Keynote Address:

Growing Green Communities: Infrastructure Development and the Environment

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David Brooks [of the New York Times] this week had a column called, *I Dream of Denver. I Dream of Denver* begins with the following: "You may not know it to look at them, but urban planners are human and have dreams. One dream many share is that Americans will give up their love affair with suburban sprawl and will rediscover denser, more environmentally friendly, less auto-dependent ways of living."[1]

It sounds like Brooks was thinking of us when he wrote his column this week, on the 16th of February. He talks about the dreams that have been aroused—if urban planners' dreams can be aroused—over the past few months, with the economic crisis devastating patterns of suburban sprawl, at the same time that we have a new administration committed to restructuring the American economy through investments in green infrastructure. Brooks writes: "The time has finally come, some writers are predicting, when Americans will finally repent. . . . America will, in short, finally begin to look a little more like Amsterdam."[2] And then he adds, and this is where he throws water on the planners' aroused dreams of Amsterdamian design, "Well, Amsterdam is a wonderful city, but

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     1. David Brooks, *I Dream of Denver*, NY TIMES, Feb. 16, 2009, at A33.
     2. *Id.*

Americans never seem to want to live there. And even now, in this moment of chastening pain, they don't seem to want the Dutch option."[3]

This is a very interesting starting point, because when we think about this integration of land use, transportation, and energy systems, I'm instantly drawn to the work by Timothy Beatley, a book called *Green Urbanism*[4] (I mentioned this in class last week when talking about how to deal with carbon dioxide emissions related to transportation and land use in California). The challenge of *Green Urbanism* is it's about European cities. The subtitle is *Learning From European Cities*, and it came out in 2000, the year I started teaching a course on Sustainable Communities. Dr. Philip Berke may have beaten me there by a couple of years, but basically, we've been partners in crime in the planning world, trying to explore these ideas for a long time. One of the challenges has always been that the political, social, cultural, and institutional contexts of many places where we've seen a real move toward an integration of the kinds of things that we're talking about today are very different from those in America. I wrote a review of Beatley's book once where I laid out three things that were different, and I'll refer to those in a moment, but I want to play off this theme that Brooks is getting at, which is about American culture and how that relates to whether and how we can incorporate the many great ideas that are being discussed today, and by others working on these questions, to actually see fundamental changes in the structure of American patterns of living.

Brooks turns then to a recent study by the Pew Center, which finds, as he put it, that nearly half of Americans want to live in a different kind of community. But then he takes that to suggest that they don't want to live in an Amsterdam-like community where everybody bikes and lives in the sort of pedestrian friendly, transit-accessible phenomena that Beatley described.

Instead, Brooks suggests that they—Americans—want to move outward, and he listed the ten most popular places that this Pew study says they would want to move. Seven of them are in the West: Denver, San Diego, Seattle, San Francisco, Phoenix, Portland, and Sacramento; and then two in Florida: Orlando and Tampa; and San Antonio in that independent Republic of Texas. He then said basically people who are the most dissatisfied in America are those who live in urban areas, and then he takes that to mean that people don't want to live in urban areas—but he doesn't really talk about the different kinds or urbanity or different types of systems that might make one urban area more appealing than others. Brooks ends with a very depressing summary where he says, "In short,

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3. *Id.*
4. TIMOTHY BEATLEY, GREEN URBANISM: LEARNING FROM EUROPEAN CITIES (2000).

Americans may indeed be gloomy and hunkered down. But they're still Americans. They are still drawn to virgin ground, still restless against limits."[5] It's as if he's never read Frederick Jackson Turner and the idea of the closing American frontier, and what influence it might have, which was in 1890.[6]

So Brooks' piece, *I Dream of Denver*, is an argument that while urban planners might have other dreams, Americans and he really are dreaming of continued suburban sprawl in the West and living the way they always have. And while I don't agree with him, I think he raises a fundamental question about how we deal with cultural values and mores, and the inertia of fifty years of post-war investment in a pattern that has to be overcome. When I read Brooks' piece I said, "I *dream* of Denver?" I mean, I *think* of Denver. I don't *dream* of Denver.

I want to turn to another dream in order to think about how we might see the change, which people are talking about here today, realized, because I think that Brooks' fundamental premise is that Americans are Americans; they can't change. Maybe you can solve these problems through better technologies, but you're not going to fundamentally change or alter patterns of American society. I reflect upon my experience in this same room on January 20th, when Barack Obama was inaugurated President of the United States, hearing Dean Shirley Jefferson talk and reflecting upon what has happened in my own lifetime, and what in 1960 or 1965 we might have said were American cultural values. So, let's go back in time a little bit, about 60 years.

In 1948, 30 of the 48 states at the time, in the previous 35 years, had adopted miscegenation laws prohibiting interracial marriage. Nineteen – forty-eight—that was 60 years ago. So as we talk about American society in 2080 or 2090 and what we need to achieve in order to deal with climate change and other kinds of global environmental issues, that's the kind of timeframe we're talking about—50, 60, 70 years—well within many people's lifetimes who are still here at present.

In 1948, in the *Perez v. Sharp* decision, the California Supreme Court said that their miscegenation law was unconstitutional.[7] In 1959, however,

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5. Brooks, *supra* note 1.

6. Turner's seminal essay "The Significance of the Frontier in American History" was presented to the American Historical Association at the Columbian Exposition in Chicago, Illinois on July 12, 1893 (arguing that the existence of an undeveloped frontier had played a significant role in American culture and that the "closing" of the frontier through settlement would have a transformative effect on American culture). See Patricia Limerick, THE LEGACY OF CONQUEST: THE UNBROKEN PAST OF THE AMERICAN WEST (1987) for a critique of Turner's hypothesis and the 1890 "closing" of the frontier.

7. Perez v. Sharp, 32 Cal. 2d 711, 198 P.2d 17 (Cal. 1948).

the Lovings were arrested and sentenced to a year in prison for interracial marriage in the State of Virginia. It wasn't until 1967 that the U.S. Supreme Court said that such state laws were unconstitutional.[8] From 1948 to 1967: it took 19 years and the incarceration of people before the federal government recognized that what was at least a common cultural value in 30 of the 48 states, as expressed by state representatives, was not acceptable and was unconstitutional.

But it's hard to imagine it being accepted as an immutable cultural character of the American population today—so change *does* happen. It sometimes happens slowly, and most importantly, it rarely happens easily. But let's also think about what happened between 1948 and 1967 and ultimately 1968.

Brown v. Board of Education: May 17, 1954.[9] I'm not just listing these cases and decisions because [I'm speaking at a] law school. These are seminal moments in the transformation of American culture. Law played a critical role in transforming how people thought about what was and wasn't acceptable in 1954.

In 1962, James Meredith integrated Ole Miss. That wasn't law. That was courage; individual action. So it wasn't just in the courthouse. It was in the face of water cannons, in the face of insults, and in the face of violence that we also transformed American culture.

The Civil Rights Act of 1964[10] was signed into law on July 2nd after fifty-four days of filibuster; the first time a cloture vote had been successfully passed since 1927 in the U.S. Senate, and the first time ever that an anti-discrimination law had successfully been able to overcome a filibuster. Senator [Robert] Byrd, who I suspect voted for President Obama, was on the floor of the Senate for fourteen hours and thirteen minutes before they finally cracked the filibuster and were able to overcome that resistance. It was not by bipartisan consensus and collaboration that the Civil Rights Act was passed. It was against extreme opposition and claims of cultural sovereignty and the immutability of what were fiercely held values about American culture, that we actually saw the change.

One year later, in 1965: the Voting Rights Act,[11] was signed into law August 6th—just five months after Bloody Sunday at Selma, which, as those of us who were here [on January 20th] know, Dean Jefferson witnessed personally. You also know that she integrated her high school.

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8. Loving v. Virginia, 388 U.S. 1 (1967).

9. Brown v. Bd. of Educ., 347 U.S. 483 (1954).

10. Pub.L. 88-352, 79 Stat. 241, July 2, 1964.

11. 42 U.S.C. §1973 (2006).

This happened in the lifetimes of people we know. Bloody Sunday isn't called Bloody Sunday because everyone got together and agreed on what the most intelligent thing was to do. It wasn't because of some technological solution, or taking a really good idea that made eminent sense and then translated it into policy. It became Bloody Sunday because there was a real struggle at stake.

I'm not suggesting that violence is necessary to transform our culture, but what I want to lay out is this basic principle: if 80 years after Dr. King was born we can inaugurate an African-American President, can anybody say what society will be like in 2089? That's 80 years from now. Babies being born today; what will their lives be like? What's imaginable? Maybe they'll want to live in a place like Amsterdam, for all I know.

There's a great potential in a very short period of time. Forty-five years after the "I Have a Dream" speech (which was on August 28, 1963), forty-five years after Dr. King said that he has a dream that his children will be judged by the content of their character and not by the color of their skin, the peers of his children—Obama and I—live in a very different world than the one he described in 1963. Obama is a year younger than me, many years wiser, but our experience growing up is very similar in terms of what we experienced at certain points in our lives.

I found the timeline of our lives proceeding in parallel when reading *Dreams for My Father*,[12] which was written long before he realized he was a politician fully; therefore, that it's frank and honest about his experience and struggle with issues of race. It's really quite striking, because when I was eight, he was seven. I can kind of remember what was happening—I remember the Watts riots and various things. But, the idea that forty-five years later America would have an African-American President is striking, because the year 2050, a target date when we think about climate change, is only forty-one years from now. It's less time than the time that passed between the "I Have a Dream" speech and Obama's inauguration.

Let's think about time. What are the key lessons from the civil rights struggle, which I doubt is central as we think about green communities, but I think it's quite important in thinking about how one achieves the change we need to create green communities. One lesson is that cultural values can and indeed do change. So I challenge Brooks' premise that we will always dream of Denver, and I'll return to a different dream of Denver at the end.

The second principle is that it takes an awful long time to change [cultural values]. I don't want to say, "Okay, cultures and values change; therefore, it might take too long to change them to deal with the crises of

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12. BARACK OBAMA, DREAMS OF MY FATHER (1995).

climate change and some of the other problems we face," but I do want to start with the premise that they can change.

A third principle is that power never gives itself up willingly. I wanted to say rarely, but I think never is a more accurate description. There is always something present that changes the power-relationship, and that something present might be political, it might be legal, it might be economic, but something that motivates power giving itself up. The fact that power is entrenched in current systems and patterns of American civilization—in terms of transportation systems, in terms of land use patterns, in terms of energy systems—is something we have to acknowledge directly if we are to see the implementation of all the great ideas that are out there, because to the extent that those great ideas impinge upon power's prerogatives, power will resist them.

Finally, I think the other principle that I see when thinking about the civil rights experience is that neither politics nor law is sufficient alone to achieve change. Passing a law ultimately depends upon political factors, but it also is insufficient unless you also organize and mobilize the political side of people accepting that those legal changes are in fact valued and maintained and supported over the long term.

So let's think about some of the issues we face related to addressing climate change. These climate changes have started to mobilize attention to the issues we're discussing today. There are many other benefits associated with green communities, but climate change is, I'd say, the big challenge of our time. If you deal with climate change successfully, you also deal with a lot of other things like public health, a sense of community, and other related concerns.

As I said, forty-one years from now, 2050, is when we talk about the need to have a fifty to eighty percent reduction in the greenhouse gas emissions to stabilize parts per million in the atmosphere. It's less time from now than have passed since the 1963 "I Have a Dream" speech. It's also interesting to think about it not as some abstract time in the future, but to think about in terms of real humans. I have two kids. They'll be in their fifties then. So 2080/2090, is when my grandkids will be in their fifties. It's not just some abstract [date]—2100—my *grandkids* are going to be alive in 2100! It's very, very likely my grandkids will see the twenty-second century. It's not Star Trek. It's not Jean-Luc Picard and it's not even William Shatner; it's something that's real.

So let's think about how we move toward a 30, 40, 50, 60, 70, 80-year transformation to incorporate and integrate these three dimensions of land use, transportation, and energy—recognizing that cultural change is slow, it takes time, and power doesn't give itself up easily. You want to find ways

to make it easy for power to move to other approaches. For example, making it financially attractive, or reducing the burden upon those in power if you are to make such transformation.

I think invariably one has to think about technological change, and there's often a reference to the need for an Apollo-program-kind of venture. So, I went back and looked at Apollo. I also looked at the Manhattan Project.

Basically, in eight years, we spent the equivalent of $135 billion in today's dollars [in the Apollo program], and we went from not being able to go into outer space to being on the moon, which is remarkable. [The Apollo program] is often thought of as a model for how we can achieve a great deal in technology if we invest the right resources. The Manhattan Project: six years, about $24 billion in today's dollars, and 130,000 employees on the Manhattan Project.

So [through the Apollo program and the Manhattan Project] we have demonstrated that for very narrowly defined tasks, we can commit enormous resources of time, money, and people and achieve great things [technologically]. But, as I've suggested, that isn't going to be sufficient; however, it's nice to know that we can do that if we put that kind of money in. So $160, $170 billion over a six to ten year period would be comparable to these two ventures.

One could imagine, if we actually had a committed, stable source of funding and committed pattern that went beyond one budget cycle or two election terms, maybe we could [achieve technological change] if we had a dozen years. What if we were to commit to a twelve-year funding cycle for renewable energy and efficiency and transportation technologies, and we actually knew we were going to really do it for twelve years in a row, not change it again next year? One could imagine achieving the kinds of technological breakthroughs that could also make it much easier to deal with these problems of power, and this resistance, and to facilitate changes in culture, because you would be able to move with the cultural preferences rather than against them, in order to try to move the culture along.

To think about going greener, however, one has to address Brooks directly. We do have to address cultural incentives—cultural values—and create systematic incentives to change behavior. It's not about just good ideas and telling people how they should live. One of my great frustrations with being at Berkeley for seventeen years was that we all agreed on how we should live, and no one on the faculty, and very few of the students, had ever lived in suburbia or chose to. If they had, they only had complaints, because they'd been forced to [live in suburbia] by someone else. But, we need to understand why people want to live in the places they live if we

want to modify the consequences of those choices. So we have to take the cultural values on directly, rather than dismiss them or say, "It'll be fine. Just go along." We have to address it directly.

We also have to take in the lessons of Dr. King that we can make change over time: that culture is not immutable, that institutions can be adapted, that doing so will not be easy, that because power never gives itself away without some struggle, it will take a combination of individual actions (what Professor Czarnezki calls everyday environmentalism). It takes legislation. And it takes, as I said, courage to transform our society.

Finally, I think we can draw upon the Manhattan Project and the Apollo program and say that technology is something that we can harness in a very powerful way, but we need to invest in existing technologies. I say existing technologies, because as the energy panel may discuss, and many people in the energy field have discussed for thirty years, it isn't necessarily even a case of inventing new technologies. It's deploying existing technologies and bringing their costs down, or integrating them with existing systems, which is really most needed.

We need to [invest in technology] and deploy it in the land use side. I'm thinking particularly about buildings, and we've seen some move with LEED and building efficiency standards. In the transportation sector, I'm thinking not just about energy, but also about the whole question of mobility and accessibility and how can we structure systems that are smart in that regard.

In the energy area, we'll hear this afternoon about generation, smart grids, and ways to link demand and supply, which I think are very important. My own experience in the energy sector is thirty years of working off and on in the renewable sector. And the one thing that strikes me most about that thirty years is how inconsistent policy and incentives have been. We've learned in little spurts of three to five years at a time that certain things work, and then we stop doing them. In fact, we turn a U-turn and go the opposite direction.

In 1979 I was out putting my first solar collectors on rooftops, learning how to solder a good copper fitting, and putting greenhouses up. And the company I worked for was a mom and pop, back to the land operation—you may know some of these people in Vermont. The company was built on a set of values: back to the land, you know, organic, we can grow our own, we can have integrated urban houses, and we can have our self-sufficient system. A very small scale, Schumacher, "small is beautiful"

kind of model.[13] Not surprisingly, when oil prices didn't continue going up, this [company I worked for] went out of business. They weren't capitalized very well, and there wasn't the long-term institutional support.

In the eighties, I worked with independent power producers and with the utilities. I wrote a dissertation, with this long, very boring title, which was really trying to answer the question, "should we pay a premium for renewables in order to avoid the risk and uncertainty associated with fossil fuels?" I don't know what I was thinking; it was 1989, so there was very little interest in that question. We were moving toward other approaches. No worries. It's become of more interest recently.

In 1990, before I joined the Berkeley faculty, I had a consulting business and the world's largest wind, largest solar, largest geothermal, and largest landfill gas recovery companies were all clients of mine. In 1989, rather than a man of the year or person of the year, Time magazine named Earth the planet of the year—there weren't really a lot of other competitors for planet of the year—because the environment was so important as an issue. But by the mid-nineties, all of those former clients of mine were bankrupt again, because we had started down a path of tax incentives, of tariffs and payments, of interconnections of a wide range of things, which we then abandoned to go off into the deregulation world.

We have to have consistency over a long period of time. In 1999, by then, we really were starting into this deregulation-era, and we had not only thrown out the incentives for renewables, but we had thrown out a whole bunch of other incentives for efficiency, and we had restructured the system, and basically transferred billions of dollars from ratepayers to independent power producers or utilities—my estimate is closer to $70 billion. Seventy billion dollars—that's half of the total amount of the entire Apollo program. But instead we transferred it rather than invested it.[14]

We need to really think about the long run in these technology sectors, and we need to think of the long run when we think about land use, because a land use decision that's made today is going to live on for hundreds of years.   That's why Vermont looks the way it does, because land use decisions that were made 100, 200 years ago, set the fabric of the pattern of roads and commerce and society. And it's also why a post-war subdivision from the 1940s or 1950s is still affecting our greenhouse gas emissions in California today.   You can change light bulbs every other week if the technology is changing that fast. It's really hard to change buildings. It's

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13. *See generally* E.F. SCHUMACHER, SMALL IS BEAUTIFUL: ECONOMICS AS IF PEOPLE MATTERED (1973).

14. See Timothy P. Duane, "Regulation's Rationale: Learning from the California Energy Crisis," 19 YALE J. ON REG. 471 (2002) for a discussion of this estimate of $70 billion.

even harder to change streets, neighborhoods, and transportation networks. So the decisions we make in the next ten or twenty years are going to have much more impact than a building standard, which we can change more readily down the road.

To address this problem, I want to highlight that we really need to think about this as what I call a multi-scale problem; and therefore, it needs to have multiple tools—the cultural values I've already addressed. I think that that's a very difficult transformation. I know it is possible. I just described a case in which it has proved, in our lifetimes, to be true. And there are many, many cases of it, and those shifts can occur in a lot of ways. But one fundamental way is that we need to have behavioral incentives that really do discourage what we call "bads" and encourage what we call "goods."

Back to my review of Beatley's book, one of the biggest differences between European societies generally and American society is that the Europeans place enormous taxes on the things they don't want people to do. They really do discourage behavior through economic signals, and I think that we need to think about that—not just in terms of cap-and-trade versus taxes, but more generally, we have to realign the tax system and the pricing system so that we discourage behaviors on a daily basis. If you're deciding whether to get in the car or not, you will think about the disincentive of doing the thing that is going to cause the kind of harm.

The second thing [the Europeans] do is equally important. They don't just tax things. They then take the taxes and reinvest them in alternatives. One of the things that's most challenging about transportation in Vermont is there really are no alternatives. You're in the car or you're not. You might have more people in the car, but if you're traveling more than just the community scale, the car is the choice, with the exception of a couple of small transporters, or if you want to take the train to New York and D.C. once a day, at 9:30, from Montpelier, which I plan to do, but that won't get me to work. And it goes right by here, right before I teach my class, but I'd have to get out very, very fast [because the train does not stop here].

[The Europeans] invest in alternatives. They increase the cost of doing the thing you don't want people to do and decrease the cost and make it more convenient to do the thing you do want people to do; and by cost I don't just mean monetary cost. The frequency, the accessibility, the safety, the perception of reliability, all those things are important in making a decision to get on public transport or not, or to pursue some other mode of mobility.

So we have to subsidize for decarbonization, including the kinds of investments I described. Four months ago, $160 billion would have sounded like a lot of money. We spent that this week, not even counting

the stimulus package; I think just in dealing—isn't it $30 billion for GM, and $16 billion for Chrysler, and $75 billion for the mortgage thing? It's close to $100 billion just this week alone in things that aren't being counted as part of the stimulus package. But we have to really invest in these technologies with subsidies in the initial years, while taking away the subsidies for the things you don't want people to do, like so-called clean coal, which I have really serious concerns about.

And then finally, we have to go down to the community scale, which has been I think the focus of the discussion here, which is that you need to do spatial planning, you need to integrate these things systematically, because space matters. It's not just having price signals out there. You also have to think about the location of infrastructure in relationship not only to carbon, but in relationship to endangered species and habitat issues.

Dr. Berke has done a lot of work on this conservation planning side, and James Wescoat talked about the shoreline of Chicago on Lake Michigan. It wouldn't matter as much if the Public Trust Doctrine only applied to something that was twelve miles from Lake Michigan; though, the location of the space matters in terms of what benefits you get. And we need to think about all of those things to set up a framework in which the incentives for behavior function.

So, planning matters, but (as I have proven by my own choice to go to law school in my forties), I don't think planning is enough. I don't think design is enough. I think design also matters. By design, I mean a finer scale. Whether or not you will go stand at the transit stop to take the bus (rapid transit or not) depends not just upon whether the network for the whole city meets your needs, but whether you can pick up your dry cleaning there, whether it's safe, whether there's a sidewalk café, and whether it's lively, sociable or not.

Micro-scale design factors are therefore incredibly important in determining whether the kind of macro-scale system will work or not. My colleague Robert Cervero at Berkeley describes the need to address the three Ds: density, design, and diversity—diversity of functions and activities you can engage in.[15] So when you get off the bus, you can grab your dry cleaning, and get the baguettes, and get the fruit, and go get the organic cheeses. But if you get off the bus and go home, get your car, and drive to three different places to do those other things, you just lost whatever you gained by having the public transit.

Engineering, which [is performed by] the folks in the transportation and energy sectors, is also really critical. And in particular, I'm really pleased

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15. Robert Cervero, THE TRANSIT METROPOLIS: A GLOBAL INQUIRY (1998).

to see engineering schools, and to some degree engineering practice, moving toward thinking about life cycle cost assessment and thinking about externalities. But engineering is incredibly important in terms of the investment in technology to show that these technologies really are reliable alternatives. Reliability may be more important than cost in making moves from one technology to another. The belief—it's actually not even the reality, but it's the *perception* of reliability that's critical.

Finally, I come to law. And as I suggested [last night] it's really important to think about law, because most people in this room are either already engaged in law or intend to practice law. There are so many ways in which all the things I talked about, except perhaps the cultural piece, are influenced by law, as I've already suggested. But how do we structure economic incentives? How do we define what kinds of subsidies or investments that should occur, and how do we define the rules on spatial planning? What kind of engineering standards do or don't get credence in terms of what does or doesn't get a public contract? What kind of design features do or don't meet the standards of safety, health, reliability, and a sense of community? All those things get articulated by law. Law is the means by which our society articulates our values about all these things into systems that prescribe behavior, and that includes so-called voluntary incentives, like taxes.

We may have economic incentives, but there's a very, very big Internal Revenue Code defining how those economic incentives will work—and how they get translated really matters. So the law is really the point where all these things come to meet the ground to determine what outcomes we get. And, as I suggested, law plays an important role in effecting what kinds of cultural change we see.

To conclude, I want to talk about an example in California I've been working on. I have an article coming out in a couple of weeks in *Ecology Law Quarterly* dealing with the land use/transportation connection to climate change, and trying to deal with a very complicated set of legal initiatives and how they intersect, how they will affect behavior, and what incentives people have to modify transportation and land use patterns to reduce carbon emissions.[16]

I want to start by suggesting that the narrative, as told in our article, begins in 2002 when California adopted a bill to try to regulate tailpipe emissions.[17] California adopted regulations, and they petitioned for a

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16. Joanna D. Malaczynski and Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicle Miles Traveled: Integrating the California Environmental Quality Act with the California Global Warming Solutions Act (AB 32)*, 36 ECOLOGY. L.Q. 71 (2009).

17. CAL.HEALTH & SAFETY CODE §43,018.5.

waiver from the EPA and the Clean Air Act. [The waiver] was rejected in December, and the President has now issued an executive order requesting the EPA administrator to reconsider that issue.

There's a regulatory framework. But in fact, in 1990, twelve years earlier, about the timeframe I said we need to have a committed, stable policy, California voters rejected an initiative that would have begun to regulate greenhouse gases. Moreover, in 2006, when California adopted its so-called Global Warming Solutions Act,[18] there was a critical political dimension where the Governor called the authors of the law on the morning that they announced they were going to do a press conference and he told them that he was going to veto the bill. This was three days before the end of the legislative session. And they said, "Well, we're going to have a press conference that you're going to veto the bill, then." And two hours later, he called back and agreed to sign the bill. The fact that he was up for reelection, and that the Democrats thought that this was the one issue the candidate on the Democrat's side could win against the incumbent Governor (if he vetoed this bill), meant that the Senate Democrats had pushed really hard to make it a very tough bill to sign. The Governor later got his picture on the cover of Newsweek, and is seen as a green Governor, but politics drove him and those who are in power to accept that the only way they could stay in power was to be green on this issue.

So *politics* set the framework in which the *law* was established, within which the regulations and the more detailed articulation are laid out. I would say that the law actually has had an impact already in thinking about culture, and how people think about what is or isn't acceptable in terms of carbon footprints. We see this interaction. We see a very complicated, very messy kind of scheme. I'm hoping with the new administration nationally, and with some of the experiences and lessons of many of the State and regional initiatives that have been really due to the courageous pioneers trying to deal with these issues in the absence of leadership nationally, that we actually have a lot of new data.

A lot of experiments have been conducted in the last eight to twelve years that suggest how we might be more successful with some policies rather than others, and how we might integrate those across different scales, and we might ultimately see some national legislation that can in turn be tied to an international regime, post-Kyoto, to deal with climate change. But I can assure you it will have many gaps. It still won't necessarily adequately deal with the behavioral or cultural side of it. And how it gets transmitted into action will hinge upon the work of all of you [who attended

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18. CAL. HEALTH & SAFETY CODE §§38,500-38,599.

the Vermont Law School Growing Green Communities Symposium] in crafting, challenging, or amending the laws, the regulations, interpretations, and practices.

In thinking about that, I hope I can leave you with a different dream of Denver. Here's *my* dream of Denver. It's not the same one Brooks has. Denver happens to be, [starting at the] Stapleton Airport, the site of the largest new urbanist community in the country. Brooks apparently isn't aware of it. Denver also is the site of the National Renewable Energy Laboratory, where a company that I'm on the board of called SkyFuel is currently testing the largest parabolic trough ever developed, using technology that was funded in part by the U.S. Department of Energy and developed by [SkyFuel's] chief technology officer, which reduces the cost of large parabolic solar troughs by around forty percent.

So I have a vision of Denver where there are 300 days of sunshine a year when you can produce solar electricity, where you actually have passive solar designs that are very energy efficient, you have compact urban forms replacing the sprawling suburban forms that are no longer viable (and were largely funded by subprime mortgages—and with higher fuel prices, are no longer tenable as a way to get around the Denver Metro area). By using smart grid digital technology, you can link the solar production in [for example] the San Luis Valley, or other parts of Colorado, with wind production in the Midwest and with different kinds of geothermal resources: maybe some coal, some nuclear, maybe some hydro.

By ratcheting down energy demands, we actually have a dream of Denver that might be in 2050, or 2080, or 2090, a place that my grandkids will want to move, because then, for them, what represents urban life in America today would not be a negative thing. They would have the community, the security, and the other kinds of things that actually do make European cities more appealing than most American cities in their core.

Ultimately, I think that my dream of Denver depends on more than technology and depends upon more than law; it depends upon fundamental, transformative cultural change. But I'm confident that law will play a central role, as will all the other specialties and expertise we see in here today.