presidency. His most recent presentation was at the National Conference on the Reagan Presidency in Santa Barbara.

Throughout the last decade, school safety has become a high priority on educational agendas across the United States (Lenhardt & Willert, 2002). Whether with parents, students, educators, political leaders, or others in the community, school violence and disruption has garnered much attention, sometimes growing to a fever pitch. For example, following the Santee, CA school shooting CBS anchor Dan Rather warned: "School shootings in this country have become an epidemic" (Best, 2002, p. 50). A 1998 *Denver Post* headline stated: "Schools urged to prepare for violent acts" (Illescas, 1998b, p. B5).

In 1994 the *Rocky Mountain News* painted a grim picture of school violence: "Every day, 160,000 students stay home from school because they are afraid. One in 11 teachers has been attacked at school. Every day, 135,000 juveniles carry guns to school" (Anonymous, 1994, p. 87A). The landscape looked so dire, President Clinton called a special White House conference focusing on the "terrible toll" of school violence. During the meeting, "Clinton said tight curfews, strong anti-truancy measures, wider use of school uniforms, and zero tolerance for guns in schools are important steps toward improving behavior in classrooms and improving learning at all levels" (Burns, 1998, p. 3A). It was the latter of Clinton's prescriptions, zero tolerance, that saw the most use by school districts. Yet, have zero tolerance policies served their purposes? Have the number of weapons related incidents declined in schools? These are the questions this study seeks to answer related to Colorado school districts.

BACKGROUND

The term "zero tolerance" refers to policies that prescribe severe punishment for all offenses, no matter how minor, in an effort to treat all offenders equally in the spirit of fairness and to send a message of intolerance for rule breaking. Zero tolerance punishment ordinarily includes mandatory suspension and expulsion. Such policies are designed to prevent violence by eliminating instruments of violence in schools. By reacting swiftly and severely to major and minor weapons incidents, schools "send a message" that certain behaviors will not be tolerated (Herzog, 2000; Martin, 2000; McAndrews, 2002; Skiba & Peterson, 2000). As Colorado Governor Bill Owens described (1999), "Our schools must be places where students have clear expectations about their behavior toward other students and toward faculty. Students also must have a clear understanding of the consequences of bad behavior—and there should be such

consequences" (p. 9). Thus, if students know the rules and the consequences, they are less likely to take a weapon to school.

"Zero tolerance" refers to policies that prescribe severe punishment for offenses such as weapons violations. They attempt to treat all offenders equally in the spirit of fairness and to send a message of intolerance for rule breaking.

During the early 1990s, school boards across the country began implementing zero tolerance rules, and in 1994, the Gun Free Schools Act created a national mandate for these policies (Henault, 2001; Zirkel, 1999). It is important to note that the Gun Free Schools Act allows local review on a case by case basis (Jones, 1997; McAndrews, 2002), and in recent years, courts, most of whom have supported zero tolerance policies in schools (Jones, 1997), have tended to grant principals and other officials rather broad latitude (Holloway, 2002). Nevertheless, many administrators decline to exercise this discretion, believing instead in the necessity of continued unwavering application of zero tolerance (McAndrews, 2002).

In Colorado specifically, zero tolerance policies are approaching a decade of enactment. In 1993, Colorado was among the first states to mandate suspension and expulsion for any student carrying weapons to school (Romano, 1998), and into the late 1990s support for the policy remained strong. For example, when Lewis Palmer School District 38 cut its expulsion rate in half, Student and Personnel Director Dave Dilley cited the district's zero tolerance policy as the cause: "I think what has happened is that kids realize we say what we mean" (Merritt, 1997, p. News2).

In 1998, then superintendent of Denver Public Schools Irv Moskowitz stated, "We don't spend a lot of time counting our expulsions. What we're more interested in is a zero tolerance condition for our schools" (Illescas, 1998a, p. B1). A year later, Bill Owens (1999) opined, "Zero tolerance for violations is essential when dealing with the safety of school children" (p. 9), and Colorado Attorney General Ken Salazar stated, "If we embrace the idea of zero tolerance for inappropriate behavior in schools, we can restore order" (Simpson, 1999, p. B2).

Despite such support, Colorado's zero tolerance law, like many across the country, led to some strange cases and underwent some amending. In 1998, state Representative Bill Swenson introduced HB 1371 after a much publicized incident involving a fifth-grade honor roll student expelled after accidentally bringing a paring knife to school (Romano, 1998). HB 1371 clarifies that suspension or expulsion is not mandatory if, when a student discovers that he or she possesses a dangerous weapon, s/he immediately notifies a teacher, administrator, or other authorized person and forfeits the weapon to an adult (Pipho, 1998).

In 1994, the federal Gun Free Schools Act created a national mandate for "zero tolerance" policies.

SUPPORT AND OPPOSITION

Cases similar to the paring knife incident continue to surface, but nationwide support for zero tolerance policies remains strong. In 2000, 87% of Americans approved of zero tolerance policies for carrying weapons to school (Rose, Gallup, & Elam, 2000). Recently, 9 out of 10 principals polled responded that tough discipline policies, including zero tolerance were absolutely essential for keeping schools safe (Holloway, 2002). In 2000, the National Association of Secondary School Principals adopted a resolution supporting zero tolerance (Ilg & Russo, 2001). In addition, school officials in both Chicago and Seattle cite zero tolerance policies as a reason for safer schools (Jensen, 2002; McKinney, 2002).

Supporters also point to research that appears to confirm the positive benefits of zero tolerance. Barton, Coley, and Wenglinsky (1998) found that schools with less strict

discipline policies experienced higher levels of serious offenses. To reduce these levels, such schools needed to adopt stricter policies. Further, they found that the consequence of student disorder is not merely disorder, but the erosion of effective learning environments for all students, as indicated by lower student achievement gains. Moreover, Echelbarger, Holler, Kelty, Rivera, Schliesman, and Trojanowski (1999) found that when school personnel fail to confront student misbehavior, students infer permission to continue inappropriate behavior

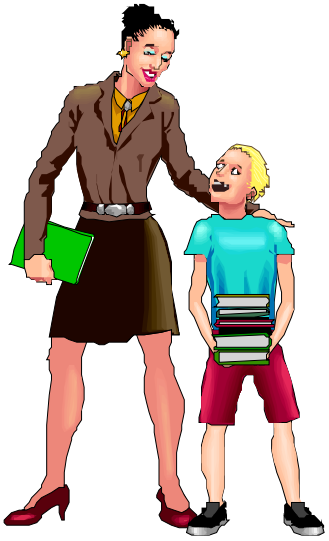
On the other side, zero tolerance opponents, such as Skiba (2000), believe disorder and violence in schools appear largely unaffected despite national policy explicitly encouraging tough responses. Further, Henault (2001) concludes schools relying heavily on zero tolerance continue to be less safe than schools implementing fewer zero tolerance components. Morris and Wells (2000) assert policies that rely solely on suspending and expelling students do not remedy student misbehavior. Instead, some critics call zero tolerance "a full-blown war on children" (Walker, 2000, p. 32).

Critics also cite negative fallout of zero tolerance policies, such as seemingly senseless applications. In a high-profile Seattle case, an 11-year-old was expelled for bringing a water pistol to school (Denn, 2002). Another oft-cited case involved a 10-year-old boy expelled for bringing a G.I. Joe doll's one-inch plastic gun to school in his pocket (Blair, 1999). The latest originated in Colorado where seven fourth-grade boys were disciplined for using their fingers to represent guns in a fantasy game of "army-and-aliens" on the school playground (Rosen, 2002). In light of such incidents, the American Bar Association joined critics in recommending the end of zero tolerance policies for school discipline (Henault, 2001).

In 2000, 87% of Americans approved of zero tolerance policies for carrying weapons to school. However, critics call zero tolerance policies "a full-blown war on children."

For those unfamiliar with the law and the surrounding controversy, the opinions and research from both sides seems to resolve nothing. Do zero tolerance policies result in fewer or more incidents of weapons in schools? Unfortunately, newspaper accounts of zero tolerance seem not to help.

Cummins (1998) reported that the number of expulsions "skyrocketed" due to the zero tolerance law (p. 27A). Illescas (1998a) stated zero tolerance in Denver Public Schools increased nearly 100 percent in the middle 1990s, and Romano (1998) highlighted Colorado's 1997 number one ranking in the nation in the number of students expelled for bringing weapons to school. At the same time, however, Amole (1998) reported on a *decrease* in the number of weapons related expulsions. Other reporters, like McPhee (2000) avoid numbers altogether: "From Denver to Jefferson County to Colorado Springs, school districts confiscate dozens of firearms from students every year despite zero tolerance policies that carry automatic expulsion penalties" (p. A4).



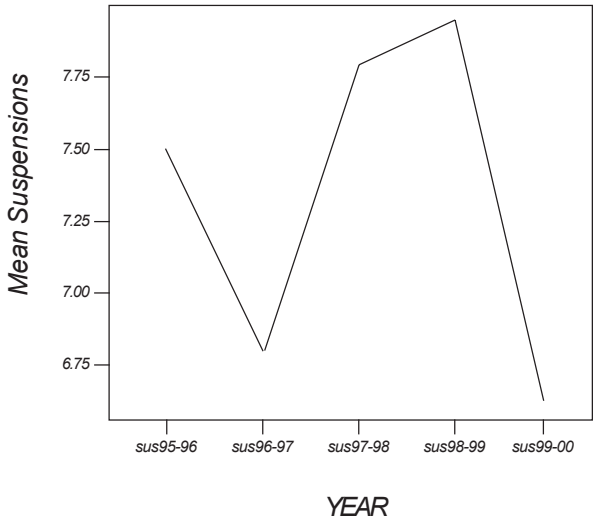
METHODS

In a context rife with inconclusive information, ideology, and calls for more inquiry, this study examined suspension and expulsion data from Colorado's 176 school districts beginning with 1995 and ending with 2000 to answer some basic questions. Is the zero tolerance policy serving its purposes related to preventing dangerous or deadly weapons in school? More specifically, is there a statistically significant difference in the number of weapons related suspensions and expulsions from year to year in Colorado schools?

The important part of that last question is statistical difference. In looking at any type of longitudinal data, one may see an increase or decrease in a number of occurrences, but how can one be certain the differences were not due to chance? Moreover, said differences may appear to be small but in fact could be quite important. Statistical testing indicates whether or not the differences were merely by chance and also provides a clearer picture of a difference's importance no matter its size.

To answer such questions, I first analyzed the average difference for suspensions and expulsions separately from year to year. Second, I used the year 1995-1996 as the control year and compared each successive year to it for suspensions and expulsions discreetly. Third, I combined the suspension and expulsion data (there is a strong correlation between the two) and measured the difference from year to year and with 1995-1996 as the control year.

FIGURE 1
Suspension Means Trend Line, 1995-2000 (year to year)



It is important to note that this study is not measuring the effect of zero tolerance policies on incidents of violence. Instead, I examine the relationship between zero tolerance and further incidents of weapons in schools as represented by suspensions and expulsions for said violations. Zero tolerance is designed not only to reduce violence in schools, but also the potential or threat of violence (Schwartz, 1996; Skiba & Peterson, 1999; 2000). As stated earlier, those who support zero tolerance policies often discus "sending a message" to students to reduce the number of future weapons violations.

Since 1995 in Colorado weapons related suspensions and expulsions generally have shown a decreasing trend.

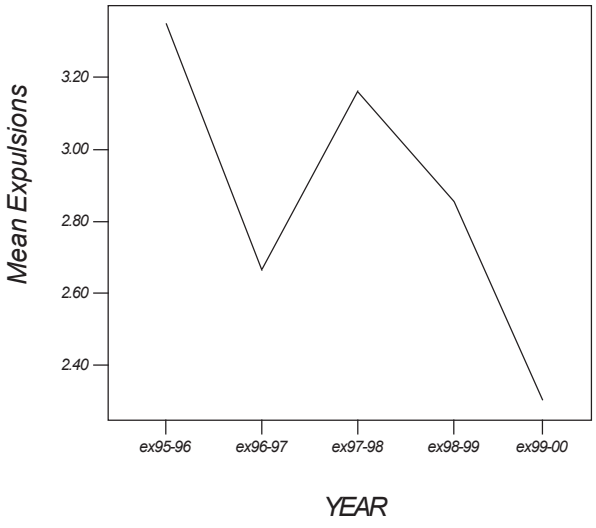
RESULTS

As figures one, two, and three indicate, generally weapons related suspensions and expulsions have shown a decreasing trend, particularly when the 1995-1996 school year is used as a control group. Under that condition, expulsions showed four decreasing years since 1995, three of which were statistically significant (1995/96-1997, 1995/96-1999, and 1995/96-2000). Suspensions remained statistically static, and taken together they showed a decrease three of four years, two of which were significant (1995/96-1997and 1995/96-2000).

The difference between the first year's average and the final year's average is also significant. Average yearly suspensions decreased from 7.47 in 1995/96 to 6.68 in 1999/00 (although not significant), expulsions decreased from 3.31 to 2.40 (which was significant), and combined dropped from 10.78 to 9.09 (also significant). More importantly, the general decreasing trend line began in the 1997/98 school year and continued into 2000. This trend line seems to counter what logically could or should have been an increase. The year 1997-1998 alone saw tragedy strike in Paducah, KY (three dead, five wounded), Jonesboro, AR (five dead, 10 wounded), and Springfield, OR [two dead, 21 wounded at school after the shooter first killed his parents] (Best, 2002). The following school year, more people were killed at Columbine than all of those combined. Yet, weapons related suspensions and expulsions decreased significantly even after Columbine.

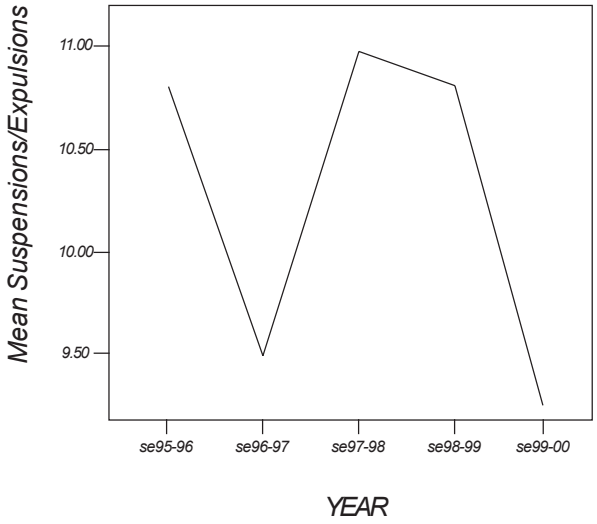
In addition, the significant decrease in suspensions after 1998 seems to counter logic. With the 1998 alterations

FIGURE 2
Expulsion Means Trend Line, 1995-2000 (year to year)



in the zero tolerance policy, school leaders had greater freedom in the type of punishment/discipline meted out. Rather than immediately consider expulsions, superintendents and principals could recommend suspension only. Thus, one might expect suspensions to increase while expulsions decrease. Such was not the case.

FIGURE 3
Suspension and Expulsion Combined Means Trend Line, 1995-2000 (year to year)



CONCLUSION AND POLICY IMPLICATIONS

Given all of this, one should only ascribe the general decrease in weapons related suspensions and expulsions *in part* to zero tolerance policies. As the 1990s progressed, over-zealous applications of zero tolerance, greater flexibility, and a desire for a more holistic approach to school safety and violence led school leaders to broaden their approach to the problem of weapons in schools. Thus, zero tolerance enthusiasts who ascribe the general decrease solely to the policy would be granting too much credit. However, zero tolerance opponents in favor of erasing the policy would deny school leaders an important tool in keeping schools safe. Zero tolerance policies appear to play a part in decreasing weapons related violations in school. Thus, balance may be the key description in the use of zero tolerance.

For policymakers, too, balance is a watchword. All too often, policy enthusiasts optimistically over-assign purpose and results to policies without systemically considering other variables and factors that contribute or could contribute to social change, both positive and negative. As a result, as with zero tolerance, the law of unintended consequences comes into play (Gillon, 2000), such as the side effect of over-zealous application. Colorado, like many states, attempted to restore balance with its 1998 alterations. However, a policy is only as good as its implementation. Leaders who rely on zero tolerance policies to discipline students for innocent playground games would do well to utilize the discernment granted them by policymakers.

Moreover, a lack of systemic consideration in policymaking ignores the deeper causes of social phenomena. By not asking important questions, such as "Why do students bring weapons to school?" we fail to address the problem. Instead, we contribute to another form of unintended consequences called the "re-arranging effect" (Tenner, 1996). Rather than addressing the root causes, we shift the symptoms from one venue to another. Balanced zero tolerance may play a part in decreasing weapons violations in schools, but policymakers should see such policies as a start to a systemic approach to school safety and related social factors.

Finally, although this study does not link weapons related discipline/punishment to school violence, an interesting relationship may exist and deserves further study. Throughout the 1990s and into the new century, incidents of school violence have steadily decreased (Best, 2002; Illescas, 2000; Joiner, 2002; Lenhardt & Willert, 2002). Some zero tolerance opponents believe this as another reason to eliminate the policy, seeing it as superfluous. Meanwhile, zero tolerance supporters cite such policies as a cause for decreasing violence. Yet, few seem willing to ask what part zero tolerance may have played in decreasing school violence while others appear uninterested in testing their enthusiastic assumptions or conclusions.

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DISCUSSANT COMMENTS SESSION 3

JOHN MUTH
(B.S., St. Bonaventure University, M.D., New York Medical College, M.P.H., University of Hawaii School of Public Health), former Director of the El Paso County Department of Health and Environment for 17 years, is now a public health consultant. Active on many state and local boards and committees, his most current project is to help promote a statewide pre-K through eighth grade injury prevention curriculum in Colorado schools.

My presence among so many "real" doctors (laughter), Dr.'s Coolidge, and Harrison, and Carpenter, and Schoffstall is humbling. Particularly humbling is being on the same panel with former Rep. Marcy Morrison, who may be the only county commissioner in the history of Colorado to prepare for her first term in office by going to the John F. Kennedy School of Government to find out what government was all about! But I am going to try not to let my humility show too much lest I be drummed out of the AMA (laughter).

The paper by Dr. Coolidge was most intriguing. It's nature vs. nurture or Patty Duke's "The Bad Seed" vs. the *tabula rasa*. That means scraped slate, or some people call it a blank slate, whereas the bad seed theory says that rotten apples don't fall far from bad trees. Dr. Harrison's report was fascinating. Jefferson County, like El Paso, has a very concentrated urban area and a very distinct rural area. I wonder if her data on education and employment beyond high school could be stratified as urban/rural and what that would show. Dr. Carpenters' results are also a mixed bag, showing that zero tolerance in school safety issues is a partial answer and that balance is the key.

They are all very excellent papers and deserving of your questions, but I would like to address something that was missing — not missing in the papers, but missing from the panel. I'm reminded of a quote from T.S. Eliot: "Footfalls echo into memory down the passage which we did not take toward the door we never opened." The door we never opened on this panel was the voice of the fetus. Besides being a highly paid bureaucrat in this community for a number of years, I was an obstetrician and assisted women in the delivery of about 8000 babies. So what you are going to hear is the "truth according to Muth."

I am very much in agreement with the influence of heredity in the genes; my kids are brilliant (laughter). But there is a great deal of research that shows the relationship of childhood abuse and other household dysfunctions to risks such as suicide, a form of violence with which Colorado is particularly familiar. You can back this up to what happens in the womb. Think about a fetus, whatever their genetic makeup is, enduring for nine months immersed in nicotine, alcohol, and maternal adrenaline from nightly beatings. Think for a moment that most of them are going to go on to be parents themselves eventually and how little investment we make in training people to be parents. Somehow we think that is going to happen by magic! So I would add to your tracking, Dr. Harrison, that we should not only track the transition from high school into higher education and employment, but also into effective parenting without violence, either in the womb or on our way to the tomb.

RESEARCH SUMMARIES

Colorado's future, and the policy choices we must make to protect and enhance it, encompass a whole range of topics beyond those covered earlier. Researchers from Colorado faculties and several nonprofits presented summaries of their work in a poster session while other attendees enjoyed refreshments and the opportunity to have direct discussion with the authors.

STEPHANIE OWINGS
Fort Lewis College
(Ph.D., George Mason University) is currently an assistant professor of economics at Fort Lewis College. She has published in the areas of public choice and public policy. She became interested in auto insurance when her auto insurance rates went up upon moving to rural Colorado from the Washington D.C. metro area. Outside of academia, she has worked for the federal government and for a law firm doing antitrust.

COLORADO AUTO INSURANCE: *AT THE CROSSROADS*

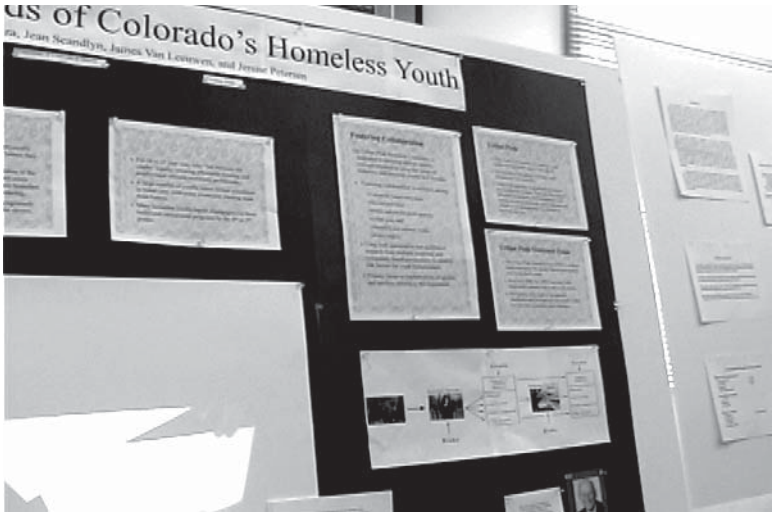
The average Colorado driver pays $755 in auto insurance premiums every year. There are only 11 states with higher average premiums. Not unrelatedly, our uninsured motorist rate exceeds the national average. Colorado is one of 13 states which requires drivers to carry personal injury protection insurance (PIP). That is, we are a "no-fault" state. This means if you are injured in an auto accident, your own insurance company will pay your medical expenses regardless of who caused the accident. Colorado drivers are required to purchase a minimum of $130,000 in personal injury protection insurance. However, the average PIP claim is for only $5,035. Only one no-fault state has a higher PIP minimum than Colorado. The other 37 states are "tort" states. Under a tort liability system responsibility for the accident must be determined. The at-fault driver will pay, via his liability insurance, for the medical injuries sustained by those he injured. Liability insurance in tort states also covers any pain and suffering damages awarded to the non-negligent driver. In Colorado we are required to carry liability insurance in addition to PIP. If the medical injuries caused by the at-fault driver exceed $2,500, he may be sued for pain and suffering damages. His liability insurance will cover these costs. If the at-fault driver caused more than $130,000 in economic damages (i.e. if the PIP limit is exceeded), then his liability insurance would cover these costs. There are only four states in the nation which have bodily injury liability minimums which exceed Colorado's even though Coloradans' liability insurance only comes into affect after the first $130,000 in economic damages has been paid. High insurance minimums increase the cost of insurance. If these minimums are only rarely exceeded then the average driver is paying for insurance he does not need. Insurance which is purchased, but not used, increases insurer's profitability. Auto insurers in Colorado earn profits which are nine times greater than the national average.

Colorado's no-fault law was first passed in 1974. At that point in time, drivers were prevented from suing for pain and suffering damages if their medical injury costs were less than $9283 (2002, in current $). That value has eroded, due to inflation, to $2500. No-fault insurance was original proposed as a way to decrease legal costs. By allowing our lawsuit threshold to fall we have exposed ourselves to increasing legal costs. This also contributes to our high premiums. A low lawsuit threshold also makes us vulnerable to fraud. Only $2500 in medical claims needs to be filed in order for someone to sue for pain and suffering damages. It is estimated that 2.3% of all soft-tissue (neck and back sprains) claims in Colorado are for nonexistent or preexisting injuries. Of course, fraud makes insurance rates higher as well. Three states currently operate under a "choice" auto insurance program. A choice system allows consumers to decide whether they wish to retain the right to sue for pain and suffering. It is estimated that a Colorado driver who opted to forego the right to sue for pain and suffering would pay about 24% less in auto insurance premiums. Colorado's current auto legislation was due to sunset on July 1st, 2002. As the legislators felt they did not have time to adequately study the issue, they simply extended the law for another year. The issue must be reconsidered in the next term. The legislators should consider the following:

- Lowering mandatory insurance minimums
- Increasing the lawsuit threshold and indexing it to the CPI
- Implementing a choice plan

ADDRESSING THE NEEDS OF COLORADO'S HOMELESS YOUTH

Homelessness among young people in the U.S. has been identified as a serious, complex, and growing problem, yet rigorous research on this population has been considerably sparser than contemporary research on homeless adults or families living in shelters. Recent evidence suggests that as many 1.6 to over two million adolescents are homeless at some point (from 1-2 nights to several months) each year, with at least 200,000 living permanently on the streets. In Denver alone, approximately 250 youths under the age of 21 are sleeping on the streets every night. Equally disturbing, up to half or more of homeless adults in Colorado report first being homeless as children. Two current research efforts, designed to understand the situation of homelessness among Colorado's youth, are directed toward informing public policy and guiding service programs to effectively assist these youths in permanently exiting the streets. These efforts represent an ongoing collaboration between researchers from Colorado universities, government organizations, and Urban Peak. The first research effort involves a two-part study specifically addressing the risks of homeless adolescents becoming homeless adults. The second research study involving a quantitative research design, investigated the feasibility of street based Chlamydia trachomatis (CT) and Neisseria gonorrhea (GC) screening in the context of an outreach program among homeless youths in Denver. Findings revealed CT rates to high and suggested the need and relative ease of incorporating CT/GC urine testing into existing outreach programs.



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JAMIE VAN LEEUWEN

(MA, MPH) is currently works as the Program Director at Urban Peak, the only licensed homeless and runaway youth shelter in Colorado. Jamie is currently involved in an on-going effort in Denver to coordinate and deliver effective drug and alcohol treatment interventions to a high-risk adolescent population. He is currently working toward his Ph.D. in Public Policy at the Graduate School of Public Affairs at the University of Colorado at Denver.

DAPHNE GREENWOOD

(Ph.D., University of Oklahoma) is Professor of Economics and Director of the Center for Colorado Policy Studies at the University of Colorado at Colorado Springs. She has published work in the areas of health and education policy, measuring poverty and wealth, and tax policy and was formerly an elected representative to the Colorado legislature.

TOM BROWN

(B.A. 1963, University of Texas at El Paso; J.D. 1969, University of Louisville; Ph.D. 1999, University of Colorado at Denver) was formerly County Administrator for Alamosa County and a research associate of the Center for Colorado Policy Studies at UCCS. He has conducted extensive research in the area of Colorado local government taxation and finance. Dr. Brown previously practiced law in the areas of federal civil appeals, anti-trust litigation, and complex reorganization bankruptcies.

HAVE COLORADO SCHOOLS ACHIEVED EQUALITY?

Colorado uses state sales and income tax revenues to offset school district inequalities in taxable property. While Aspen School District has the highest taxable assessed property value per pupil ($994, 855), and Sanford (Conejos and Alamosa counties) School District the lowest with only $10,257, state funds give more to Sanford and other property poor districts than to property rich districts such as Aspen. School districts are assisted based on their ability to fund student needs from their property tax base, as well as the variation in student needs due to rural transportation costs, greater instructional costs for at-risk students, and the economies of scale which make administration and special programs less costly per pupil in large districts.

However, our research shows that equalization along these lines has not succeeded as fully as one might expect. Two exceptions to uniformity are immediately apparent: (1) money for constructing, remodeling, and modernizing school facilities is paid only by local district bond and property tax proceeds, and (2) local districts are allowed to raise more revenue through property tax override levies. The amount of money that each of these could generate is directly dependent upon a local district's assessed property value. Since voter approval is needed, it depends on the priority that local voters place on K-12 education, but also on the ability to afford additional taxes.

Bond monies are specifically limited by statute to 20% (or 25% with rapid growth) of total taxable assessed property value. The average bond limit among all districts is $17,289 per pupil, yet fifty counties have less than half that, severely restricting their ability to build facilities for students. Of the twenty-five districts with a per-pupil bond limit below $6500, over a third are in El Paso County. The remainder are concentrated in southern Colorado. Districts in the resort towns, mining, or oil drilling areas have extraordinarily high bond limits, reaching as high as $198,000 per pupil in Aspen.

Revenue from mill levy overrides is limited to 20% of total program costs. Overrides appear to be passed where there are either substantial numbers of affluent residential property tax payers or where there is a strong commercial or agricultural property tax base. Only 62 of the 176 school districts have an override mill levy. The highest of these (Adams County) has a levy of 17.452 mills. But Kit Carson (in Cheyenne County) generates almost $2,300 per pupil in override revenue, the highest of any district.

Our research at the center also explored how well the state formula "backfills" gaps in school funding to achieve equalization in operating funds, the impact of the Gallagher and TABOR amendments (particularly when a district has a very low proportion of commercial property) and regional variations in school district finances. We find that there are systematic and significant regional variations in the amounts of money available for educating Colorado's public school students correlated with the share of low income and minority students in the local population. Low-income, Hispanic students in southern Colorado have less access to educational dollars than most students in other parts of the state.

CSAP TESTING VS. BEST PRACTICES: *TOUGH CHOICES FOR TEACHERS*

A growing problem with the increased use of standardized tests in schools is the amount of time that teachers and students spend not only preparing to take the tests, but actually administering the tests. The testing alone can require as much as twelve to fourteen days each year in some districts and disrupt the flow of instruction and programs throughout the school. Some school districts report that they are required to administer up to three different batteries of tests each academic year. Some of the tests are given in the fall of the year, then again in the spring to measure student achievement and growth over the academic year. A more pervasive, and perhaps more insidious, outcome of the "accountability storm" are the related shifts in teachers' pedagogies. When schools' budgets, principals' jobs, and communities' reputations are on the line with such high stakes testing, many teachers, exemplary and conscientious or otherwise, set aside their best practices in order to meet the pressures and the demands for increasing, raising, and scoring high marks within classrooms, and throughout the schools. When the testing regimens are extensive, the stress and pressure to achieve high scores on each and every one becomes even more noticeable. The major research questions derived from this situation were the following: To what extent do teachers alter their pedagogies, i.e., the best practices of effective teaching, in order to present material and content that will prepare their students to successfully take and score well on standardized tests? What are the consequences of such a shift, in terms of effects on teachers and students? Who are the children "Left Behind"?

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RESPONDING TO DIVERSITY NEEDS IN COLORADO SCHOOLS

This is a reporting on a collaborative effort by an urban university and a large public school district to develop and validate a standards-based observation tool used to evaluate and mentor preservice and inservice teachers' ability to provide diversity-responsive instruction within multicultural, multilingual, and inclusive classrooms. Currently, statewide and nationally, the diversity of the school age population is increasing while the diversity of the teaching force is decreasing. Today, Colorado, along with nearly every other state, is engaged in standards-based reform, as evidenced by the development of statewide academic goals and state tests to measure students' progress as well as professional teaching standards to ensure teachers' practices attend to the needs of students' diversity. As recipients of public funds responsible for educating all students, educators in universities and public school districts must ensure that each classroom is in the care of a competent teacher.

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AIDS MINISTRIES IN COLORADO AS PARTNERS IN PUBLIC HEALTH

In Colorado, as elsewhere in the United States, public officials recently have expressed support for devoting more government funding to faith-based social action. Substantially increasing government funding of faith-based social action may significantly affect faith-based organizations, government agencies, nonprofit organizations, individuals who work in such organizations, and those who receive services from them. This research summary described policy-relevant information obtained (1) by documenting the ways in which AIDS ministries in Colorado interact with each other, government agencies, and nonprofit organizations and (2) by assessing the perceptions of employees and volunteers in Colorado AIDS ministries about government funding of AIDS ministries. Such information can inform those interested in the potential of AIDS ministries to be formal partners in public health in Colorado.

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BREAST CANCER EDUCATION FOR CHILDREN AND MOTHERS THROUGH THE GIRL SCOUTS

This project is a collaborative project between Beth-El College of Nursing at the University of Colorado at Colorado Springs, the Girls Scouts of America Wagon Wheel Council of Colorado Springs and Centura Health/Penrose-St. Francis Health Services. This breast health educational program targeted low-income and diverse groups of Girl Scouts and their female family members and adult friends to participate in a breast health education and screening program. Approximately 550 Girl Scouts and the adult female participants attended a three-hour program. The program included information about breast health, normal changes in the breast with aging, hands-on practice breast self-examination, and a clinical breast examination by an advanced practice nurse. Upon program completion, the program participants received a patch developed by the Girl Scouts indicating their knowledge in the area of breast health. An 18-month follow-up is in progress to evaluate the maintenance of breast health practices and screening behaviors.

THE FOUNTAIN SCHOOL BASED HEALTH PROGRAM: *AN INNOVATIVE MODEL FOR DELIVERING PRIMARY HEALTH CARE IN A SCHOOL SETTING*

The mission of this program is to promote healthy behaviors and success in school by providing medical, behavioral health, and family services to children and youth in Fountain School District 8 (SD8). The FSBHP was established to specifically address the access to health care in this rural community for medically indigent and uninsured families in Fountain, Colorado. The primary focus of the FSBHP is to help families access the resources they need to provide their children with the best opportunities for healthy growth and success in school. This partnership offers a model for providing primary health care services to children in a site where they spend a large part of their day, in the school setting. This model offers a new approach for providing health care to children/youth who otherwise have difficulty accessing care. Children/Youth requiring physicals for sports participation, illness care, and required immunizations are offered low cost services in a convenient location. Children exhibiting high-risk behaviors are also referred by the schools or by families to the FSBHP for assessment and treatment plans, including mental health services. This poster presentation will highlight key aspects of the program and its contributions to the community and potential health care policy for the State of Colorado.

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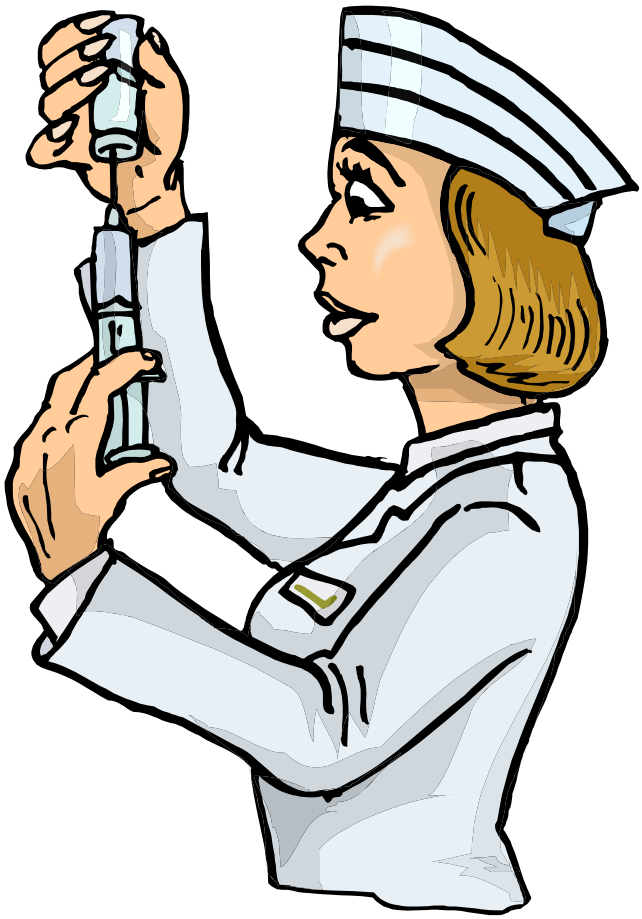
has been a pediatric nurse for 29 years and an advanced practice nurse (clinical nurse specialist and certified pediatric nurse practitioner) for 20 years. In addition, Dr. Hagedorn has been a partner in the MAPP (Mountains and Plains Partnership) online curriculum and has published two articles on the topic of online education as a new modality for students in academic settings. Dr. Hagedorn opened the first School Based Health Program in El Paso County in Fountain and has been actively developing health programs that support the success of children, youth, and families.



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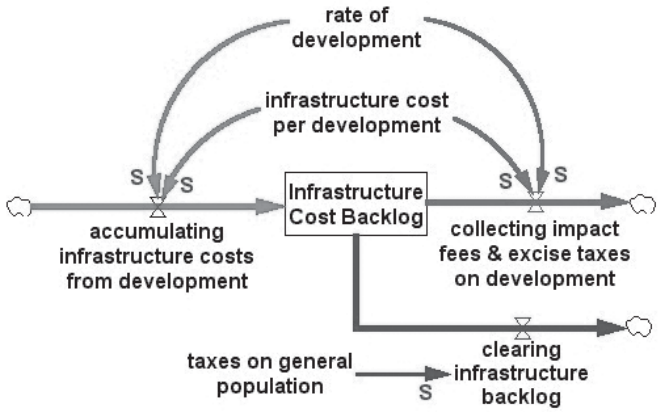
ESCAPING POLICY MAKING PERIL USING PRACTICAL SYSTEMS THINKING

To design effective policies, policymakers must consider systems effects. Effective policymaking is not defined by a "one-shot" set of actions; it must define actions over time that reinforce the desired outcomes. To do so we must create and foster feedbacks that operate in virtuous cycles (assuring that they do not turn into vicious cycles) and create and foster balancing processes that provide needed stability. Systems thinking helps us gain insight into system behavior (both immediate and delayed), arrive at a shared understanding, and resolve conflicts. This paper describes the feedback loops that produce traffic congestion, infrastructure backlogs, higher taxes, low wages, higher costs, unaffordable housing, declining quality of life, farmland loss, and sprawl. The Tangle of Growth causal loop diagrams can be practically used to think through the effects of policy alternatives and make policy decisions.



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USING INFORMATION TO IMPROVE THE STATE WE'RE IN

Today it seems that more information than ever before is readily available, but do we have the information needed to make data driven decisions? From a review of basic sources of information about Colorado, a series of questions address areas in which more data and more timely and more widely accessible data would be helpful. State-level information highways are an important public policy domain. Well executed, they can provide universal access to a core level of materials and information for all Colorado citizens. Citizens should have an easy-to-use and coherent information search service that enables users to discover, locate, select, and access publicly available government information resources through standardized metadata that describe those resources and provide direct links to the described resource.

In the past three decennial censuses, Colorado has ranked in the top three states in terms of the educational level of its citizens. One would anticipate that there would be a corresponding high level of government information available to this well-educated populace. Public policy decisions are made in one of three ways: rationally (data-driven decisions); following standard operating procedures; or politically. The first method is preferred but depends upon availability and reliability of information. The Taubman Center for Public Policy at Brown University ranked states for their internet service delivery. Their index is based on features centering on citizen contact material, services and information, and quality of access. Colorado ranked 35th in this survey.

A SUSTAINABLE ECONOMIC DEVELOPMENT PLANNING FRAMEWORK

What would a Sustainable Economic Development Planning effort add to the typical existing level of local/regional economic development planning and strategy efforts? Development of the regional economy is one of the primary desired results of community efforts to plan and manage its development in a sustainable manner.

Economic capital: Land uses and growth patterns / Energy systems / Transportation systems / Business & private built financial capital
Natural capital: Water systems / Air quality / Natural habitats
Human capital: People skills and health / Social capital (organizations) / Shelter

The value added by a Sustainable Economic Development Plan (SEDP) can be summarized as:

* Linkage of economic and community development with the region's sustainable ecological carrying capacity and human/social capital development. What will be affected primarily includes: Land-use patterns and developments; business and individual technology deployment.

* Tighter, more effective coordination between various government planning agencies/processes, and between governments and private sector organizations and individuals

* Whole-systems long-term approaches that reduce costs, enhance benefits, reduce frustrations and disconnects, empower citizens

* Visioning of an environmentally and socially sustainable regional economy and strategies to achieve the vision.

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(B.A. Economics) has been an innovator in economic development practices and policies for seventeen years with the Portland Development Commission (Oregon), State of Colorado Office of Business Development and the SouthWestern Colorado Economic Development District (Durango). He recently helped develop Rocky Mountain Institute's Natural Capitalism practice.

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IMPROVING COMMUNICATION BETWEEN BUSINESS AND THE EPA/STATE ON ENVIRONMENTAL ISSUES

The relationship between business organizations and the Environmental Protection Agency (EPA) and State Environmental Agencies has traditionally been contentious and adversarial. Environmental management systems (EMSs) are relatively new programs which are supported by both business and governmental agencies as a key method to reduce corporate environmental pollution and impacts. As such, EMSs are one potential vehicle through which the two sides can work as partners, rather than as adversaries. Furthermore, EMSs offer many potential advantages to both business and non-profit organizations (such as city municipalities) beyond environmental improvements, such as lower operating expenses and improved supplier and customer relationships. Despite these numerous advantages, most organizations have not yet implemented EMS programs in part because they do not fully comprehend the benefits of participating in EPA/State voluntary programs that promote the adoption of EMSs.

The purpose of this research project is to investigate how organizational managers and the State/Environmental Protection Agency (EPA) officials can communicate better and work together to overcome barriers to the adoption of EMSs in (1) new governmental environmental voluntary initiative programs and (2) the settlement of EPA/State environmental regulatory settlement actions. We will report our preliminary findings from interviews with business, EPA, and State regulatory officials. The research will include insights into the sources of the disagreements between the various parties. The report will also provide perspectives on how to improve the content of voluntary governmental environmental programs and the communication processes that can enable the various parties to work better together as partners for their mutual benefit. The session should be of interest to not only environmental regulatory officials, but also to other local, state, and federal agency representatives who work with business organizations.

JOHN HARNER

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TEACHING ABOUT URBAN SPRAWL: *THE COLORADO SPRINGS EXAMPLE*

Because the traditional emphasis on instructor-centered teaching is being replaced by a focus on student-centered learning, the authors developed an interactive case study of urban growth in Colorado Springs to teach about urban sprawl. The activity has three parts. In the first, students run a computerized animation of the growth in Colorado Springs from 1950 to 2000 assessing the relationship between transportation development and the pattern of urban growth. In the second, they use GIS to explore five urban-growth scenarios (infill, urban villages, beltway, growth corridors, and leapfrog) and overlay several different data layers to determine what effect the scenarios have on transportation and sensitive ecological zones. The third part involves a structured role-playing debate in which students as stakeholders express preferences for a particular form of urban growth and then break into citizen action committees charged with making a single recommendation to the City. These activities convey the difficult choices facing 21st-Century cities, and the different perspectives people have about these choices. These activities comprise one chapter in the authors' book *Human Geography in Action* (2002, John Wiley & Sons).

HATE CRIME, THE WHITE SUPREMACIST MOVEMENT, AND THE POLITICS OF DIVERSITY

As the racial/ethnic demographics of the state of Colorado change, it is becoming increasingly important that we pay attention to race and ethnic relations. The past decade has seen a wave of hate crimes across the U.S., as well as a significant increase in white supremacist activity. The rise of the World Wide Web and the internet is changing the face of the contemporary white supremacist movement, creating new threats and significantly expanding the movement's reach. Additionally, the movement has begun a concerted effort to target and recruit youths into the movement.

This presentation provided an overview of the contemporary white supremacist movement and hate crime activity and assessed efforts to organize against hate in schools and communities. Best practices for preventing hate crime and white supremacist activity were highlighted.

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THE COSTS OF MARIJUANA AND MARIJUANA PROHIBITION

Laws should be created to benefit society but can actually do harm. Marijuana prohibition laws have a dramatic impact both socially and economically in Colorado and the country as a whole. The Colorado ballot initiative for medical marijuana provided relief for some ill people. The oft heard comment that medical marijuana as simply a ploy for legalizing the drug, and that it does not have real medical value could not be further from the truth. The nervous, immune, digestive, reproductive, cardiovascular, and endocrine system of every person on this planet is regulated by the marijuana-like compounds that our bodies produce. The endocannabinoids have been woven into the very fabric of our lives for 600 million years, since they first evolved. Every time a person gets hungry, the endocannabinoid are involved in causing the "munchies." When we feel pain, the endocannabinoids help relieve our suffering. They help to balance our immune system in a manner that hinders the development of autoimmune diseases, and they even kill some types of cancer cells. Until our citizens and our legislators become educated in what the scientific literature and this plant have to offer, people will be denied the effective, and inexpensive relief that marijuana can provide for a number of disease states. Most importantly, marijuana can have an important affect on modulating autoimmune, cardiovascular, and neurological disorders as well as cancer and the aging process itself.

ROBERT MELAMEDE

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(Ph.D., Psychology, Law, University of Washington) From 1994-1995, Greene was a fellow in Law and Psychology at Harvard Law School. In 1999, she received her college's award for Outstanding Research and Creative Works, and in 2001, was honored with the university-wide research award.

JURY DECISIONS AND LEGAL POLICY: *DO THEY AGREE?*

Civil law assumes that jurors in negligence cases will determine a defendant's liability by evaluating that defendant's state of mind and conduct at the time of an accident and not by evaluating the consequences of the conduct (i.e., resulting injuries to the plaintiff). It further assumes that in assessing damages, jurors will consider the extent and severity of the plaintiff's injuries and not the state of mind or conduct of the defendant. In a set of jury analogue studies in which we presented mock jurors with the facts and demonstrative evidence used in an actual automobile negligence case, we found that jurors do indeed attend to the relevant evidence but that they also heed the irrelevant. In other words, evidence relevant to the plaintiff's injuries (the consequences of the conduct) retroactively and inappropriately influenced juror and jury decisions about liability. Thus, the defendant was more likely to be found liable when the plaintiff had sustained severe injuries than when the injuries were relatively mild. We also found that evidence relevant to the defendant's conduct affected juror- and jury-assessed damage awards. The plaintiff was awarded more money when jurors heard evidence about the defendant's conduct than when that evidence was not presented. A final study examined the effectiveness of various procedural modifications to the trial process that may better focus jurors' attention on the relevant evidence. In particular, we found that bifurcation of the liability and damages stages of the trial reduced the dependence on irrelevant evidence, whereas judicial instructions to use only certain evidence in decision making did not.

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COMMENTS FROM 2002 CONFERENCE ATTENDEES

"This was a lot of fun"

"The range of topics & their relationship to each other was terrific."

"I never realized there was so much research about Colorado going on in our universities"

"This should be a two-day conference…"

"A mind expanding day…"

"It was great to have the opportunity to present in front of a very diverse audience"

"I appreciated the presentations which focused on empirical results, not just opinions."

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Send suggestions for topics, discussants or panelists to Dr. Daphne Greenwood at dgreenwo@uccs.edu. For information on how to submit a proposal for presentation or a poster session visit the Center website at http://web.uccs.edu/ccps or contact the Center at 719-262-4021 or ccps@uccs.edu.

Available on the Center For Colorado Policy Studies website

Accounting for Growth:
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Community Indicators for Colorado / Denver
The Effects of TABOR on Municipal Governments in Colorado
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