

***Planning for  
Climate Change  
Mitigation and  
Adaptation in  
North Central  
Texas***

***A Roundtable Discussion***

*Edited by*  
Jeff Howard & Kent Hurst

School of Urban &  
Public Affairs

University of Texas  
at Arlington

2009

# ***Planning for Climate Change Mitigation and Adaptation in North Central Texas***

***A Roundtable Discussion***

***Edited by***

**Jeff Howard**

Asst. Professor, Urban & Public Affairs

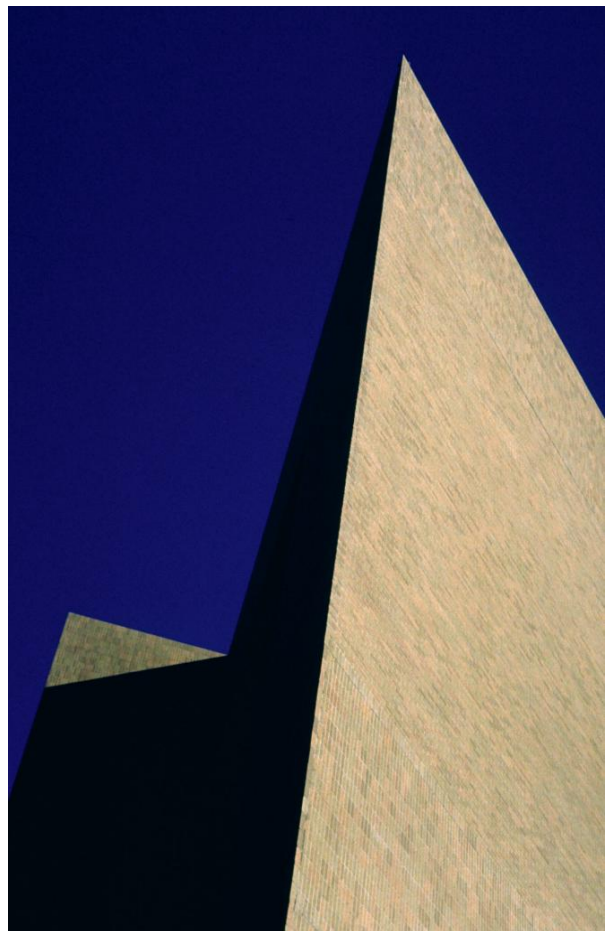
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## Preface

On July 16, 2009, the School of Urban and Public Affairs at the University of Texas at Arlington hosted a daylong roundtable on how “climate leader” municipalities of North Central Texas—and urban planners in those communities—are responding to the looming challenge of climate change.

The organizers, Asst. Prof. Jeff Howard and doctoral candidate Kent Hurst, had invited the planning directors in selected North Central Texas communities to send staff members to participate. The targeted municipalities were those who are members of Cities for Climate Protection (sponsored by ICLEI Local Governments for Sustainability) or whose mayors have signed the Climate Protection Agreement (sponsored by the U.S. Conference of Mayors). Of the 17 such communities in the Dallas-Fort Worth metropolitan area, nine sent representatives to the roundtable. Also joining the conversation was John Promise, director of environment and development at North Central Texas Council of Governments. Karen Walz, of Vision North Texas, expected to attend but was unable to do so.

*Here, then, is a record of a five-hour conversation among key administrators about how climate change concern is—or isn’t—being translated into changes in zoning decisions, building codes, transportation plans, education programs, solid waste practices, energy purchases, and related matters in North Central Texas communities that lead the region in responding to the threat of climate destabilization.*

The conversation covered what municipal planners and the governments they serve are doing to reduce emissions of greenhouse gases (mitigation); what they are doing to make their communities resilient in the face of climate change that is now underway (adaptation); how they conceptualize and operationalize the relationship between these classes of activity; and how these activities can be coordinated at the regional level.

The principal content of the report is a transcript of the roundtable conversation. This is supplemented with a brief introductory essay and commentaries by several nongovernmental organizations and a state representative.

## ***Acknowledgments***

The editors thank Dean Barbara Becker and the School of Urban and Public Affairs (SUPA) for sponsoring the roundtable and providing lunch for the participants.

We are grateful to the participants for engaging in the July conversation and for their efforts in amending the transcript. It has been a pleasure working with them, and we look forward to future collaborations. We also are grateful to the participants' supervisors for making it possible for them to attend.

We offer special thanks to John Promise, of North Central Texas Council of Governments, for leading the session on regional coordination and to Karen Walz, of Vision North Texas, for preparing the audiovisual material used in that session.

Thanks to Rep. Lon Burnam, the Urban Land institute, ICLEI Local Governments for Sustainability, and Vision North Texas for their insightful comments on the transcript and the challenges of climate planning.

Thanks to Linda Slaughter, of SUPA, for helping with logistics; Ramona Holmes, of the UT Arlington Library, for assisting with cataloging and archiving; and Robert Crosby, of the Office of University Publications, for the cover art. Thanks to David Tees, of the Institute of Urban Studies, for encouraging the project and for welcoming the participants on behalf of SUPA.

## Participating municipalities and individuals

<i>Invitee</i>	<i>City or organization</i>	<i>Climate Protection Agreement<sup>1</sup></i>	<i>Cities for Climate Protection<sup>2</sup></i>
<a href="#">Patia Boomsma, AICP<sup>3</sup></a> Planning Project Manager	<a href="#">Arlington</a>	X	X
<a href="#">Christopher Barton, AICP</a> Chief Planner	<a href="#">Carrollton</a>	X	
<a href="#">Matt Steer, AICP</a> City Planner	<a href="#">Coppell</a>	X	X
<a href="#">Katherine Barnett</a> Utility Projects Coordinator	<a href="#">Denton</a>	X	X
<a href="#">Stephen Cook, AICP</a> Senior Planner	<a href="#">Euless</a>	X	
<a href="#">Allison Gray</a> Planning Manager	<a href="#">Fort Worth</a>	X	
<a href="#">Mike Walker, AICP</a> Senior Planner	<a href="#">Frisco</a>	X	
<a href="#">Julie Smith</a> Green Programs Manager	<a href="#">McKinney</a>	X	
<a href="#">Russell Haas</a> Landscape Architect	<a href="#">Plano</a>	X	X
<a href="#">John Promise</a> Director of Environment & Development	<a href="#">North Central Texas Council of Governments</a>	---	---
<a href="#">Kent Hurst</a> Doctoral Candidate, SUPA	<a href="#">UT Arlington</a>	---	---
<a href="#">Jeff Howard</a> Assistant Professor, SUPA	<a href="#">UT Arlington</a>	---	---

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<sup>1</sup> U.S. Conference of Mayors, <http://usmayors.org/climateprotection/agreement.htm>

<sup>2</sup> ICLEI Local Governments for Sustainability, <http://www.iclei.org/index.php?id=800>

<sup>3</sup> AICP: American Institute of Certified Planners, <http://www.planning.org/AICP/>

## Other invitees

<i>Invitee</i>	<i>City or organization</i>	<i>Climate Protection Agreement</i>	<i>Cities for Climate Protection</i>
<a href="#">Paul Ward</a> Director of Planning and Zoning	<a href="#">Corsicana</a>	X	
<a href="#">Theresa O'Donnell</a> Director of Development Services	<a href="#">Dallas</a>	X	X
<a href="#">Alan Efrussy</a> Director of Planning	<a href="#">Fairview</a>	X	
<a href="#">Neil Montgomery</a> Managing Director of Development Services	<a href="#">Garland</a>	X	
<a href="#">Ron Stombaugh</a> Planning & Development Manager	<a href="#">Grapevine</a>		X
<a href="#">Mike Morgan</a> Development Manager	<a href="#">Hurst</a>	X	
<a href="#">John Webb</a> Director of Development Services	<a href="#">Richardson</a>	X	X
<a href="#">Eddie Edwards</a> Director of Planning & Development	<a href="#">Westlake</a> <sup>4</sup>	X	
<a href="#">Karen Walz</a> Project Manager	<a href="#">Vision North Texas</a>	---	---

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<sup>4</sup> See Appendix C.



Chapter 1—

## Introduction

# “Climate planning” in “climate leader” cities of North Central Texas

Jeff Howard

With the world population rapidly urbanizing, the city is emerging as a crucial front in addressing concern about accelerating destabilization of the global climate (Nature 2008). The concentrations of homes, offices, schools, stores, factories, vehicles, and landfills in urban areas are major contributors to climate change, directly and indirectly emitting large quantities of greenhouse gases. At the same time, these areas' exposure to the impacts of climate change in the coming decades—including heat waves, violent storms, drought, sea level rise, and disease—will place a large proportion of the world population at considerable risk (Grimm et al. 2008). However, the U.S. national political environment remains largely unfavorable to aggressive action to address climate: federal participation in international climate solutions has lagged (Selin and VanDever 2010); a well-organized contingent of skeptics has continued to press for further delay in serious U.S. engagement (Jacques, Dunlap, and Freeman 2008); and the issue has become a partisan football (Dunlap and McCright 2008). Despite the mounting urgency of responding to the climate threat at the local level, comparatively few American municipalities have undertaken systematic efforts to reduce urban emissions, even fewer to prepare to cope with climate havoc that is already “in the pipeline” (Wheeler 2008).<sup>1</sup>

Hundreds of American cities have joined the international program Cities for Climate Protection (CCP) or signed the U.S. Conference of Mayors Climate Protection Agreement (USCMCPA)<sup>2</sup>; but even among these municipalities, mitigation and adaptation programs commensurate with the magnitude of the threat appear to be few.

U.S. urban planning practitioners—as represented by their primary umbrella organization, the American Planning Association—are now mounting a high-level institutional response to the climate crisis (see APA 2008).<sup>3</sup> However, it remains to be seen how this response will manifest at the local level, where it confronts the economic and political forces that have made cities major contributors to climate change and that for decades have thwarted so many efforts at

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<sup>1</sup> For background, see Bulkeley and Betsill 2003, Portney 2003.

<sup>2</sup> CCP, <http://www.iclei.org/index.php?id=800>; USCMCPA, <http://usmayors.org/climateprotection/agreement.htm>.

<sup>3</sup> See also the special issue of *Planning*, the association's magazine, published in August/September 2007.

sensible urban planning, forces starkly reflected in the iconic landscape of sprawling urban areas designed to accommodate automobile-dependent growth and economic development propelled by the fossil fuel economy (Wheeler 2004).

To examine how this confrontation is playing out in the fast-growing, widely sprawling North Central Texas “Metroplex,” the School of Urban and Public Affairs at the University of Texas at Arlington hosted a day-long roundtable discussion on “climate planning” practice in the cities most visibly committed to climate action. The school invited the planning directors of the 17 municipalities that are members of CCP and/or signatories of the USCMCPA to designate members of their staffs to attend. Eleven of the directors agreed to do so, and in the end representatives of nine municipalities participated in the July 16, 2009, event:

Arlington	Denton	Frisco
Carrollton	Euless	McKinney
Coppell	Fort Worth	Plano

Not represented were:

Dallas	Garland	Richardson
Corsicana	Grapevine	Westlake
Fairview	Hurst	

The nine municipal representatives were joined by an administrator with the North Central Texas Council of Governments, a doctoral student in Urban Planning and Public Policy (Hurst), and an assistant professor of urban and public affairs (Howard).

The purpose of the discussion was to “to gain a clear understanding of the state of climate change mitigation and adaptation planning in Metroplex communities publicly committed to climate protection as well as fresh insights into corresponding opportunities and dilemmas.”<sup>4</sup>

Four major topics were addressed:

1. *Mitigation* – Urban areas increasingly are recognized as major contributors to global climate change – and as potentially key players in mitigating it. What actions are North Central Texas cities taking to reduce their greenhouse gas emissions? To what

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<sup>4</sup> Excerpted from the invitation letter. See Appendix A.

extent are these initiatives supported by residents and the business community, and what are the main obstacles to such support?

2. *Adaptation* – Historical emissions of greenhouse gases are already changing the climate, and to some extent further change is already inevitable. At the regional scale, climate change impacts may include significant changes in temperature, rainfall, and agricultural productivity; increased frequency of severe weather events; and public health challenges, including degraded air quality and exotic diseases such as malaria. Is the need for adaptation to these emerging realities recognized in current planning discussions in North Central Texas? How are cities preparing for these climatic effects?
3. *Coordinating mitigation with adaptation* – Efforts to mitigate climate change today will reduce the degree to which cities must adapt to the effects of climate change in the future. At the same time, the manner in which cities adapt to climate change may either help or hinder their ability to effectively engage in mitigation. Do our communities recognize this interdependence between mitigation and adaptation? To what extent, and in what ways, might a community's pursuit of one of these objectives impede its pursuit of the other? How can such conflict be minimized?
4. *Regional coordination* – How could coordination and collaboration between North Central Texas communities help the region meet the challenges of effective climate change planning? What mechanisms are needed, and what mechanisms are available? What are the obstacles?

This report has three aims. First, it is offered as a *contribution to the public dialogue on climate change in North Central Texas communities*. What are, can, and should municipal governments and their planning departments in the region be doing to address one of the major urban threats of the new millennium? Second, it is offered to *inform the thinking of the region's elected officials, municipal administrators, and leaders of commerce*. What kinds of development policies, politics, institutions, and practices can reasonably be viewed as responsible in an age of rapid global climate disruption? Third, it is offered as a *contribution to the academic planning literature*. What is the prospect for effective "climate planning" in a sprawling, rapidly growing metropolitan area in a politically conservative state with deep historical ties to the petroleum industry, legendary levels of energy consumption and carbon emissions, and widespread commitment to 20<sup>th</sup>-century models of development?

Chapters 2-6 consist of a transcript of a frank conversation among a dozen individuals over the course of more than five hours on July 16, 2009. The roundtable participants edited the transcript for clarity and accuracy. It is supplemented with a number of commentaries. Commentaries were invited from a range of individuals, several of whom submitted material for inclusion in the report:

Roundtable participants;

Planning directors in the other invited municipalities (see Appendix C);  
ICLEI Local Governments for Sustainability (sponsors of CCP; see Appendix B.2);  
U.S. Conference of Mayors;  
American Planning Association (see Appendix B.5);  
Urban Land Institute (see Appendix B.3);  
North Central Texas Council of Governments;  
Vision North Texas (see Appendix B.4);  
U.S. Environmental Protection Agency, Region 6;  
Public Citizen;  
Environmental Defense Fund; and  
State Rep. Lon Burnam (see Appendix B.1).<sup>5</sup>

Although some of the participants probably would disagree, at least in part (and in some cases disagreement is visible in the transcript itself), from the perspective of this report's editors several themes stand out in the conversation recorded in Chapters 2-6:

***Dominance of economic concerns*** – The participants indicated, both explicitly and implicitly, that their cities' day-to-day and long-term decision making on issues that have a direct bearing on climate change continue to be dominated by economic considerations – by the assumption that economic growth in the short or medium term must have priority and that environmental initiatives must not be perceived to infringe upon the traditional prerogatives of developers or traditional understandings of the rights of property owners. It seems that in these communities climate change, despite its enormous implications for public health and welfare and for the economy, both locally and globally, has not yet interrupted the political-economic assumptions on which the sprawling, carbon emission-intensive development of North Central Texas has been based.

***Little traction on climate change mitigation*** – Despite their participation in national and/or international programs aimed at sharply reducing urban emissions of greenhouse gases by government, business, and residents, the municipalities generally appear to have made little tangible progress in systematically developing initiatives capable of achieving these goals *beyond the confines of municipal operations themselves*. A notable exception is the City of Denton, whose municipally owned utility is now purchasing enough wind-generated electricity to supply 40 percent of the power consumed in the community as a whole (Brown 2009).

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<sup>5</sup> Burnam, representing District 90 (Fort Worth), is an alumnus of UT Arlington's City and Regional Planning program, a former city planner, and one of the Texas Legislature's strongest proponents of effective climate change mitigation and adaptation.

**Reluctance to talk publicly about climate change** – Most of the participants indicated that the sensitive character of the climate change issue in their politically conservative communities makes them and their colleagues reluctant to explicitly address the topic in their daily work, for example, in conversations with the public and presentations to their city councils. To the extent that the municipalities’ numerous environmental initiatives address climate issues, they usually do so indirectly, under the rubric of “sustainability” or via efforts to address air quality, the “urban heat island,” or public health. It appears that even in these “climate progressive” cities, municipal planners generally do not feel they have the political latitude to firmly commit themselves to educating the public, public servants, and business leaders on climate issues and to openly advocating aggressive policies on climate. At the same time, it is worth noting that the participants fairly often brought into the conversation a wide range of “sustainability” initiatives that have little or no direct bearing on climate change, as if to imply that the broader rubric somehow renders it unnecessary to attend specifically to climate concerns.

**Little attention to climate change adaptation** – Preparations for coping with significant changes in precipitation, temperature, storm intensity, disease vectors, and population dislocation have scarcely made an appearance on the municipalities’ agendas yet. Nor has the need to prevent adaptation initiatives (when they are eventually undertaken) from undermining already inadequate mitigation efforts (cf. Howard 2009).

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Chapter 2—

## Mitigation of climate change

*Urban areas increasingly are recognized as major contributors to global climate change – and as potentially key players in mitigating it. What actions are North Central Texas cities taking to reduce their greenhouse gas emissions? To what extent are these initiatives supported by residents and the business community, and what are the main obstacles to such support?*

**Howard:** Please say a few words about how you are addressing climate change within your municipalities or organizations.

...

**Gray:** The City of Fort Worth has established a sustainability taskforce<sup>1</sup> through a resolution of the mayor. We're looking at creating a sustainability plan for the city; we don't have one today. The City of Fort Worth has a whole lot of different initiatives that cover sustainability, but they're not very well coordinated, and they're not under one umbrella today. We're looking at trying to repair that, if you will.

**Boomsma:** Arlington is actually doing quite a bit. We're reducing our greenhouse gas emissions and moving toward a more sustainable city. We've adopted a baseline inventory and forecast.<sup>2</sup> We have emissions reduction standards and now we have an action plan that has several steps that we are working on—or will be working on in the future.

**Promise:** The North Central Texas Council of Governments is the comprehensive planning organization for the region. This topic finds its way into many elements of the work that we're doing: energy codes, coordination with metropolitan transportation planning. This afternoon when we talk about regional coordination I'll have more to seek from you and talk about. I will also be updating you on Vision North Texas, the nature of that partnership, the scenarios that we're looking at, and the kind of support that we continue to seek from you and others to really evaluate what the region is going to look like in 2050.

**Haas:** The city of Plano has several programs to address these issues, and I can only speak of what Development Services is doing. We're mainly gearing our efforts towards preservation of the environment and watershed development protection. That's what I'm here for.

**Steer:** In Coppell about a year ago, we formed a sustainability committee. At that time it comprised the city manager's office and only a few departments, and has since grown. It seems like every month we've added a department to it. I think by now we've covered each

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<sup>1</sup> See <http://www.fortworthgov.org/sustainability/default.aspx?id=63296>.

<sup>2</sup> See <http://www.ci.arlington.tx.us/environmentalservices/pdf/CarbonFootprintReport.pdf>.

department in the city. We have a large conference room that we meet in. We have done several things and formed several initiatives. As far as the topic of adaptation goes, our group has not addressed it as of yet. I believe that we'll have a "green team" retreat coming up in August in which we're going to focus on adaptation.

5:00

**Barton:** Unfortunately, I have not been involved in green planning or energy efficiency, so I may not be the right person to even be at this meeting. I *do* know that our City Council has expressed significant interest in this topic in the past and that Carrollton has taken some, in my view, sort of disorganized steps toward establishing some goals and taking some steps. For example, we've adopted the 2006 energy code,<sup>3</sup> which to my understanding has baseline requirements for new development of 16 percent of base. We're looking to adopting the 2009 energy code for new construction later this year or early next year. We've done things like— We bought a Prius. <laughter in the room> That's one of the most visible things that citizens can see: the Prius driving around with the code enforcement people in it. It seems like our Council is very interested in things such as water quality. We have a number of creeks running through Carrollton most, of which ... we've developed over time as nice hike-and-bike trail/greenbelt-type things. Our citizenry is very interested in the greenbelt, the wildlife, water quality. Energy conservation is always an issue. We're always looking for ways to cut energy expenses. But I'm here basically to learn more about the entire topic.

**Smith:** I think that McKinney may be a smaller version of Fort Worth. I've only been there for six months. I was hired because they wanted to create that "umbrella" that you're describing to try to coordinate all the environmental efforts that were going on across the city. We, in my opinion, have a huge advantage in that our city manager is relatively new—he's only been here for just over a year—and he comes from Aurora, Colorado, which has a very different perspective on how one manages your city in terms of sustainability, *and* he has an economic development background, which is a super-great combination. Our office is brand new, and our initiative is brand new. The first challenge is convincing departments that I'm not coming in to tell you how to run your department or what to do, but trying to coordinate those efforts. I don't know if you're running into that at all. I think that the first thing you have to do is to make everyone comfortable. I've approached it somewhat like you have in Coppell. I have a "green team," and I require that there be a person from every department on it. One of the most interesting departments that's on that and has been extremely helpful has been Purchasing. I think we overlook our purchasing [unintelligible], and she's been a *huge* help in shifting toward a higher percentage of recycled paper in our products and all those things that I call "the low hanging fruit": change you light bulbs out and that type of stuff. She's been really helpful there.

... I just can't tell you how thrilled I am ... that *finally* we're talking about climate change. When I was hired just six months ago ... I was told, "Don't use the term *climate change* here in the North Texas area. You know, the science is still out on that." I just wanted to shoot myself! I teach a climate change course at The University of North Texas and also an environmental law

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<sup>3</sup> Refers to the 2006 International Energy Conservation Code. See <http://www.iccsafe.org>.



and quality course there, and the science is so not out. It's really great to be here in this forum. It's interesting to me that everybody except me—I'm an environmental attorney by trade—are planners. I was asking some people earlier, "Are you working with those environmental offices in your city?" I think this gets to the dissertation question, how the process is working [referring to Hurst's doctoral research on how planners are addressing climate change. That is so critical! We are really lucky. Our long-range planner is Kevin Staff. I don't know if you know Kevin or not, but he is extremely "green" and extremely well self-educated about green issues. He comes with a sociology background before he went into planning. Also a huge help.

I think the neat thing about McKinney is that the initiative there was driven by the business community, which is also odd and wonderful, because usually the business community goes kicking and screaming, right? ... In McKinney we had several LEED buildings, none of which the city built, I'm sorry to say ... . Pat Lobb's Toyota<sup>4</sup> was the first LEED-certified Toyota dealership, and we have people from all over the world come to look at it because now Toyota requires that their dealerships be built to LEED certification standards, courtesy of that dealership. I think that there's now one in Rowlett that's now the next level up in terms of LEED. We have a Wal-Mart. We have several bank buildings. It's very interesting that in the city before I was hired, those businesses came to the city and said, "Where is your sustainability program?" ...

10:00

So I was hired with the task of developing a sustainability strategy. I'm going to try to leverage ... our block grant [EECBG<sup>5</sup>] money into developing an energy strategy. I don't care what the label is—whatever makes DOE happy, that's fine—but what I really want it to be is that comprehensive, sustainable plan. So I'm very interested in your carbon footprint work that you've done in Arlington, because want to follow suit. I hope to get a chance to talk about what kind of initiatives cities are taking under these block grants, because it gives you some money to do some stuff that you wouldn't otherwise be able to convince the Council to do ... .

**Howard:** Money always helps.

**Smith:** Money is a *huge* help, yes. It certainly is. I can't believe it took us years and years and years to get here, but here we are! ... I really appreciate the invitation. ...

**Cook:** With Euless, it's been in small steps. One of the biggest initiatives—the city is really built-out ... —is we are really working hard with our fleet services to make sure that our vehicles are extremely fuel-efficient, use alternative fuels—CNG<sup>6</sup>—and looking, not only for the environment's sake but for cost savings, to fit the vehicle to the job for which it is being utilized. Lots of code enforcement officers are going out in large trucks. We're trying to be much more efficient in that regard through our fleet services. I think that there's a lot of challenge to the

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<sup>4</sup> Pat Lobb Toyota of McKinney, which hails itself as "America's First Green Dealership," <http://patlobbttoyota.com/Default.aspx>.

<sup>5</sup> The U.S. Department of Energy's Energy Efficiency and Conservation Block Grant (EECBG) program. See <http://www.eecbg.energy.gov/>.

<sup>6</sup> Compressed Natural Gas.

City of Euless right now from looking at the environmental questions, particularly in using different materials. One of the initiatives that the city has looked at is the opportunity for using “green cement”<sup>7</sup> ... . Unfortunately, one of the things that we’re finding is that the length of time and costs involved with green cement is going to be as—[It’s not a wash with utilizing conventional cement]. We’re trying to find ways to be green, but also economical as well. In a period of time where it’s difficult to find things that are—[It’s a balance between finance and value. The final part of it is—something that maybe we can talk about a little bit is urban gas well drilling. With urban gas well drilling, it is an ethical problem and issue. Now that we’ve finally found good research out that says, “Yeah, we’re causing considerable amounts of emissions from gas well drilling,” what can cities do that have to process the applications for gas well permits? What kinds of requirements that we might be able to look at? Hopefully, with our new ordinance that we’re requiring much more stringent capture of waste gases ... put into place prior to the drilling so that you don’t have that need for flaring and other kinds of emissions.

**[Unidentified]:** Are you doing a closed-loop system<sup>8</sup> as well?

**Cook:** Absolutely. Also we’re looking at requiring that you have special cases to be able to have frac ponds.<sup>9</sup> We’re lucky to be able to ... piggy-back on a lot of the research Fort Worth has done and ... some of the things that we’re seeing from ... around the country. ...

**Walker:** In Frisco, I think ... we’re in a unique situation. Even though we’re 100 years old—an old rail community—we wouldn’t be where we are without the unsustainable sprawl that has characterized growth in the region <laughter in the room>. Recognizing that, we’ve got tons of people coming our way, and I think that city as a whole wants to try to come up with ways—whether through economic development or other initiatives—to keep people there so they don’t have to leave the city for other services or for employment, that they can age in-place. A lot of what I’ll speak to today is from the planning department or the development services department, some of the initiatives that we’re doing through our comprehensive plan, sustainable compact development, transit options. In spite of what is *not* happening down in Austin for funding options,<sup>10</sup> we’re still really trying to find a way to fund commuter rail on our existing rail lines. A lot of our comprehensive plan deals with environmental protection of riparian corridors, wetlands, and things like that. We’ve got a lot of unique areas to the north side of the city that aren’t developed that are really worth keeping.

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<sup>7</sup> See <http://www.dfwnetmall.com/green-building/green-cement.htm>.

<sup>8</sup> See Sue Smith-Heavenrich, “Drilling for Gas: Closed Loop System Offers Alternative to Waste Pits,” *Broader View Weekly*, October 3, 2008: [http://www.tiogagaslease.org/images/BVW\\_10\\_03\\_08.pdf](http://www.tiogagaslease.org/images/BVW_10_03_08.pdf).

<sup>9</sup> On-site pond for storage of water to be injected into wells under high pressure to fracture deep strata and release natural gas.

<sup>10</sup> See Gordon Dickinson, “Cities must now look elsewhere for rail funds,” *Fort Worth Star-Telegram*, June 2, 2009, B01.

15:00

Some of the things that the planning department has done to try to get everybody on board with sustainable and compact development—Recently, our City Council held a two-day workshop. My director and I did a development charrette with them similar to the Vision North Texas<sup>11</sup> charrette with the Legos, and let them pick parts of the city that if they were planners themselves, what would they—Let them run with it and help them through the “vision thing.” It was really successful and got them really involved. We’re hoping, as we progress and we bring things forward that they’re familiar with it now and it’s not something that’s scary and new, but “Oh, yeah! It’s like the Legos project we did.”

**Smith:** I suspect that an added bonus from that is that they gain a respect for staff.

**Walker:** Yes.<sup>12</sup>

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**Howard:** Thank you. Let’s get our first question underway, concerning mitigation. The broad questions are: What are our cities doing or planning to do to reduce greenhouse gas emissions? To what extent are these initiatives supported by residents and the business community? And what are the obstacles to getting that kind of support from the public, from the commercial sector?

Let me first define *mitigation* very clearly. During this hour we want to talk primarily about efforts to reduce emissions—not get ready for climate change that’s coming or how are we going to survive and thrive in the face of reduced water and so forth. That’s for the next hour. This hour is: what are we doing to reduce emissions? If you said some things in your introductory remarks that are germane to mitigation, don’t be hesitant to repeat that stuff. For the purposes of the transcript, we’d like as much as possible for all the stuff about mitigation to be referenced in this hour. ...

**Boomsma:** I’ll start and talk about a couple of the different things we are doing within the city of Arlington that could either reduce our carbon footprint or—I may not know the details of some of these programs because I am not the environmental services director, but the planning department is somewhat involved. We recently passed a vehicle idling ordinance that restricts city vehicles from idling. We have a lawnmower exchange program where you can bring in your gas-powered lawnmower and ... get a coupon for an electric lawnmower.

**Smith:** ... There is some debate over how much carbon emissions this saves over time. Do you have any data? ... We’re looking at that program; that’s the only reason I ask.

**Boomsma:** I’m sure we do; I just don’t have that. We recently had a commuter bus pilot program. You know that Arlington is somewhat lacking in our public transportation

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<sup>11</sup> A regional growth planning initiative for the North Central Texas planning region. See [www.visionnorthtexas.org](http://www.visionnorthtexas.org).

<sup>12</sup> For Barnett’s introductory remarks, see the first few minutes of the transcript in Chapter 4..

capabilities,<sup>13</sup> so we instituted bus service to the two Trinity Railway Express rail stops. It seems to be working really well. We recently approved some new residential design standards in that we've decreased our minimum dwelling unit size. It used to be 1,500 square feet; it's now 1,000 square feet. We all know that smaller houses are more energy efficient. We also have some clustering provisions in there, too. We have a Green Policy Council that meets once a month and talks about any sustainability issues.<sup>14</sup> We're currently playing a game called "Carbon Count" where ... you get points for walking to lunch, carpooling, riding your bike, and changing your light bulbs.

20:00

**Howard:** This is for municipal employees?

**Boomsma:** ... For the entire city. Every month we give away ten prizes, like gift cards to Target. It's really an incentive for employees to track what they're doing. It educates them, too, because maybe they didn't know that they should shut off their outside lights by 9 p.m. ... .

We're trying to encourage green buildings. We have three LEED APs<sup>15</sup> on our staff ... . We've got three new design projects right now, and with the Cowboys Stadium coming in we've seen a different level of—I guess people are more accepting. The kind of developers we're getting in the city now — something that Arlington may not have gotten before—are a little more savvy, a little more knowledgeable about LEED-certified buildings.

**Hurst:** So, the billion dollars that will have been spent on the Dallas Cowboys stadium will actually be a *green* investment?

**Boomsma:** We'll, we're hoping that some of it goes that way. We're trying to encourage it.

**Promise:** Being an Arlington resident— What are the three LEED projects?

**Boomsma:** I will have to get you a list of those.

**Smith:** I don't know if you were listening to NPR or not, but Sears Tower in Chicago is becoming energy efficient and they're having to order 16,000 new windows. <laughter in the room>

...

**Boomsma:** We're working with HUD<sup>16</sup> to do a green home program for low-income residents. We are using LED<sup>17</sup> lights for our street lights; we try to change them out when they need

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<sup>13</sup> Arlington is one of the largest cities in the country without a comprehensive mass transit system.

<sup>14</sup> See [http://www.ci.arlington.tx.us/environmentalservices/environmental\\_greenpolicycouncil.html](http://www.ci.arlington.tx.us/environmentalservices/environmental_greenpolicycouncil.html).

<sup>15</sup> Leadership in Energy and Environmental Design (LEED) Accredited Professionals. See <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1815>.

<sup>16</sup> U.S. Department of Housing and Urban Development.

<sup>17</sup> Energy-efficient Light-Emitting Diode.

replacement. We have a Street Lights Out Program; we're actually turning some of the street lights out ...<sup>18</sup>

**Hurst:** How's crime in those areas?

**Smith:** They turn off in rolling—

**Hurst:** It raises an interesting question. When cities create these initiatives and do this implementation, are you measuring the effects on whatever your goals are?

**Boomsma:** That's why we do have that carbon footprint baseline analysis because we can measure everything in the future against what we were doing and see progress.

**Hurst:** The question of metrics, in general, is one that I think is essential as we go along. If we say we're mitigating, we're not unless we can measure it. Remember the statement, "If you can't measure it, you can't manage it."

**Smith:** Maybe the disconnect here is that they're doing that in terms of energy usage and those types of things—kilowatt hours—

**Hurst:** As opposed to individual projects?

**Smith:** ... When we look at it, we do it with individual projects. But, your question about crime, for instance, is one that ——Now we would, but that was a great example of where had we had *anticipated* that issue. But some of the metrics you develop as you go along. ... If you have a Prius, you begin to get fixated on the electronic data display screen showing your fuel economy. You come into an intersection slowly and you exit slowly because you're trying so hard not to touch that fuel tank. When you go and drive your wife's minivan to the soccer field, you're doing the same thing even though it's not a hybrid. One of the plusses to the Prius that was not anticipated was that the mileage went up in conventional, non-hybrid vehicles, which also means a reduction in— So, some of that is really hard to anticipate. But how much does it cost us for light bulbs, how much does it cost us for utility bills? I think that's pretty easy to track.

**Promise:** I think that several folks in the room may know it, but all may not know, that there are certain requirements from the state in terms of reporting and tracking municipal energy use and targets/requirements to achieve a 5 percent reduction annually.<sup>19</sup> Depending on the community, it would range from very detailed reporting and tracking to, probably, a little less so. That's an example of the kind of metric ... to see how our communities are performing collectively and what is the variation, perhaps, in the region.

**Howard:** That's 5 percent per year over five years? Six years?

25:00

**Smith:** We're fairly far into that now, aren't we?

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<sup>18</sup> See <http://www.ci.arlington.tx.us/earlington/2009/090601/index.html>.

<sup>19</sup> H.B. 3693, <http://www.capitol.state.tx.us/tlodocs/80R/billtext/pdf/HB03693F.pdf>, which was signed into law in June 2007.

**Promise:** Yes, we're fairly far into it. The requirements/targets—You get different interpretations from different people. But there are some things that are causing local governments to collectively look at their local energy use much more extensively than they have before. ...

Some of you are aware that Oncor<sup>20</sup> and others are under PUC<sup>21</sup> requirements to put remote monitoring into virtually every structure in North Central Texas ... So, within several years, there will be data collected on the energy consumption of every structure. How much of that will be public, how much of that will be accessible, how much of that can be used, are questions that we and others have been asking, but there are technology advances that are very graphically going to—Kent, since you're doing research, what now, what in the future, what does it mean for ... three, four, five million structures all to have individual monitoring of their energy consumption on a real-time basis? How could policy people and others use that to frame a dialog on what the targets are and reporting real reductions and targeting different sectors? My point is that it technologically raises lots of policy issues on privacy invasion—

**Smith:** I was at a "smart grid" meeting in Richardson ... One of the things Oncor would very much like to be able to do—and other major utility companies—is to not only do that with large building—something that John is talking about—but also with your home. One of the reasons they want to do it is to shave that peak demand off. Our four o'clock, five o'clock, six o'clock energy demand. They can go in and turn your refrigerator up a couple of degrees. They want the ability to be able to do this. Of course, the huge issue is, "Hey, man! That's my house! I don't want you in there!" Of course, their reply is, "OK, well, we can just pull the grid down then." In the last two weeks we've broken records within ten days of one another in terms of megawatt usage here in Texas. They have got to get hold of the grid to manage or we won't be able to do anything in terms of generation.

**Hurst:** My larger issue is that the whole issue of sustainability and climate protection calls on cities and city administrators and planners, in particular, to think creatively about the impact of what they do and how the initiatives they undertake may affect their end-goals. I think it goes past just measuring energy consumption and the usual, easy things to measure, to the downstream effects of what we do.

...

**Boomsma:** [continuing her description of Arlington's mitigation efforts] We're working on increasing the number of linear parks we have, and we also have the Tierra Verde, Audubon-certified, golf course in south Arlington, a big deal for the city. ... We're working on a bike-and-walk plan.

**Howard:** What's the bike-and-walk plan?

**Boomsma:** Just bike and pedestrian routes throughout the city. Some of ours are kind of disjointed, so we'd like to make it possible for people to walk or bike to ... points of interest. ...

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<sup>20</sup> Electricity infrastructure provider for much of North Central Texas.

<sup>21</sup> Public Utility Commission of Texas.

We're in a big neighborhood planning effort right now, reaching out to communities, doing neighborhood plans, and educating the residents. When we do this neighborhood planning process they can learn about waste management, their recycling options, things that will help reduce their emissions.

...

**Smith:** How many of us have passed idling ordinances, because I think a bunch of us have?

**Howard:** It's done mostly as an air quality measure, correct?

**Smith:** Right, but those same emissions contribute to climate change ... If we get hold of climate change, we get hold of everything. We get hold of air and water problems ... all of it.

30:00

**Howard:** That's one of the important things about climate change mitigation efforts: they almost always improve something else, as well. Water use or air quality problems? They're all connected with climate change.

**Smith:** I think that there were a few of us that did the Lights Out event.<sup>22</sup> Didn't Arlington do Lights Out?

**Boomsma:** Yes.

**Smith:** I don't remember. I don't think that Fort Worth did.

**Steer:** Coppel did it.

...

**Howard** [to Smith]: Tell us briefly what it is.

**Smith:** It's an event that started in Australia. I'm sure we've all seen that picture of the globe at night. It's extremely embarrassing when you look at where the brightest lights are. ... It's mainly an awareness event to try to make people aware how much we use in terms of light that we don't need. ... In McKinney this was the first year we did it. Our facilities guys stayed up and went to all our buildings and could not *believe* how many extra lights were on that we didn't need. So they have totally changed some of their plans in terms of energy efficiency things that we do, like motion detectors and whatnot. So, that agenda got changed a little bit based on that event because ... the city is supposed to be setting the example, right? And which building do you think left the most lights on? I'm not kidding. It was Development Services. More lights than anybody, and *nobody in the building!* ... I was just curious as to what your response was. Ours was really positive. People want to do it next year. The businesses on the square—the restaurants had dinner by candle light—they really liked doing it. I just wondered if other people had similar experiences.

**Steer:** In Coppel what we did was send out an e-mail to all department saying, "Hey! Turn off your lights." That was pretty much it.

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<sup>22</sup> Earth Hour 2009, <http://www.earthhour.org>.

**Smith:** We posted what would be considered “bandit signs,”<sup>23</sup> which we had collected, so those are freebies. You collect the bandit signs; and if they don’t show up to get them, they’re yours. We didn’t put a date on them, so we can reuse them again next year. And we post them in front of all the HOAs with a Web site address on them, and so people were calling: “Hey! How do you do this?” There were HOAs<sup>24</sup> having “Bring Your Beer and Your Flashlight” parties. It was funny. It really took off.

**Howard:** Did it get any traction in other cities?

**Smith:** ... Dallas was the leader.

**Howard:** Theresa O’Donnell is not here. She is supposed to come. As a point of reference, we’re also missing Katherine Barnett ...

**Smith:** ... She’ll be walking in here any minute.

**Howard:** Two other people missing: Eddie Edwards of Westlake indicated that he might not be able to come. And Karen Walz of Vision North Texas should be here at some point.

**Steer:** I can go through what the City of Coppell is doing just really quick. A lot of the same things that Arlington is doing. We’re performing numerous facility retrofits. The city, for its government facilities, purchases half of its electricity from renewable energy sources. That’s pretty significant. I believe it’s specifically wind energy. ... But there aren’t any wind farms in Coppell, so it’s probably purchased from elsewhere in Texas. We are working towards a LEED rating of Gold for the Grapevine Springs Community Center. It is currently under construction. Other facility retrofits and green initiatives—

35:00

I’ve listed those out and I can provide those this afternoon for the paper. Fleet green initiatives: We’ve purchased hybrids. About 10 percent of our fleet is hybrids. Right now we have about 136 on-road vehicles; I guess 11 percent would be hybrid. We have a strict no-idle policy. A clean fleet ordinance was passed in 2006. I don’t have specifics with me. We are doing an EMS<sup>25</sup> right now for our service center, and we do have one in the works for our aquatics and recreation center.

**Smith:** You do this facility-by-facility as opposed to a city-wide operation?

**Steer:** Correct.

**Hurst:** How did you determine what your targets would be – which buildings would be your highest priority?

**Steer:** Well, the service center was the first. We figured we could tackle a great deal of subjects because the storage of vehicles, equipment, and chemicals is in our service center.

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<sup>23</sup> Illegal commercial signs posted in a public area. See <http://www.wordspy.com/words/banditsign.asp>.

<sup>24</sup> Homeowner associations.

<sup>25</sup> Environmental Management System. See <http://www.epa.gov/ems/>.



Because we received a grant, we had a consultant help us with that. It turns out that it was a lot larger project than we had thought initially. For the aquatics and recreation center, we're going through UT Arlington for assistance. We do have an EMS core team that was formed within our green team that has gained valuable knowledge of the service center, and they are the ones going on to perform the EMS on the aquatics and recreation center. Because they're all familiar with the process, they can get this one performed a little quicker and bring some other people in during the process to get them trained. Eventually, we can tackle numerous city facilities all at once.

**Howard:** Would you define "EMS"?

**Steer:** Environmental Management System. That's a process where you first do a "fenceline" analysis, which defines various environmental problems within a facility. And then you identify the procedures currently in place, correct those procedures that are wrong and establish new regulations and procedures where needed. Then continuously educate staff how to follow these. That's the extent of what I know about it.

**Smith:** You come back to the benchmarking tool for any facility, so you can identify not only what's wrong but what you did right. All operations in that city in that particular—

**Steer:** You mean the accountability of—

**Smith:** Yes. Dallas probably holds the medal for doing EMS in the Metroplex ... The idea is that when somebody walks in and says, "You've been negligent here in complying with a particular state or federal standard," you can say, "We had an EMS in place" and that's a huge mitigating factor ... .

**Hurst:** Do any other cities have any large, over-arching frameworks which they've adopted, such as ISO<sup>26</sup> process control or quality assurance?

...

**Boomsma:** I think only Dallas.

**Promise:** Dallas has gone through all of that to the full—

**Steer:** Once we do get our Clean Texas<sup>27</sup> certification we will seek an ISO certification, as well, because they pretty much go hand in hand. Once you get the EMS, you pretty much qualify for the ISO.

**Promise:** Kent, we are doing some things with some communities—particularly related to their storm water programs— ... specifically on that topic.

**Steer:** In Coppell we've also established a purchasing policy. All of our paper is 50 percent recycled, and we negotiated a contract with the vendor to get it at the same rate, so it's a win-win solution there. Community outreach—

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<sup>26</sup> International Organization for Standardization. ISO 14001:2004 is an environmental management systems standard. See <http://www.iso.org>.

<sup>27</sup> See <http://www.tceq.state.tx.us/assistance/cleantexas/cleantexas.html>.

**Smith:** Can I have that vendor name?

40:00

**Steer:** I have no idea. I can check into that for you. Community outreach and education: We did the Clean Coppell/Earthfest in 2008, and we educated people on what we're doing and where the examples are so they can go do the same at home. We have a wildflower seeding program. Coppell Community Gardens was established in 1998. We have held rain harvesting classes and given compost and organic gardening demonstrations.

**Hurst:** Could you expand on the subject of the community garden?

**Steer:** We've got two community garden locations, one at City Hall. They teach how to garden, how to farm your own produce. Ten thousand pounds have been donated annually to the food pantry. That's kind of a good deed that the city's doing as well.

**Smith:** Are there master gardeners involved in that?

**Steer:** Yes, I believe so. We do have a farmers market that was established in 2003. Right now we're planning a permanent home for the farmers market. Right now it's at a temporary location even though it's been there since 2003. We're designing a pavilion with more shade, electric hook-ups for the farmers. With a farmers market, you have a local food source for the community—less food transportation, less emissions, of course sustainable local farms. We have a school recycling program and outdoor learning events. Two elementary schools and three middle schools are involved in that. Coppell Nature Park, a 78-acre nature preserve. We've got a 2030 vision—

**Smith:** Can I ask you about the 78-acre nature preserve? Do they have a wildlife habitat plan and all that?

**Steer:** I think it's undisturbed. That's really all I know.

... We just went through a visioning process for our 2030 plan. We wanted to adopt building standards that include green concepts and methods for construction and development. Objectives include becoming a model green community, creating best practices, incorporating xeriscape<sup>28</sup> concepts in landscape design. ... We do have recycle programs, waste reduction. Recently, we sent out big, tall, blue recycling containers to every household in the city. We've seen a 53 percent recycling bin set-out rate; a 45 percent yard-trimmings recycling bin set-out rate; an 11 percent rate of diversion from the landfill. City-wide we've seen a 63 percent rate of diversion from landfill. And we have a paper bin recycling rebate; the proceeds from that go to the City of Coppell Employee Fund. We actually throw parties with that money. <laughter in the room>

...

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<sup>28</sup> "Landscaping and gardening in ways that reduce or eliminate the need for supplemental irrigation."

<http://en.wikipedia.org/wiki/Xeriscaping>.

**Hurst:** Does anybody have a multifamily recycling ordinance for multifamily residential buildings, or is anyone considering one?

**Barnett:** Yeah. We're looking at doing one now.

**Smith:** The only thing about Denton is that they own their own landfill, so you have a lot of control over that.

**Hurst:** Katherine, you have mandated that for all multifamily, or only those of a certain size?

**Barnett:** For a certain size. The larger complexes have recycling sites, but some of the smaller four- or eight-unit—We have so many multifamily units of so many different sizes.

45:00

**Howard:** How about commercial recycling?

**Boomsma:** We are trying to expand our commercial recycling program. It's not mandatory at this point, but we have someone ... on the recycling staff now dedicated to trying to get commercial customers. ...

**Smith:** The problem with the Frisco-Allen-McKinney group of cities is that we're tied into the North Texas Municipal Water District landfill, and Pippa<sup>29</sup>, to her credit, has tried to get them to put a construction recycling facility at the transfer station. We struggle to get that done, ... because they're OK with landfilling it. It's a very shortsighted business plan, and we don't seem to be able to impress upon them how shortsighted it is. (But then, of course, North Texas was the last water supplier to add ozone treatment, and that's only because the state made them. It's kind of an archaic board we're working with, frankly.)

**Howard:** Any other commercial recycling? Fort Worth?

**Gray:** No.

**Haas:** Plano is voluntary.

...

**Smith:** You can imagine—If you think about all these cities and the fact that we're not really aggressively recycling construction waste—Even with the economic slowdown, construction waste is a huge component of the waste stream.

**Gray?:** The problem with construction waste is the market for it. We can't get people to collect it and haul it because there's no market for it. If we could create a market, it would go a long way.

**Smith:** I think Plano was trying to do that over this weekend, applying for a grant for a biomass plant to burn it, which would be a market for it. ... I wonder if we're not sitting on a recycling bubble. I just keep waiting for that to bottom out because recycling is so fuel-cost dependent.

**Hurst:** How is the economy affecting your mitigation initiatives, the commitment your cities have shown? Do you find that it's waning in light of budget pressures?

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<sup>29</sup> Pippa Couvillion, Environmental Services Manager, City of Frisco.

**Cook:** The City of Euless has just decided—after ten years working at this program—... to tie into a Fort Worth program to provide effluent water to Texas Star Golf Course, which is our primary recreation investment that the city has done in addition to our ... neighborhood parks program. For years, the city has had a fairly low cost for irrigation ... for the site, and it's actually going to cost the city *more* to utilize the effluent water from the City of Fort Worth, but it was a value judgment by the City Council to go with this program because they felt it was important to not use primary source water for irrigation of the golf course – and look at ways of being much more efficient with that and utilizing post-effluent water that was just going into the Trinity River.

**Hurst:** We're talking potable versus grey?

**Cook:** Actually, post-treatment effluent is water that would have gone into the Trinity, ... but instead ... is being utilized for irrigation, instead of using energy to make it potable and using potable water at the golf course. They're looking at all our sprinklers ... to utilize that water as efficiently as possible. It's going to be a fairly sizeable investment on the city's part.

**Hurst:** To be clear here, one of the largest energy consumers in any municipality is the water treatment process.

**Promise:** And pumping and conveyance.

**Hurst:** What Stephen is getting at is that it has direct impact on emissions through reduced energy consumption.

50:00

**Smith:** ... Our initial political reaction to the economic downturn was: "We're not going to be able to green as fast." And then we started looking at it—I insist on doing an ROI<sup>30</sup> on every building. If you're going to build it plain, if you're going to LEED, I want an ROI. These buildings are designed to last between 30 and 50 years, and all you have to do is do an ROI and by year five to ten you pay almost everything off unless you have a huge photovoltaic array (and you can pay that off in thirty). It is quickly turning around, because we are finally—and it's a culture shift—getting people to look past the next quarterly report.

**Boomsma?:** It really is. It's a fight to justify an expenditure ... right now that's not going to pay for itself in a year. It's really a much more difficult proposition.

**Howard:** Harder now than a year ago.

**Boomsma?:** Yes.

**Smith:** But the beautiful thing is that, because everybody is having to pump their own gas and watch the prices at the pump, there's a sensitivity that it doesn't take much—"Here's what we're paying in electric, right here. Here's what we're going to pay if we don't do anything. Here's what we're going to pay if we do." They're beginning to be interested in that. To me, ... to get that solved, you really have to push that energy payback over time, because energy is not

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<sup>30</sup> Return-on-Investment analysis.

going down. It is not. It will only go up. You can find all sorts of very concerted economic studies that support that; and I suggest you use them, because they'll be responsive to that.

**Howard:** And that's even without cap-and-trade coming into the picture?

**Smith:** And I keep saying that! We're going to have a cap-and-trade program! It's just a matter of what it's going to look like.

**Howard:** But even without that, the prices are going up.

**Smith:** Oh, yeah.

**Barton:** That's been the case in Carrollton. Our Council has always been very supportive of long-term savings. Now the challenge is: do we have the money *this* year to start that process? It's become a little more difficult, but for the past several years our Council has been very supportive of "Yeah, it's going to cost more up front, but in the long-term—ten years—we'll get a payback."

**Smith:** Hold onto that council!

**Barnett:** I think that cost-benefit part is really the most difficult part not only dealing with councils, but dealing with developers and engineers, because a lot of them are doing spec buildings.<sup>31</sup> To them, the long-range payoff is of no value ... . They want to know what they can lease it for, sell it for, today. The cost-benefit analysis as we move forward is going to be the most important piece to convince these people that requiring them to build to LEED standards is going to be of value to them.

**Howard:** For some people, it means you have to convince them they can recoup that green value later when they re-sell.

**Barnett:** And in North Texas, today, you almost really can't. The market's not there today to do that. In some locations—California and the West Coast—they can do that and they can show that there's an advantage to that. But in North Texas, right now, the base is just not there. We don't have the market awareness just yet.

**Hurst:** So is it more the *political* will or the *economic* will that is impeding faster progress?

**Boomsma:** I think it's economic.

<verbal agreement from several people>

**Barton:** In Plano we have two LEED buildings, very nice, and it all has to do with the economics of the situation.

**Smith:** You have to separate out [unintelligible]. ... For instance, Pat Lobb or Wal-Mart, those kind of buildings ... Pat Lobb's ROI—he would only do it if he could get a return on investment in five years, and Toyota wouldn't fund any of his efforts. Now that he is successful, they require everybody to do it that way. He's actually going to have an ROI of three years, because the energy went up. He built before the economy collapsed and the energy cost went up, so his ROI is almost half what he had forecasted. At the same time we have two beautiful LEED office

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<sup>31</sup> Buildings constructed for sale on the open market (speculation) rather than for a specific client.

buildings that are pretty much empty. So you have to keep in mind that there are different things going on.

**Haas:** What's "ROI?"

**Smith:** I'm sorry. "Return on investment."

**Howard:** It's a formal calculation for what the pay-back period is.

**Smith:** And that is the first question you'll get from a councilmember: "How long does it take to pay that back?"

55:00

**Howard:** How does political skepticism about climate change factor into discussion of councils, discussions of staff about these mitigation issues?

...

**Smith:** David Tees<sup>32</sup> kept referring to "global warming," which dated him immediately. Why have we switched from "global warming"? Because it's very clear that there are parts of the country that are going to be cold. The planet's not going to warm uniformly; it's going to be warming faster at the poles and less at the equator. It's going to be talking about far more than any of us, or most of us, are comfortable talking about: jet streams and currents and how much salt is in the ocean, and all those kinds of details. So we switched to talking about "climate change."

I really resisted the direction given me as a new-hire, at great risk to myself: "Don't use 'climate change.'" ... Don't use the term. ... I was permitted to use "carbon footprint." I was not permitted to use "climate change." Now *that* has changed, mainly because I have just kind of dug in, and they didn't get the resistance from the public they thought they were going to get. But you have to be really *careful* ... how you present it. Otherwise, they think that you're pointing a finger at them because they drove a Hummer up to the City Council meeting, and they're going to be told they're a bad person. They don't want to hear that! So the trick is, politically, especially in this part of the world – I mean, ... we're an oil state! ... We have peaked in terms of oil production. There's a lot of oil out there, but it's extremely hard to get to anymore, so we're probably at a peak. Definitely past-peak in Saudi oil. We're this high-energy state, but the energy is shifting. We like to say that we have all this wind energy, but how do you get it from West Texas over to the Metroplex? We've run into a major roadblock there.

**Howard:** Among other councils, how much of an issue is this at this point in terms of mitigation? Say you wanted to build a LEED building that will cost X percent more and the return on investment is going to stretch out to eight, nine, ten, twelve years. How much of a factor is skepticism about climate change in that kind of conversation?

**[Unidentified]:** I think it's there.

**Howard:** What's happening in Fort Worth?

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<sup>32</sup> Director of the Institute of Urban Affairs, who welcomed roundtable participants at its outset.

**Gray:** I think our mayor is generally supportive of the efforts that we're taking, and the Council members themselves are generally very supportive. They're very guarded with their pocketbooks, and they need to be right now. They are also very aware of the pressures on the development community, so they want to be very careful in their relationships there. I don't think that in dealing with *new* building that we hit a roadblock. I think a lot of the problems that we may have are dealing with retrofitting *existing* buildings. Because they have a system in place and they see it functioning even though it's not optimal. So their skepticism deals with why they need to retrofit and what the expenses are related to that.

**Smith:** Back to his [Howard's] question: I do think that there is this skepticism about climate change—its sources, its cause, and what we're going to see in term of the ramifications of it. I do think that's pretty pervasive ...

**Hurst:** Do you expect your communities to be thriving—to *exist* and be thriving—in 100 years? Do you expect Fort Worth to exist in 100 years?

**Gray:** I do.

**Hurst:** I presume that everyone else expects their communities to exist in 100 years?

**Smith:** I'm not going to go there.

**Cook:** What do you mean by "thriving"?

**Hurst:** Well, that's the question I'm trying to get you guys to focus on a bit here: planning horizons and what does climate change mean to you? You're the educated, well-informed progressives in your communities. Does 100 years down the road mean anything to your constituents or to your political leaders?

60:00

**Walker:** ... I feel a little bit different. A lot of these cities that are represented are developed and are not going through a lot of the same things as Frisco ... . Going forward, how do we develop to make *sure* that we're here in 100 years? I want to talk a little bit about processes or development patterns. Obviously, we're updating our zoning ordinance right now to implement our comprehensive plan, which is all about ... compact development and sustainable development. So, we're getting into a lot of the meat-and-potatoes discussions on what types of ordinances do we create that will get us there. Even 50 years from now, what are we going to look like? Everybody's supportive, and everybody wants to stand under the umbrella of "we're green and we're moving forward." But when the rubber hits the road, ... a lot of landowners and developers are very skeptical. They're freaking out because they have a huge expense sheet of the property they need to get rid of. Maybe the super-compact, 100-unit-per-acre transit-oriented development on their property that they had envisioned that will be awesome 15-to-20 years from now when rail finally comes, they're looking at it as, "I need to unload this now. I've got to use it to build an office park."

**[Unidentified]:** Exactly.

**Walker:** There's that type of thing that we're fighting as well as a lot of the economic issues.

**Promise:** A couple of observations, if I might. We're going to engage exactly in that conversation in the session this afternoon<sup>33</sup> that we've allocated to the fabric, pattern, and choices we have looking through Vision North Texas at 2050. ... Dallas, when it developed White Rock Lake in 1915, 1918, the engineers that built that lake identified it as the primary and sole water supply for Dallas for 100 years. <laughter> Just to let you know that people in the past *did* look at 100 years from time to time.

Another observation: No, the language is not "greenhouse gases." No, the language is not "climate change." No, the language is not "global warming in North Central Texas." The language is "sustainability." Some would argue that this roundtable on climate change is too narrow because it is not looking at other elements that it needs to. ... Clearly, local governments in this region—not just the ones in this room, but across the region—are doing a lot of interesting things that have to do with sustainability. Some of them have chosen to use *climate change* or *carbon footprint* ... to get into that broader conversation, and some of them may be considered by some narrow in their thinking that what they're doing is devoted to that topic as opposed to something broader.

... I can give you three-and-one-half decades worth of observation and work experience from this region to say that the discussions now and ... over the last several years are one of those tipping point ... kind of things—these staff people and their elected officials will publically talk about these kind of subjects very openly, have charrettes, have debates and other conversations, look at their peers locally, and nationally, and internationally, and not be afraid ... to stand up and talk about these sorts of issues. That did not occur a decade ago.

In conclusion: Depending on who I'm talking to, sometimes I use a little list that has served me well over my career: the four stages of social change. Those four stages are: *no talk, no do* (we're well past that); *talk, no do* (we're well past that); *talk and do* (that's what we're into); and the fourth stage of social change is *no talk, do*. There may be communities in this room and there certainly are American communities, that are past the *no talk, do*, but we're very definitely pushing on that end. A decade or so ago, we were barely at the first stage of that social change. Clearly, the rate at which it may occur is something that will be of interest to talk about today.

65:00

**Howard:** With respect to the four stages, are you referring to—

**Promise:** Sustainability, climate change, global warming, greenhouse gas emissions reductions, energy conservation, transportation reduction strategies, LED conversion, the timing of all signals, and the latest thing to hit our COG Board agenda, coming out next week: some firm ... wants to pay our agency \$2 million to have the privilege of taking greenhouse gas credits in terms of street light or intersection conversion. If you had told me that I lived in an area where the private sector is looking to pay the Council of Governments money to take greenhouse gas emission credits today, I think we could have had some debate about ... the likelihood of that

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<sup>33</sup> See Chapter 5.



happening. That is on our agenda next week. I'm just suggesting that there really is a lot of change—

**Cook:** Even though John is making a Herculean effort with COG in getting “sustainability” as the word to utilize in this area, there are still exurb areas— In my second life as a consultant, these exurbs are still looking at, “Well, we want five-acre lots. We want a large, big-box community. This is our vision. This is what we want to be.” So there is still work to be done to be able to make these choices within a framework that it's easy for them to make the choice. That was our biggest effort when I worked for Denton, was to say, “Well, our idea is that we're not going to force you to change, but we're going to make the opportunity for you to make that choice easier.” That was the basis of our comprehensive plan ... Like I said, there are the small, exurb communities that have the retro feel of what Texas used to be that are still—

**Smith:** That ... speaks to the population change. ... Part of the reason for the shifting of attitudes is because ... the population is the population influx from other parts of the country where people have a different expectation of how their communities are going to be and how they're going to operate. You can see that in the voting patterns for the City of Dallas last year. That's another thing: the make-up of our population. For those of us in very high-growth communities ... we're only 40 percent built-out, so we've got a lot of room to grow. They're coming from far North, Northeast, Northwest, Midwest—but North. I had a woman call. She said, “I have a medical condition. I'm extremely sensitive to any kind of—” She had been exposed to chemicals ... that put her in the hospital for a long time. She can't handle any kind of exposure to—She said, “The parks department here in Wisconsin agreed not to use any chemicals near our apartment complex because I can't tolerate them. I just want to know, if I move to McKinney, are you going to be able to accommodate that.” <laughter in the room> I said, “Did you know we're also a non-attainment zone for atmospheric ozone levels?” ... Any of this stuff is a huge issue for her. ... Then she asks, “Do you have a 'green community' there?” I said, “You might need to define that.” <laughter in the room> They have whole suburbs that are green: no pesticides, no herbicides, all the houses are LEED, all the energy is XYZ. ... People are moving to this area who come with that experience, and I think that's helping move our region along.

70:00

**Barnett:** We may have an influx of new citizens in Denton, but it's still that same old core three-thousand-person voting bloc that controls everything that Denton does.

...

**Hurst:** To what extent does the progress that all of your communities have made toward sustainability or climate protection filter down to your residents? To what extent are you able to motivate change in your communities and not just in your municipal operations?

**Barnett:** Where it filters down to our residents is where it can impact our pocketbook. Our energy efficiency program, or rebate program, our interconnect agreement for solar installations—That's where we're getting the people really buying into our programs, where they have a tangible benefit. The rest of it? I don't know. It's hard to gauge the buy-in. You have

your core group of your twenty environmentalists that want all of these programs regardless of the cost. “Well, Austin has this program. Why doesn’t Denton?” [Barnett responding:] “Well, they have a little bit different rate base and a little bit different population. <laughter in the room> Their funding level is twenty-seven times what ours is for sustainability or carbon footprint, or whatever you want to call it today.” But we’re getting a lot done. We have our LEED fire station. I think everyone was really excited about that. The ROI isn’t what I hoped it would be, because they went ahead and did the LEED features on top of what they were going to do for their base fire station. There weren’t any trade-offs, and I really think we could have had a much better ROI had there been a few trade-offs. I feel like we have pretty good support from the community, but that’s because we don’t do a lot we know that that core group of three thousand—We don’t necessarily put it out there so that group of three thousand might say, “Well, why are y’all doing that? That whole climate change thing is a bunch of hoo-ha!” There’s such an outreach and education effort that needs to take place. It has to happen on a regional level, not on a municipal level.

**[Unidentified]:** Exactly.

**Smith:** I absolutely agree with you.

**Barnett:** That’s a hard thing to do. That’s a hard piece, too, to get funding for—the education and the outreach—and to get the Council to understand the value of that ... I think that’s where the gap is in the community buy-in. I think that there are so many things that they would be *thrilled to do if they only knew*.

**Hurst:** You guys don’t have the bandwidth to do that? As members of the communities’ administrations, you know your local people better than anyone.

**Smith:** ... I suspect we all have environmental educational opportunities. We’re in schools or some event twice a week. We average forty-nine events a year. ... But her point is excellent in that we don’t have this regional effort, John [addressing John Promise]. <laughter in the room>

...

**Gray?:** I think for example what the water district has done with the billboards that you see—Billboards everywhere! You know what that message is, and everybody sees it.<sup>34</sup>

...

**Smith:** The North Texas Municipal Water District has their “Water IQ” on KERA every morning. ... You are so right about that. There is an environmental education group in our neighborhood ..., and they meet once a month. ... Our group is growing. We’ve had a person from Fourney who’s now started to come. ... That shows, John, that there’s a real interest in doing that. You’re so right: it needs to be a much bigger effort on a much more regional basis.

**Howard:** That’s a good topic for session four.<sup>35</sup>

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<sup>34</sup> Refers to the Water IQ, “a statewide public awareness water conservation program that educates Texans about water conservation.” See <http://www.wateriq.org>.

<sup>35</sup> See Chapter 5.

Chapter 3—

## Adaptation to climate change

*Historical emissions of greenhouse gases are already changing the climate, and to some extent further change is already “in the pipeline.” At the regional scale, climate change impacts may include significant changes in temperature, rainfall, and agricultural productivity; increased frequency of severe weather events; and public health challenges, including degraded air quality and exotic diseases such as malaria. Is the need for adaptation to these emerging realities recognized in current planning discussions in North Central Texas? How are cities preparing for these climatic effects?*

**Howard:** Our next topic is adaptation. I’m really intrigued to find out how you’re thinking about the challenge of adapting your communities to the climate change that is already “in the pipeline,” as climate scientists sometime refer to it: climate change that is coming regardless of what kind of mitigation we do today; climate change that is already coming because of our historical emissions. In North Texas, we’re talking about things like increased severity of storms, increased frequency of severe storms, longer and harder droughts, bigger rainfall events when they *do* happen, disease vectors changing so that tropical diseases will be coming into the area more than they have in the past – potentially things like malaria becoming a public health issue throughout Texas. Stuff of that order.

So the topic of this hour is: How much are you thinking about this? How much are your communities thinking about this? Is it part of what’s being discussed? Is this a live concept in your communities today? If so, what is happening to push forward an *adaptation* agenda?

**Gray:** The City of Fort Worth, toward adaptation— I think a lot of our policies and programs that we’re trying to institute—the urban village programs that we have— are trying to get there. We’re zoning for mixed-use development. There’s more people moving downtown. The urban lifestyle is becoming much more palatable. The Census data shows for the first time that urban populations have grown rather than going the other way. We’re looking at different transit options for people. We’re looking at those modern streetcars. We’re planning for transit-oriented development, because we don’t have the rail—it’s not until 2013 that we’re looking at having that northeast-to-southwest line in.<sup>1</sup>

5:00

We’re working regionally with COG on the iSWM<sup>2</sup>, and I think that that will help a lot with adaptation. Of course the water-conservation measures— Something like 27 percent of our

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<sup>1</sup> See <http://www.the-t.com/CommuterRails/SWToNERail/tabid/211/Default.aspx>.

<sup>2</sup> Integrated Storm Water Management, <http://www.nctcog.dst.tx.us/envir/SEEDevEx/iswm/index.asp>.

water is going to have to come from conservation. So we're putting programs in place to deal with that, and that's a really long-range and important effort. We're working on urban farming initiatives, if you will, trying to provide locally grown food. I think that the important thing about climate change adaptation is that it has to be more proactive than reactive. That's almost where I see it today: we tend to react rather than to plan for adaptation. Those are the things that Fort Worth is doing. A lot of the current initiatives that we're putting in place, if they come to fruition, will go a long way toward planning for adaptation.

**Howard:** To what extent, though, is adaptation, specifically, part of the discussion that has made those things come about, or that is leading you to push those kinds of things?

**Gray:** I think that it's an awareness of the need. I don't think that the term *adaptation*—

**Howard:** I'm not so concerned about the term, but preparations for climate change that's coming—that concept. Is it in play?

**Smith:** In our community, storms are a big deal. Our cabinet, I don't think there's anybody—deputy manager, city manager's office—that's from Texas. Our fire chief is the consummate green-man. He's the kind that they drop in helicopters when they have fires in way-crazy places. ... He's from the Northwest. He's very much all over the climate change issue. He's looking at the storms. So we have upgraded our storm warning systems in anticipation of greater storms. That *is* an adaptation policy. Whether the Council approves or not, there's a recognition that the storms are increasing, whether they want to say that it's climate change causing it or not.

It's interesting—They're primarily the planning conferences, the big national conferences—The last one I attended was in March in Albuquerque. A third of those presentations were geared toward adaptation. Nationally, it's a big, huge thing. So I think people are becoming aware of that. Another thing, here in Dallas/Fort Worth we're sensitive to, because of Katrina, ... is population. We're recipients of storm refugees because we're close to the coast. We do have plans in place—as I'm sure many of us do—after Katrina and Rita, to deal with population movements.

**Hurst:** Are those plans for *permanent* population relocations, or are they only temporary?

**Smith:** ... They are primarily the emergency ones. Immediately you have a couple thousand people who need shelter and food. The Red Cross has a plan, but as far as I know, there's not any kind of assimilation plan. I don't think we have anything like that. But I think that's an excellent question and one we need to deal with, and as far as I know we haven't yet.

**Cook:** I think that there is a lot more recognition of trying to find urban design ways to adapt to climate change that should have been done already because of our existing climate, to make sure that the building is going to be much more sustainable, including how you site your building on the property, where your portals and windows are going to be located, how you're going to be shading that building ... whether you're going to have street trees. One of the things that you were talking about was disease vectors. Not only disease vectors for humans, but disease vectors for flora, also, are changing, as well. So one of the things we've put into Denton's ordinances is that if you're putting in street trees you need to have a variety of

species types for your street trees, so you're not wiping out an entire neighborhood all at once if a particular blight come through. Those kinds of things are really adaptation to a changing environment that is occurring.

10:00

**Walker:** To piggyback on that: In Frisco we've updated our landscape ordinance a couple years back to specifically address things like the west-facing and south-facing sides of buildings.<sup>3</sup> The landscaping needs to be increased on those sides to shade those buildings. Creating rainwater-harvest zones in the landscaping. We looked at the landscape ordinance for typical suburbia and you've got a thirty-foot strip along the road and parking islands for one tree. We take a look at those and wonder what you're gaining as a whole. We thought, if we want to focus on landscaping, let's push it toward the building and focus even more on the south and west sides. One of the things we did with the landscape ordinance for residential development is work with our public works department and their water usage and education plan that has required all new residents to install the ET controller for water sprinkler systems.

**Smith:** Evaporation-transpiration<sup>4</sup>?

**Walker:** Yeah. Everybody was onboard with that. Well, one thing that we're doing in the City of Frisco is—New residents when they move into these places will have these little gadgets that monitor soil hydration. We have free programming. We'll also have somebody that will come out and spend a morning or afternoon and show them how to set it up, how to maintain it, and how to make sure that—

**Howard:** This is a sensor that calculates the rate of evaporation and the changes that need to be made in irrigation?

**Walker:** Yes.

**Smith:** ... In McKinney you're only allowed to water two times per week *all year*. We don't care what the water levels in the reservoirs are. It can get worse if the reservoirs drop, ... but it's very hard to shift people from "I can water anytime" to "Now I'm limited." So, it's twice-a-week *unless you have an ET controller*.

**Walker:** Right. Then you're exempt from the limitation.

**Smith:** Exactly. You have a sign in your front yard that says, "I have an ET controller. Do not write me a code enforcement violation." People do love that. ...

**Promise:** I remind you again:<sup>5</sup> the rate of change of technology and its impact on anywhere we want to get to is important and, in some of these areas fundamental to, achieving what we're

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<sup>3</sup> See Article IV, Section 2 of the City of Frisco Comprehensive Zoning Ordinance:

[http://www.friscotexas.gov/departments/planningDevelopment/zoningSubdivision/Documents/Zoning%20Ordinance/IV\\_02\\_Landscape\\_Requirements.pdf](http://www.friscotexas.gov/departments/planningDevelopment/zoningSubdivision/Documents/Zoning%20Ordinance/IV_02_Landscape_Requirements.pdf).

<sup>4</sup> The rate of evapotranspiration (evaporation and plant transpiration), or ET, is dependent on energy availability, the humidity gradient at the earth's surface, the surface wind speed, and water availability. See Michael Pidwirny, *Fundamentals of Physical Geography*, 2ed., at <http://www.physicalgeography.net/fundamentals/8i.html>.

after, because it puts the technology at the place we need it to be: in this case, the site that is doing the watering. The technology is linked to the specific thing that is occurring.

**Hurst:** This emphasizes the need for education on those technologies so communities know that they have them at their disposal.

**Howard:** It also is a countervailing force to the rapid growth of population.

...

**Walker:** I hate the way that we do things through reactive policy-making. Through some of the things like—A couple of years ago when we had that severe, severe drought, that really brought about a lot of changes in the landscaping ordinance. When people’s landscaping was dying, their grass was dying, and they couldn’t water, period. Through that came something good. Last year’s \$4 gas made people start to look at—“OK, what other ways can I get around town and to the grocery store?” It really started generating more grass roots interest in transit options. We’ve been able to introduce these things that several years ago might have seemed radical: compact developments or a mix of housing types in a neighborhood. Such things were just radical. ...

**Howard:** That suggests a strategy for moving the conversation about adaptation along. When there is an event such as a drought or major storm, use that as a lever to get people to think about what the next several years—the next several decades—are going to look like in relation to that kind of event.

15:00

**Cook:** I think you see a lot of people who are thinking along those lines. Last year’s energy crisis was a big impetus for people. So now cities are saying, “What can we do to accommodate what people’s demands are?” Well, we’re getting more requests for people to put wind turbines in their neighborhoods. Well, we don’t have an ordinance that addresses that.

**Smith:** Then you’ve got an HOA<sup>6</sup> you’ve got to get through.

**Cook:** So, that is a form of adaptation. Technology, those kinds of things are changing. ... You talk about HOAs. There are a lot of HOAs that will not allow solar installations on their rooftops. Maybe there needs to be additional education for HOAs in getting their bylaws changed, or something to that effect.

**Smith:** In Colorado, the state legislature finally went in and said you can’t prohibit turbines.

...

**Promise:** I don’t know who was supporting it, but a couple of ... sessions ago the Texas Legislature passed a prohibition on home-owners associations prohibiting rainwater harvesting.

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<sup>5</sup> Promise originally refers to the dynamic nature of technological change just after the 25-minute mark in the Chapter 2 transcript.

<sup>6</sup> Homeowners association.

**Smith:** A more direct adaptation thing, to me, is the farmers market issue you alluded to. The average food item having to travel 1,500 miles is just not sustainable, in any way, shape, or form, never mind all the chemicals it takes to grow it that way so it will sustain that trip. A one-degree rise in average global temperature—and we’ve had that already since 1970—that’s a ten-percent reduction in food across the globe. And we’ve had that. That’s going to continue. Plants, right now—especially if they’re manufactured by Monsanto—are not set for these higher temperatures. One of the things that we’ve really got to look at in terms of adaptation—and you can see it now, the big cities are already looking at it—San Francisco and Philadelphia are the most recent ones—is the “food-shed” idea. They use a very arbitrary number just to do the apples-and-oranges comparison, but within 150 miles of your urban center, can you grow enough food to support that population? You’re beginning to see an interest in that here looking at this study. ... A&M<sup>7</sup>—their Urban Solutions Center<sup>8</sup>—is beginning to look at that.

**Cook:** I went to the sustainability conference last year at A&M. I spoke with a gentleman who is a professor at the University of Cardiff. His study was on Copenhagen and Malmö, Sweden. Both cities have policies requiring that public buildings and public cafeterias and other kinds of facilities have to have at least 50-70 percent of the food has to be locally grown. How does that affect peoples’ choices? Obviously, the European model is, in many ways, far ahead of what the American model is ... . But it’s interesting that those kinds of conversations are being brought here.

**Promise:** I want to recognize Jeff’s leadership here at UTA in helping ... get the sustainability committee established and chairing it initially here at the university. I don’t know if you want to speak to the Princeton rating and the food/cafeteria thing because it has relevance to what we’re speaking of.

**Howard:** I don’t want to say much about it. The President’s Sustainability Committee is large and going into its third year now. It has a lot of initiatives across the campus—waste reduction, energy conservation, dining services changes such as experimenting with not using trays. Pick up your plate; you don’t get a tray to put it on. That way you take less food, which means less food is thrown away, and also less water is used at the other end. ...

**Promise:** Wasn’t one of the ratings that the university got indicating that the dining service was not using food that was being produced close-at-hand, and that was one of the measures that is now being used to compare universities in “green rating” systems.

20:00

**Howard:** That is an increasingly common measure across the country for campuses: are the dining services using locally grown food, organically produced food, etc.?

**Cook:** That’s a huge ramp to go against when you have mass-marketed farming, you have corporate-owned distribution systems. That’s a huge ramp to go against.

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<sup>7</sup> Texas A&M University.

<sup>8</sup> <http://urbansolutionscenter.tamu.edu>.

**Promise:** That'll come up a little bit in our conversation later today.

...

**Promise:** I think, without speaking to the science of ... who believes and who doesn't believe certain things, the question, "Are we going to see a greater frequency of adverse events ... in this region, or are we going to see fundamental changes to what we're used to?" We do not have a lot of information that's helping us right now. We have hot days. Certainly, some of the latest releases—Two weeks ago EPA seemed to suggest that ... by 2100 we could see a lot more hot days. That doesn't mean that they're going to be 150 degrees. It just means that we're going to have more days that are hot. We can have a greater frequency of storms that we see, etc. That's different than Columbia University studies a couple of years ago talking about the Southwest possibly by 2050, 2100, experiencing what we call "1950 drought conditions" as a norm. I'm not saying it's correct or incorrect. I'm indicating that's examples of—Or if the entire pattern of landscaping within the region has to fundamentally change because of the change of temperatures and rainfall. To me those are different, have different policy implications to my membership than, "Yeah. Today we have this many hot days. In 20 years we're going to have this many *more* hot days." That suggests that maybe we should be doing more about energy, I realize. But I feel like that's going to be a different discussion than if the utility folks that I work with in the region, the water planning folks, the Texas Water Development Board—if all of those players determine that there's going to be a fundamental change in the pattern of water and filling reservoirs, etc. If that were determined, ... that would bring about a whole different kind of—So, you say *adaptation* to me: for this region is it more or less of what we've seen before or is it something really fundamental? We've done risk studies as part of some of the hazard mitigation work several years ago. Some of that information seemed to suggest that we were not prone to earthquakes, and that the region should not pay a lot of attention, relatively, to earthquakes. Well, now, you start getting media coverage of earthquakes that some are attributing to gas well drilling and disposal wells<sup>9</sup>, it opens the dialogue: "Is that just because that's just part of the norm, or has something happened—plate tectonic shifts or something—where we really are prone to quakes?" To me, that's an example of a fundamentally different way of looking at things. To me, from the little I know, adaptation really begs more dialogue based on exactly what's happening. It seeks answers that we don't quite have a handle on yet.

**Hurst:** But does that uncertainty prevent communities from making adaptive steps?

**Cook:** Absolutely. I think you see that because there's a lot less of a connection between cause and effect. There is a much greater vision that says, "Well, we know that companies that are putting chemicals out into the sky will produce acid rain." We can see that much easier. We can test that. We can see a direct correlation between the type of chemicals being emitted and the type of chemicals that we're finding coming back down.

**Hurst:** In the short term.

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<sup>9</sup> For example, see Eva-Marie Ayala, "Another minor quake shakes Cleburn," *Fort Worth Star-Telegram*, June 27, 2009, <http://www.star-telegram.com/news/story/1457551.html>.



**Cook:** In the short term. So there's a direct pathway to policy change that can be done in order to effect change. But when we're starting to look at something that is so great and vast over a long period of time that doesn't have a point-source that is identifiable as the direct cause, that it is a ... history of choices that we as a society have made, then that's going to be that ramp again we're going to have to go up against to effect that adaptation.

25:00

**Smith:** And that is a perfect description of the disconnect between science and policy-makers, right there. We are now feeling that struggle. Again, it's all cultural, and you see that when you start comparing ourselves to other developed countries. The scientists think there's a whole lot of evidence out there. Are there ever any solid answers? Heck, no! If you look at the ozone regulations, John, what do they want to do? Scientists want to give you a *range*, because every time they run their experiment it's a little different. It's close, but always a little bit different. They don't want to go 0.9 to 1.2. They want some room because they know that it's not going to be exactly the same every time. So, the problem for policy makers is, "When do I have enough data that I feel like I can move forward?" In my opinion the disconnect with climate change right now is that a lot of the juried, reviewed, top scientists that are doing it are at the international level—the IPCC<sup>10</sup> level—and to bring that down to the federal level has been a challenge. We still haven't signed on to Kyoto (and we won't since it's going to run out in 2012, so why sign on now?) And then we're expected to bring it down to a local level. And it's very easy—and I'm not discounting what you're saying at all, John. I think you represent the majority professional view. And this is the trouble. It's very easy to go, "We don't have enough science." We'll *never* have enough science! So the question is, when will the policy makers make the jump and go, "OK. This is the best opinion I've got right now. ... I'm going to write a policy based on this data and if we go down the road and the data are wrong, ... we'll change the policy. We'll do whatever we need to change it"? To me, from a precautionary principle<sup>11</sup> philosophy, why would we not hedge our bets?

**Hurst:** This raises the issue of to what extent does the enormous risk that climate change poses to our societies and our communities ... To what extent does *that* discussion come into play in the communities' decisions? It *could* be a very small probability that it would happen—from a statistical perspective. But if it did, it would be so utterly catastrophic to the health and sustainability and viability of your communities—

**Smith:** The thing about the way you just posed that question—"if it happens" —In the science community, that question has been rejected for years, now. In the science community, it is not *if* it happens; it's "It's happening now." And the problem is that every model run by every decent study ends up being too conservative (i.e., underestimating the pace of climate change or severity of its impacts). So the great fear is that we are not anticipating just how bad it's going to be. So you've got that over here in climate-land, and back over here in North Texas you go, "Well, you guys disagree what's going to happen, so I can't rely on any of it."

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<sup>10</sup> Intergovernmental Panel on Climate Change.

<sup>11</sup> See <http://www.sehn.org/precaution.html>.

**Howard:** I think the temptation is to now do in adaptation what we have already done as a society with mitigation: We've delayed our attention to mitigation for about twenty years—at least 20 years, maybe 30 or 40 years, depending on how you date the origin of it—before we actually began taking it seriously and actually elected a president who was committed to doing something. If we wait 20 or 30 years to really accept that climate change is going to happen in our communities, is happening now, is going to have significant implications for our communities, we will then be far behind in building the buildings, in setting the zoning, in calibrating how much sprawl we're going to allow, etc., before we actually begin having those conversations.

**Cook:** It's frustrating—looking at national policy—we have a president who promised to do a lot of work on that field. We're getting policies now that – “Well, we need to put people back to work, so let's do what we did last time: let's build more roads!” <laughter in the room>

**Smith:** ... It is very unfair to take it out of context [unintelligible]. That is how they funded the green program. They pulled money out of roads. *That* was an interesting conversation, because the conversation on the roads was, “Are we funding any highways on the coast, because there's going to be sea-level rise?” That's the first time *that* conversation happened.

**Howard:** And that's a conversation we never had about New Orleans.

**Smith:** And *continue* not to have as we continue to rebuild there! <laughter in the room>

30:00

**Barnett:** That's a conversation that has to happen, too. The Texas Gulf Coast: Why do we keep rebuilding there? It's time to let that go.

**Smith:** The insurance companies—State Farm proposed an 800 percent hike in insurance rates.

...

**Walker:** Well, homeowners insurance statewide, and then even here in the Metroplex there was an increase of 14 percent because of storm events.

**Howard:** One of the adaptation challenges that I see is that we're still basing a lot of plans on ideas like 50- and 100-year floodplains, and those are based on historical data. We don't know any more what a 50-year or a 100-year—much less a 500-year or a 1000-year—floodplain looks like. Very different than what they looked like in the past, probably. So what do we do with that? How do we adjust—adapt—our communities to take account of that new reality. Is it ethical to continue to plan on the basis of 50-year floodplain defined according to historical data that we know is now largely irrelevant?

**Cook:** It's difficult to get developers to accept a 100-year floodplain as an appropriate location. ...There has to be a way—through transfer of development rights, maybe—to ensure that you're somehow compensated for your destroyed building. Now, in a community that doesn't want to have density, that's really difficult to do. They want to preserve floodplain, but they don't want to have density.

...

**Smith:** I had a guy come in— ... laid-off from TI<sup>12</sup> ... —who built a house in McKinney, and his utility bills are unbelievably low because it is so efficient. ... But it's over 7,000 square-feet! There are five people ... who live in it, and he has done some really neat things in ... the way he constructed it, but it's still 7,000 square-feet! ...

**Walker:** I want to address something you brought up about transfer of development rights. Something that we're looking at with our zoning ordinance update—and I would love to come back a year from now and tell you that all these policies were successful <laughter in the room>... —is saying, "OK. Here is the 100-year floodplain that we know probably is not going to be that accurate as far as flood events as things get worse. But we don't really have any mechanisms to make you give up more land." So what we're saying, "If you give us an extra 300 feet or so from there that we can allow you to build higher density homes that front that." Or, "You're adding value with a denser product that is going to take advantage of the open space, and, therefore, we're getting a better riparian corridor." ... We're also looking to reduce the minimum house size. We're all waiting for the shoe to drop when we announce that. Is there going to be an outrage when we say the new policy we're proposing is 800 square feet? ... Land values in Frisco are such that I don't think any lender in the world would give you a loan for a \$100,000 lot to put a 800 square-foot house on.

**Smith:** What is your minimum house size for an acre lot?

**Barnett:** ... We have one minimum square footage for any size lot. ... It's still 1,500 square-feet, but to get 1,000 square feet, you have to go through our Board of Adjustment. ... For an acre we don't have any additional restrictions.

35:00

**Smith:** A lot of communities in the Dallas area—I think Dallas used to have a 2,400-square-foot minimum on an acre, but I'm not sure about that.

**Walker:** We're currently at 1,800 square feet for our smaller lots, and as you go up some of the larger ones are 2,200 square feet, minimum.

...

**Boomsma?:** We have no minimums.

...

**Gray:** When we talk about floodplains ... I'm really concerned about our *unmapped* streams and how to protect those, because they are going to become more and more critical. Because they're not mapped, we don't have a mechanism to require any kind of protection for them. That's what we're struggling with in Fort Worth – how to protect our unmapped streams.

**Howard:** Why are some streams unmapped?

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<sup>12</sup> Texas Instruments, one of North Texas' largest manufacturers.

**Gray:** The drainage basin size. I think that the cut-off is about a square mile. If it's a square-mile drainage basin, it gets mapped by the Corps<sup>13</sup>. But we still have significant streams that run through neighborhoods that are really left without protection.

**Barnett:** We have that exact same problem and got a FEMA<sup>14</sup> grant last year to remove a few houses that were subject to continual flooding. Now they're gone, and nothing else can be built there.

...

**Walker:** We did a stream corridor study and found that all of our policies and ordinances had been oriented toward protecting our major creeks. ... We found studies indicating that habitats are a lot more sensitive in these smaller tributaries that we had *no* protection over. They're getting filled in or channelized or buried or whatever. They were putting all this emphasis on the major creeks where the actual habitat is less vulnerable because it's wet constantly, or something like that. We changed our subdivision ordinance to not allow development to back up directly to even some of the tributaries.

**Smith:** That's great.

**Cook:** In Denton we really tried to address a lot of things. We worked extraordinarily hard, but, unfortunately, it just isn't possible. When the developers come in—

**Smith:** We originally got it passed. We did it through ESAs—Environmentally Sensitive Areas. ... The way we got it through Council—and since then it has been taken away—but the way we got it through Council initially was we put an aerial photo of Denton in front of them: from 1930 to current, here's what we've lost. Aerials are really excellent, like working with Legos. There's an instant, concrete—People were, like, "Ahh!" ... I tried to protect prairie remnants; they wouldn't go with that; but they went with riparian corridors, not defined by floodplains ... but also defined by bottomland hardwoods. A lot of times you pick up those tributaries associated with bottomland hardwoods. And if they were contributory to an ESA, there were added protections ... .

**Cook:** It was ... really tied to the *historical nature* of the hardwoods, as well. We had a defined term: "This is the Cross Timbers. It is the only natural feature other than rivers placed on maps of Texas in the late 1800s."

**Smith:** And you can't grow a post oak, ... you can't go out and buy a post oak.

**Cook:** That was the selling point. But it got reduced from a ten-acre minimum to a five-acre minimum. Now you can leave half of the five-acre, but then it can be disjointed and—

**Howard:** Let me try to make a shift here. If you were to go to your council with a proposal to start gearing the city up for adaptation to climate change – over the course of a twenty-year period, say – what would the reaction to that notion likely be?

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<sup>13</sup> U.S. Army Corps of Engineers.

<sup>14</sup> Federal Emergency Management Agency.

40:00

**Smith:** I'm going to do that through the EECS.<sup>15</sup> If we don't have to pay for it, I think I can fly it. The only problem with energy strategy, in large measure, is that [unintelligible]. I think that if you went out there and presented it just like you did, I think it would be very—I just think that there are better ways to do it than to be quite that blunt.

**Howard:** But, just taking this as a probe, what would the reaction be?

**Boomsma?:** It might be a hard-sell as “climate change.” I think it's better to term it as “preparedness.” ...

**Haas:** I like those four stages of change. In Plano, we're moving from “talk/no do” to “talk and do.” So it would be a crapsheet.

**Howard:** If you were in the “talk and do” stage, it would be easier?

**Haas:** We're moving *between* the “talk/no do” to the “talk and do.” We are making changes, but the economy has really flattened some of our changes, especially our urban development and lower-and-higher and higher density plans have come to a *screeching halt*.

**Cook:** It's unfortunate that you can't—in this particular recession—see the turning point as in previous ones, because it has been so deep. Even in the late '90s with the dot com bust the attitude was: “Well, OK, so we lost some paper money. Things are going to come around. We have other sources of investment.” But right now that source of investment ... is really the hard point for making that long-range plan for future investment. That's the real difference between this recession and previous ones that we've experienced in the past 30 or 40 years.

**Walker:** On your question about taking something to political entities and presenting them with something and saying, “We need to do this holistic thing.” It puts politicians in a tough spot because—no disrespect for their positions—they're number one job is to get reelected. When you've got so many factions bending your ear—you've got your constituents that may think this is baloney; you've got developers that work in your city that are concerned about the bottom dollar, how much it's going to cost—and trying to make these decisions, it's very hard to marry yourself to that approach and cornering them ... . I think the best thing that we can do is gradual, baby steps in participation and get them involved ... so they can be active in creating policy and ... so they can champion it and run with it ... in the sense that they're putting forth legislation. That's the biggest thing with councils we work with is that they want to be able to have something that they can put their hands around and say, “We did this.” That's been a big thing with us lately is trying to explain: “Look at some of the big things that have happened in our city—in Frisco—over the past ten years. Those were envisioned by councils years ago. You may not be able to lay claim to it while you're on Council, but ... years down the road you can say, 'I was a part of that.'” So, letting them be part of the solution rather than bringing them a problem saying—

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<sup>15</sup> Energy Efficiency and Conservation Strategy required by the U.S. Department of Energy for applications to its Energy Efficiency and Conservation Block Grant Program.

**Smith:** ... If we could get a regional education effort going at all levels—citizens, elected officials, everything—that would be hugely helpful. And another thing—a lot of us are leaning toward this—is trying to get all of our environmental initiatives under one roof. As manager of the Office of Environmental Stewardship I can go in front of Council, and I have much less resistance than a planner who goes in front of Council and proposes the same thing. ...

45:00

We recently proposed a wind energy ordinance and brought it to a work session, and they pulled all back. And all it was was that you can mount turbines on your roof. With horizontally-mounted windmills, you can mount them on your roof. ... And they just backed way up! So those planners changed the headline portion of the proposed ordinance—And the planner who did this, he did an *excellent* job. He'd done his research. He knew more about wind turbines than I knew by the time he brought it forward. And he came to me and said, "We need you to come with us to Council." And I think that that's the kind of stuff that's going to—If we can start doing that, using those cross-departmental relationships and presenting ourselves as a team of experts to the Council, I also think we'll be more successful.

**Cook:** ... Euless' Council is also very concerned not so much with what we've built, but how we have affected our citizens. It's kind of unique for me, having worked for several different cities. They're much more interested in the societal change than I've experienced in other cities. For us, maybe it is something—Bringing it forward and saying, "Look, this is going to affect your community in a positive way in this regard." And finding out those kinds of things that can help people *over* buildings or *over* the bottom dollar. Tying it to the change in betterment of society might help sell it.

**Hurst:** By "society," do you mean your jurisdiction?

**Cook:** Or a large regional scale. Unfortunately, we're all under NCTCOG's<sup>16</sup> advisory guidance rather than regional government, right John?

**Promise:** That is not the position of our agency. <laughter in the room>

**Cook:** ... It is still very difficult to have all of your council focused on a regional concern. I think we have individual members on our Council who are very much regionally minded—our mayor being one of them. And as council members come and go, you have to have a set of values that moves through different political choices.

**Hurst:** How do you believe your comprehensive planning process and the planning horizon associated with that meets the need for adaptation? Or does it?

**Steer:** I don't think it does. I think our comprehensive plan goes out twenty years or so. It doesn't look to the extra-long term, the 100-year time frame. It doesn't address the temperature change, the five-degree increase over 100 years, and the droughts and things like that. I think it *should* be included, but I think all the other things that are under the *sustainability* umbrella ... will be included in our comprehensive plan. Eventually they may

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<sup>16</sup> North Central Texas Council of Governments (NCTCOG). See [www.nctcog.dst.tx.us](http://www.nctcog.dst.tx.us).

eventually cover the same goals as planning for adaptation. They might be more mitigation-related than adaptation-related. But right now I don't think the comprehensive plan covers this topic—So I would suggest that any city that's going out for an RFP definitely include that in your comprehensive plan or in the update process.

**Promise:** To give you an example, if I might: As part of Council of Governments' responsibilities doing long-range transportation planning for the region, we have some charts we all refer to as "the blob diagrams" that show ... anticipated levels of congestion through 2030. It's increasing in spite lots of implementation projects designed to relieve congestion. In the past, I've challenged folks as they think about comprehensive plans: "Do you introduce that to your citizens? Do you bring long-term congestion into the discussions?" It's part of the regional dialogue ... "You are in an area that's going to see even greater congestion despite the fact that you're putting these projects in." Do the transportation people bring that into the discussion of the new comp plan? We don't have a real good connect there even in something that is pretty widely understood, that the staffs of the agencies are very involved in.

50:00

If you asked your transportation people about those graphics, they all would be very familiar with that. But does that get into comprehensive planning to the degree that—... You could almost see it as a defeatist attitude: "Well, we can build all these roads, but we're *still* going to be a lot more congested." I'm saying that we don't have a good process by which to make that municipality-scale dialogue and planning happen. ... There's not a process ... that pushes that to cities and say, "If you're going through a comp plan, put this in there, because there may be some alternatives that need to be discussed, which may be more walking, more bike lanes in Arlington, more opportunities for mixed-use ... ." If we just do what's being considered ... right now, then my community that finds itself in one of those pink or red congestion blobs, we're going to be worse off, not better off. So how do we do what we need to be doing, and how do we get our neighboring communities to do something so that this blob is really mitigated. We don't have a good process by which to cause that kind of dialogue to occur.

**Walker:** One of the problems of comprehensive plans in general is that ... the plan itself is always dependent on implementation, when the rubber really hits the road. When we were doing our comp plan update in 2005-2006, one of those old planners' lingo dictionaries referred to comprehensive plans as a "comprehensive *flan*": it's warm, it's custardy, and it's sweet, but it has no nutritional value. <laughter in the room> It's true that everybody envisions this great city ..., and then you've got to implement the plan. And we're finding that now even with some of the things ... that were very specific in this comp plan and are now trying to create policy that implements that. There's a lot of friction. We have to keep reminding people: "This is what's in the comp plan." That's always been the hard part. Comp plans are great, but—

**Smith:** Stick it on the shelf and you're in trouble.

**Walker:** That's right.

**Howard:** If I heard some of you correctly, the implication is: "We think we can do some adaptation planning measures without framing them that way and without explicitly putting it

into things like the comprehensive plan. We think we can still maneuver our way into getting people to do some of these things.” What if we did economic development that way? What if we tried to do economic development *without talking about economic development*? The point, of course, is that we don’t, it would be absurd to try. Why is there a disjuncture between those two contexts?

**Smith:** I think economic development is increasingly going to be tied to climate change, because the money is going to be in green energy—that’s a big chunk of it, and anything related to that. ... I got a call ... from the Economic Development Corporation asking, “Can you come over and join this committee, because we’re looking at this green business initiative and we need somebody with green business expertise?” So, now, people that might have been tree-huggers in their teenage years are hand-in-hand with huge corporations—Raytheon comes to mind, in McKinney. It’s an excellent green community member. They do all sorts of amazing green programs and want to work with us on ... all kinds of things. I’m not sure the two contexts are so disjoint anymore. I think they’re going to overlap a whole lot more than ever before. They’ll spill over into the planning effort. They’ll have to.

**Hurst:** So has planning been the wagging or the wagged part of the dog?

**Smith:** It’s both. It’s going to be both depending on what you’re standing up there—I am sure that we’ve all gone home from council meetings at some point in our careers and said, “I never would have anticipated *that* vote.” To some degree, you need to figure out what they’ll be receptive to, but there’s always the [unintelligible] part of that process as well. I think it can be both.

55:00

Obviously, you’re trying to wag if you’re writing your comprehensive plan and trying to implement it. But whatever political reality takes over—now the comprehensive plan is subjugated to that reality—now you’re being wagged. So it goes both ways, I think, probably.



## Chapter 4—

# Coordinating mitigation with adaptation

*Efforts to mitigate climate change today will reduce the degree to which cities must adapt to the effects of climate change in the future. At the same time, the manner in which cities adapt to climate change may either help or hinder their ability to effectively engage in mitigation. Do our communities recognize this interdependence between mitigation and adaptation? To what extent, and in what ways, might a community's pursuit of one of these objectives impede its pursuit of the other? How can such conflict be minimized?*

**Howard:** Katherine, you joined the morning session in-progress. Would you introduce yourself and say something about the situation in Denton?

**Barnett:** Katherine Barnett. I am the Utilities Special Projects Coordinator for the City of Denton. I work with both the ACM [Assistant City Manager] for utilities and our environmental management department. ... I have been working on our carbon footprint for both the city and the community. Denton has just recently signed a contract so 40 percent of all ... electricity provided by the municipal utility is wind power – coming from Munster, so we don't have transportation issues.<sup>1</sup> We're working on our sustainability plan with HDR [an engineering services firm].

**Smith:** What about your grant?

**Barnett:** Climate Showcase Communities Grant.<sup>2</sup> Our EECBG grant.<sup>3</sup> There's just too much going on. I manage our Nature Center<sup>4</sup>; that's the fun part of my job. ... It's 2,700 acres. Denton ISD uses it for all second-, fourth-, and fifth-grade outdoor education. The high schools are starting to use it now for their Advanced Placement science classes. And University of North Texas and Texas Woman's University are getting back involved. ... We have a design for a Nature Explore Classroom.<sup>5</sup> We're starting to search for funding ... .

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<sup>1</sup> See [http://www.icleiusa.org/success-stories/copy\\_of\\_clean-power/wind-power/denton-tx-2019s-municipally-owned-utility-jumps-to-40-renewable-energy](http://www.icleiusa.org/success-stories/copy_of_clean-power/wind-power/denton-tx-2019s-municipally-owned-utility-jumps-to-40-renewable-energy). See also Brown, Lowell, 2009, "DME to buy renewable energy; power supplier owns Muenster wind farm," Denton Record-Chronicle, April 23, 2009, 1A.

<sup>2</sup> An EPA-sponsored program to help communities implement "climate change initiatives." See <http://www.epa.gov/RDEE/energy-programs/state-and-local/showcase.html>.

<sup>3</sup> The City of Denton was awarded \$1,117,000 in DOE funding through the Energy Efficiency and Block Grant Program.

Source: [http://www.eecbg.energy.gov/downloads/full\\_allocation\\_states\\_and\\_locals.pdf](http://www.eecbg.energy.gov/downloads/full_allocation_states_and_locals.pdf).

<sup>4</sup> Clear Creek Natural Heritage Center. See <http://www.cityofdenton.com/pages/parksclearcreek.cfm>.

<sup>5</sup> See The Arbor Day Foundation's program on model classroom: <http://www.arborday.org/explore/educator/modelclassroom.cfm>.

**Smith:** Denton did go the green cement<sup>6</sup> route. Then when Fort Worth ran into their trouble<sup>7</sup> <laughter in the room> ... it sort of brought green cement to a halt. A screeching halt.

**Barnett:** We narrowly escaped that.

...

**Smith:** The head of the environmental division in Denton is Dr. Kenny Banks. He's extremely well-published—all things watershed-related—and has a lot of work out there. They got a huge EPA grant to do a novel form of water quality monitoring. ... They actually take clams and mussels and put them in the stream and when they close—Banks' team has real-time monitoring on these guys—it means that there's probably something nasty in the water. ...

...

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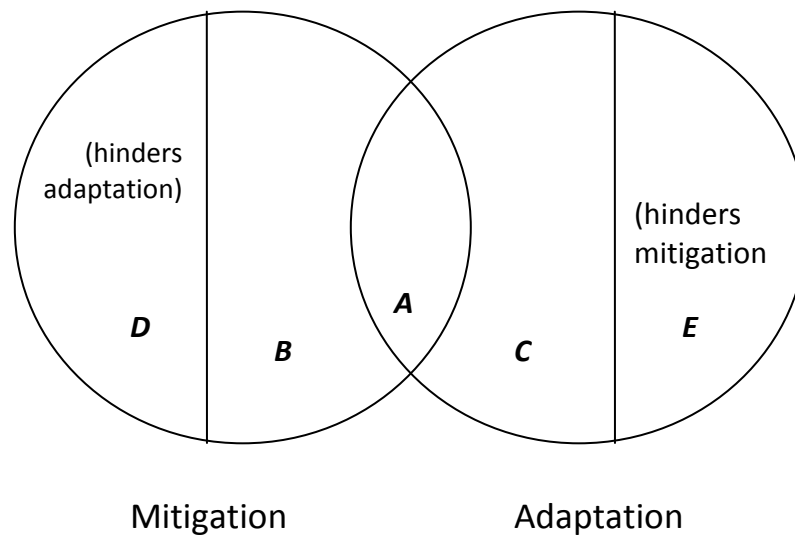
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<sup>6</sup> See <http://www.dfwnetmall.com/green-building/green-cement.htm>.

<sup>7</sup> See Associated Press, "Cement company sues Tarrant, Fort Worth, Arlington over 'green' rules," Nov. 27, 2008, <http://www.star-telegram.com/news/story/1063063.html?storylink=pd>.

5:00

**Howard:** We shift gears now to talk about the relationship between mitigation and adaptation, which is something that very few people have given any real thought to. It's only recently become a significant topic in the academic literature on climate change. Mitigation has now been on the table for quite a few years in the planning literature; adaptation has been on the table quite a bit for a year or more. And some of us are beginning to puzzle out the relationship between the two. I have a few ideas I want to talk about as a starting point for the conversation. This is based on the book chapter I have handed out.<sup>8</sup>



***Simple/simplistic conception –  
Short-term, local impacts of local planning***

I'll call this the "simple" conception of it. If we look strictly at the short term and local impacts of local decisions, we can draw a simple Venn diagram. In A, the sweet spot, both mitigation and adaptation are served by something like tree planting, which both cools the landscape (adaptation to heat waves exacerbated by climate change) and captures carbon dioxide, reducing the net amount of emissions (mitigation of climate change). ... On the left side we can

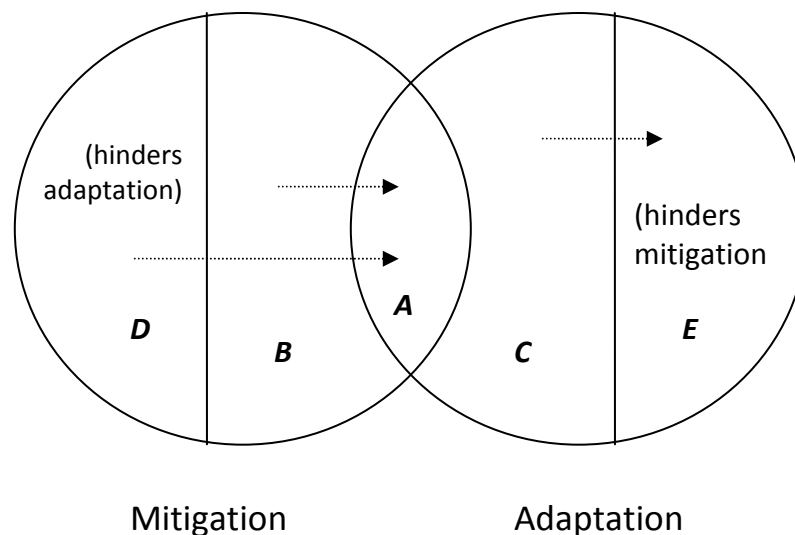
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<sup>8</sup> Jeff Howard, "Climate change mitigation and adaptation in developed nations: A critical perspective on the adaptation turn in urban climate planning." In *Planning for Climate Change: Strategies for Mitigation and Adaptation*, ed. Simin Davoudi, Jenny Crawford and Abid Mehmood. Earthscan, 2009. The figures are adapted from the chapter, available at [https://mavspace.uta.edu/xythoswfs/webview/xy-951026\\_1?stk=C8B60B7DA2055E0](https://mavspace.uta.edu/xythoswfs/webview/xy-951026_1?stk=C8B60B7DA2055E0).

imagine that there would be some forms of mitigation that would hinder adaptation. On the far side, some forms of adaptation would hinder mitigation. And in the middle sections, B and C, mitigation efforts would neither hurt nor hinder adaptation, and adaptation would neither hurt nor hinder mitigation. That's the simple picture, and I'll explain why I think it's a little simplistic.

...

It only pays attention to the short term and local effects of these local efforts. What I think is crucial with climate change planning is for us to think about local planning decisions in terms of their global and long-term effects. If nobody on the planet at the municipal scale takes responsibility for the long-term consequences and the global consequences of their local planning decisions, then we wind up having local planning decisions continuing to contribute to runaway climate change – that is, business-as-usual. So my premise here is that this long-term thinking and long-distance thinking is crucial for climate change adaptation *and* mitigation decisions at the local level. You begin to see this when you look at the relationship between the two.



***More sophisticated conception –  
Long-term, global impacts of local planning***

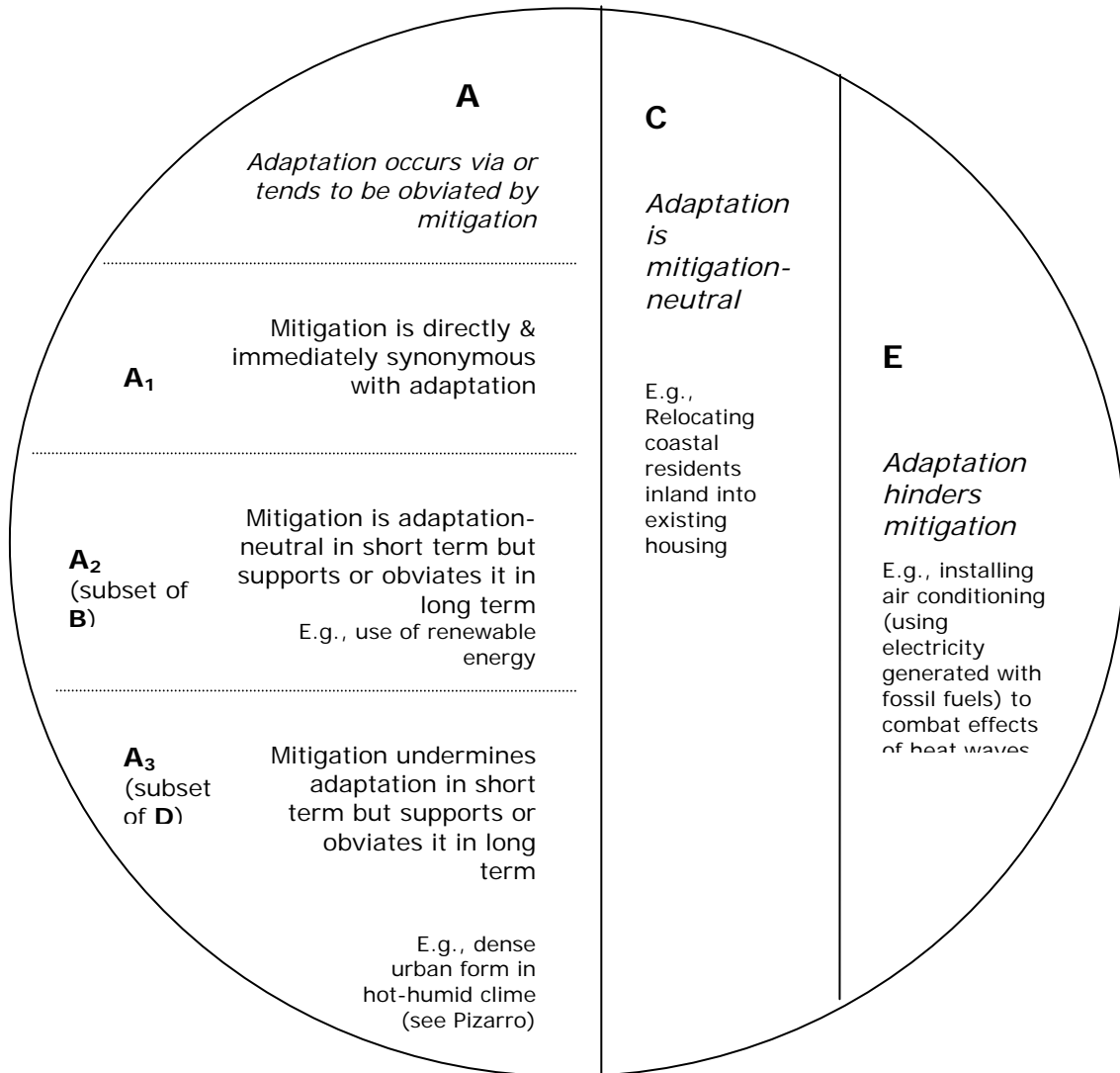
If we look at the long-term and global picture, anything that mitigates climate change emissions locally will, in the long-term and globally, serve to reduce the amount of climate change that occurs and thus globally reduce the amount of local adaptation that's necessary. The premise here is that if we don't mitigate, adaptation is impossible. As a global species, if we do not mitigate aggressively at the local scale, or if we try to adapt locally in ways that undermine local

mitigation efforts, we'll have runaway climate change to which it will be very difficult, if not impossible, to adapt in the long-term. That is a bleak prospect for systematic adaptation efforts, because it means we'll be attempting to adapt to conditions that continue to change, perhaps dramatically, from decade to decade.

**10:00**

My argument is that, moving from the local scale to the global, and from the short-term to the long-term, any local mitigation effort tends to move to this center spot. It tends to be something that eliminates or reduces the need for adaptation, essentially serving the end of adaptation at the same time. There's very little here in terms of mitigation measures that would hinder adaptation in this more complex picture. Any mitigation effort in the short-term tends to reduce the amount of adaptation necessary in the long-term and globally. So even mitigation that is adaptation-neutral or adaptation-adverse in the short term winds up supporting adaptation in the long run because it reduces the amount of adaptation that's necessary.

Finally, this third arrow represents the idea that an adaptation measure that in the short-term, locally, would be mitigation-neutral (not hindering or helping mitigation) would nevertheless hinder mitigation globally in the long run. If an adaptation doesn't help mitigation in the long-term and globally, in an important sense it hinders mitigation because it fails to contribute to slowing the warming. Even if it seems neutral in the short-term, in the long-term if it's not helping, it's hurting. That's the conceptual architecture of this.



This next figure is the logical extension of this. Here we're looking at adaptation, but with everything in terms of its relationship to mitigation. So, on the *left* side, in region A, we have adaptation that occurs through mitigation. In A<sub>1</sub> it is things like planting trees, which would ... immediately and obviously serve the purposes of both adaptation and mitigation. In A<sub>2</sub> it is things like using renewable energy, which don't necessarily help adaptation in the short run (although you could probably argue that some forms of renewable energy would) but in the long-run would help adaptation by reducing the amount of adaptation that's necessary. In A<sub>3</sub> it is things like dense urban form that might hinder adaptation in the short run in places like Houston but, still, in the long run would support adaptation – again by reducing the amount of adaptation that's necessary.

**Smith:** Your example in A<sub>3</sub>—is that based on health, because you wouldn't want people in hot communities living close together?

**Howard:** Yes. Pizarro's chapter<sup>9</sup> in the same book promotes the idea that traditional, smart growth is not climate-change-adaptive in hot humid climates because when you put people close together, when you put buildings close together, when you make the buildings bigger to accommodate more people, then you cut down on air flow, you have humidity problems, you've got heat dissipation issues that you can't get away from. My argument is that this may be true, but we have to work past that—somehow—and make mitigation the top priority. Otherwise, we're going to have sprawl like Houston—and we're supposed to consider *that* smart climate planning?!

I know that this is a little complex, and even Kent is not fully satisfied that I know what I'm talking about. Finally, if you would, look on the next page where I spell out some specific and concrete examples of what I think is in the various categories.

15:00

My political concern is that as communities like yours gradually wake up to the need to adapt to climate change—to make changes in the physical layouts and constitutions in our communities to adapt to changes in climate that are coming or that are already occurring—the tendency will be to do stuff that will help the local community in the short-term—ten-to-twenty years—but in the process ... harm the global community – and ourselves – in the long term. If we adapt locally in ways that don't also mitigate climate change, we wind up shooting ourselves in the foot, chasing a vision of adaptation that we'll never be able to catch up with, because climate change will be on-going, probably escalating, so that adaptation itself becomes endless and needs to constantly accelerate. So I'm arguing in this chapter that planners need to think seriously, as we begin trying to adapt to climate change, about the consequences of each form of local adaptation and account for the long-term, non-local effects of that so that we don't wind up having 20- or 30-years of physical change in our communities that cost us in the long-term, requiring even *more* adaptation down the line because we have failed to mitigate adequately.

A key factor here is the relationship *between our communities* – and, at the same time, *between our communities and communities elsewhere in the country and the world*. Our climate change planning efforts have important ramifications for those relationships. It is these ramifications that drive some of the assertions I've made so far and some of the dynamics I've argued exist between mitigation and adaptation. For example, it is community X's willingness to mitigate aggressively – in league with other communities that are mitigating aggressively – that promises to help significantly slow climate change globally. I can see from some bewildered expressions that it might be best to open the floor for discussion.

In light of the morning conversation of Question 2, it seems that adaptation may not yet be sufficiently on the table in your planning discussions on a day-to-day basis that that there's even anything to talk about here. So maybe this is future-thinking?

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<sup>9</sup> Rafael Pizarro, "Urban Form and Climate Change: Towards Appropriate Development Patterns to Mitigate and Adapt to Global Warming. In *Planning for Climate Change: Strategies for Mitigation and Adaptation*, ed. Simin Davoudi, Jenny Crawford and Abid Mehmood. Forthcoming, August 2009, Earthscan.

**Examples of five modes of adaptation to effects of climate change**

	<b>A – Adaptation occurs via or tends to be obviated by mitigation</b>			<b>C – Adaptation is mitigation-neutral<sup>10</sup></b>	<b>E – Adaptation hinders mitigation<sup>11</sup></b>
	<b>A<sub>1</sub> – Mitigation is directly &amp; immediately synonymous with adaptation</b>	<b>A<sub>2</sub> – Mitigation is adaptation-neutral in short term but supports or obviates adaptation in long term</b>	<b>A<sub>3</sub> – Mitigation undermines adaptation in short term but supports or obviates it in long term</b>		
	Priority: 1	Priority: 2	Priority: 3		
<i>Excessive heat</i>	LEED-certified building standards	Reducing overall levels of consumption  LEED-EB renovation of existing buildings  Using construction materials with low embodied energy  Reducing personal-vehicle VMT  Reducing reliance on air travel  Increasing reliance on mass transit & long-distance rail	Dense urban form in hot, humid climate (see Pizarro)		Increased use of air conditioning
<i>Drought</i>	Improved efficiency of water use		Hydropower (potential conflict with agricultural irrigation)	Local rainwater harvesting & floodwater storage	New conventional reservoirs; importation of water from distant regions
<i>Rising sea levels</i>	Relocating coastal residents inland into LEED platinum urban housing		Relocating coastal residents inland into existing conventional urban housing	Relocating coastal residents inland into new conventional suburban housing	
<i>Flooding</i>	Restoration of wetlands		Building concrete dikes & levees		
<i>Degradation of urban air quality</i>	Urban tree planting; open space & habitat protection		Use of biodiesel (minor increase in NO <sub>x</sub> emissions)	Passive filtering within buildings (e.g., via plants)	Active filtering within buildings via mechanical systems
<i>Increase in incidence or severity of violent storms</i>	Decentralized renewable energy generation; restoration of coastal wetlands		Improved storm warning systems & evacuation planning	Making structures storm-resistant through use of concrete & steel walls	

<sup>10</sup> Most adaptations in column C assume use of renewable energy.

<sup>11</sup> Most adaptations in column E assume use of fossil fuels. Some of these would be in column C if carried out with renewable energy.



**Barnett:** Based on your previous diagrams, are we saying that the items in column C actually hinder mitigation? Did we say that if it was mitigation-neutral in the short run, then it actually hinders mitigation in the long-run?

**Howard:** I'm saying that ... in a sense it does hurt in the long run, yes, because it doesn't contribute to meeting what ought to be our priority concern – mitigation. It holds us back at a time when every physical change we make at the local level ought to somehow contribute to reducing emissions.

**Smith:** If it's neutral, we're not doing anything. As long as we're not doing anything, we will continue to slide backward.

**Howard:** Right. Even if we have a very aggressive carbon footprint reduction program (which few of us do), we're spending lots of money and resources on local adaptive measures that need to be invested simultaneously in our carbon footprint reduction program. What's even worse, of course, is if we're making a major change in infrastructure—a new sewer system or something—and we're doing it in a way that is a carbon emission pig—we're not using some ultra-green kind of concrete to build the sewer system—we are actually contributing to net carbon emissions and directly undermining the footprint reduction program.

**Barton:** It's the idea that if you mitigate, you can continue living the way you did. ... If ... I trade in my Hummer for a Toyota, I'm still burning gasoline, which means that I can still rack up Vehicle Miles Traveled.

**Howard:** That's an element, but the bigger threat that I fear coming about is that we imagine that don't have to mitigate anymore, all we have to do is adapt. We can convince people, locally, that we need to adapt to climate change; but bold mitigation is politically more difficult. I fear that, having done far too little to mitigate climate change, we'll now begin putting most of our climate effort behind adaptation – and that's a lost cause, because if many municipalities do it it virtually assures runaway climate change to which we ultimately won't be able to adapt.

**Smith:** ... I go back to that 7,000-square-foot house I mentioned this morning. I have no idea what's on the inside. It's an extremely nice house on the outside. I suspect there are granite countertops that have been shipped across the ocean. Those kinds of things. ... The idea of mitigation is so that I can continue my current life, my consumption rate, and everything else. All of the attendant costs that we don't calculate ... I do agree with you.

20:00

**Hurst:** Behavioral changes are anathema in our conversation because they imply that we will have to change something about the way we live. It implies some sort of value judgment about how we live today.

...

**Smith:** Like Katherine pointed out, people do change their behavior when their pocketbooks are hit. You can visibly see a reduction in quad-cab pickup trucks on the interstate. Visibly see a reduction of them. So I do think that people are willing to—If I have the wherewithal to build a 7,000-square-foot house, I might not care. I might still drive my quad-cab pickup truck. But,

for the most part, ... I think ... behavior will change with cost ... without ever *any* thought being given to adaptation.

**Cook:** But ... you're adapting to that cost. ... Peak oil is occurring, so gasoline is much more expensive, so therefore I'm going to drive a Prius instead of my Hummer. ... That's only adapting to the changing environment *economically* ... . But, is it doing *enough* to actually stop further damage to the climate? Probably not. Looking at what we need to do as a municipality: what is it that we can do that is actually going to the heart of the matter of *changing* things, doing the full mitigation, rather than just ... doing things that are economically beneficial. "It's going to be economically useful for us to build a LEED building, because otherwise our utility bills will be too high." Is climate change really the reason why we're doing it? No, we're doing it because the utility bills are too high.

**Hurst:** Ultimately, it's localization drilled down to the individual level. Because of our political economy, these decisions are being taken because of the value they have for the *individual* rather than the value they have for the *community*, much less the *world community*. I think that one of the big differences between mitigation and adaptation is the extent to which their impacts are felt. If you have mitigation that results in bottom line [i.e., financial] reductions, then individuals in the community that mitigate will be supportive of those efforts because they gain financially.

**Smith:** Are you talking about the kind of things that you describe where they switch cars or—

**Hurst:** Right. That's the stuff that ultimately benefits the community resident. But what if you get finished with all that stuff, all the low-hanging fruit that has short-term, bottom line impacts? Then the question of mitigation becomes one of, "How does this benefit *us* as individuals?" Therefore, if it doesn't benefit us, we choose not to do it. But, if by not doing it you're dis-benefiting the *global* community—then in the long-term this behavior is going to turn around and bite you in the ass—

**Barton:** That's not really global [unintelligible]. You started this by asking the question, "If adaptation that is mitigation-neutral—" What does that mean? And Jeff, you said earlier ... that anything in column C—even if it is mitigation-neutral—will inherently trend toward hurting mitigation.

**Howard:** The important thing here is the set of priority labels in the chart: priority one, two, three, four, five. Priority One is the most important, and Priority Five is the one to be avoided whenever possible.

**Barton:** And the way I'm visualizing it is: I-35 is congested, so we're going to mitigate by adding lanes.

**Howard:** That's not mitigating climate change, though; that's mitigating traffic congestion.

**Barton:** Right. The problem is congestion; the mitigation is you add more lanes. But that doesn't solve the original problem because, as we all know, traffic expands to fill capacity. Adaptation would have been, "We ride DART. We build our businesses closer to our houses, or *vice versa*."

25:00

That's the way I'm seeing it. Am I on the right track? I keep thinking about that word, *mitigation*. I keep thinking, "New Orleans flooded, so the mitigation is that we build higher levees."

**Howard:** Mitigating climate change and adapting to climate change are not the same as mitigation of and adaptation to traffic congestion. Those are two different frameworks.

**Steer:** Our discussion is more focused on climate change.

**Howard:** I'm not talking about mitigation and adaptation for all contexts. Let's talk about this one in particular: climate change.

**Smith:** Adding lanes would mitigate climate change to some degree because cars are more efficient at higher speeds.

...

**Howard:** If one of the manifestations of climate change is a heat wave and you turn up your air conditioning to stay comfortable (that's how people use thermostats, anyway), then that's a measure to adapt to climate change.

**Barnett?:** Like overhanging trees keeping you house cool.

**Smith:** And using ceiling fans.

...

**Howard:** The most important thing I'm trying to point out is that there's a lot of stuff that we can do that is both mitigation and adaptation. Planting trees in the city. In my simplistic thinking, this is a way to do both of these things—serve both of these interests—simultaneously. The more we go toward consuming energy to adapt, the more we get away from a mitigation framework. You wind up at counter-purposes.

**Smith:** We're subsidizing so much here in the United States. If we could un-subsidize our fuel prices, you would be able to—

**Howard:** Even if they were de-subsidized I'm not convinced that we can count on changes in price to adequately change peoples' behavior.

*[Multiple people talking simultaneously about the benefits of rail transit over automobile in light of the recent increase in fuel gasoline prices]*

**Smith:** Once you get on, you'll never want to get in your car and drive down there again.

**Barnett:** But that hit in the pocketbook made a real change.

**Barton:** And I would agree with that. I've often said that if you want people to conserve water, raise the price. If you want people to conserve gasoline, raise the price.

**Howard:** There's a lot we need to do with price issues, to be sure.

**Smith:** I want to get back where I think you were going ..., Kent, and ask you to finish where you were going. I think what you were saying was that we did the whole pocketbook thing and

we did take care of all the low-hanging fruit, as you put it. Then the next stage—what we as a community or the Metroplex do—we may not personally see that in our utility bills, but there’s a *global* benefit to doing that. I think we’ve rarely been motivated by that. Unfortunately.

...

**Hurst:** But then what we expect people to say is, “Well, we’ve done as much mitigating as we can, so let’s adapt.” And by stopping the mitigation, they actually set in motion this chain of events that will turn back around and obviate the effectiveness of many of their adaptation strategies.

30:00

**Howard:** The more intensive climate change we and our communities experience, the more pressure there will be to make changes that will help the community adapt to climate change. My point is that planners need to be anticipating this and doing everything possible to ensure that the changes that are intended to help the community adapt to climate change don’t undermine obligations and programs focused on *mitigation* of climate change. Mitigation is already far too small a priority in most of our communities. It needs to be much bigger than it is for most of us. If we allow our adaptation urge to get ahead of that or undercut it, we will be doing ourselves and our great-grandkids a big, big disservice. The more intensive climate change is, the more pressure there will be to pay attention to what helps us here and now—me, my family, and my community, today—and pay less attention to that global situation that our own local success ultimately depends upon.

**Smith:** People aren’t there yet. That is a *huge disconnect*.

**Cook:** But that is where I hope that we, as planners, start looking at what is ... implementable by saying, “OK. These are the programs that are cost-effective that are going to make your end-user—your citizen—choose this kind of behavior because it is easier, cheaper, whatever, rather than trying to always appeal to their higher sense of purpose or nature, because *that’s not going to happen*. You have to have these kinds of changes be formatted in such a way that it— — “You know, it’s *easier* for me to go ahead and ride the train. It’s easier for me to go ahead and walk. It’s easier for me to make that decision.”

**Howard:** I’m not opposed to making that move and exploiting that whenever you can. My concern is that there is a point beyond which we can’t get people to change their behavior rapidly enough through simply giving them an incentive. Planners are also going to be out in front vigorously promoting change in people’s value systems and the values on which our planning frameworks are based.

**Smith:** It’s interesting to look at the “millennial” demographic/psychographic ... generation.<sup>12</sup> They really do not operate like we do. They are *already* operating outside our value system. ...

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<sup>12</sup> See Wikipedia entry on “Generation Y”: [http://en.wikipedia.org/wiki/Generation\\_Y](http://en.wikipedia.org/wiki/Generation_Y). See also Ben Little (2009), “The millennial generation and politics,” *Soundings*, Issue 42, Summer 2009, pp. 119-128. In its Young Planners Group initiative, the American Planning Association explicitly recognizes that the next generation of (millennial)

When my friend plays Xbox, his team is comprised of five people, only one whom is in this country. Their favorite team to compete against is a team in Germany. They play live at four in the morning so that they can play the team in Germany. ... Any of you who have teenagers—coach high school soccer. I call the players and they text back, “What do you need, Coach?” — Not going to pick up the phone. Not going to happen. And they do everything as a team in terms of work. They don’t care what you pay them as much as our generation did. They don’t want to compete against each other to get that next raise or that next promotion. They don’t operate like that. They don’t *want* to operate like that. The research on this generation is fascinating to me, and they are responsible, in large measure, for Obama in the White House. Almost across the board, they voted for that change. There may be hope down the road, seriously, because I do think they look at things globally. I do think they look at it on a world-wide—I also think that they realize they are going to be handed a world of hurt. Their challenges are going to be *tremendous*.

**Howard:** They see climate change as affecting them a whole lot more than we see it affecting us.

**Smith:** Oh yeah. *They* talk about climate change. They bring it up. They’re certainly not afraid of any of this language that our generation struggles with.

**Howard:** Doesn’t that suggest that planners need to be prepared very soon to begin harnessing that shift, playing to it?

**Smith:** Hire those people!

**Howard:** Also look at it as a shift in the mindset of the populace.

**Smith:** I really expect to see that. I really do think that it’s changing. I really do think they are.

...

35:00

**Smith:** Have you read Richard Florida’s work on “The Creative Class”? ... It’s very clear to me that if we’re going to attract the best and the brightest, we’ve got to shift the way we do business, the way we look at things. I think that there will be a better chance of being more altruistic and thinking beyond what is in it for us.

**Barnett:** And they’ll start demanding that of the community they live in.

**Smith:** Right.

**Howard:** Do you see a role for planners in helping that come about at the local level?

**Smith:** We may have to dress it up in different terms and find ways to make it financially attractive. And also be ready for that transition and people who may hold a different value system: our kids.

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planners perceives issues and work far differently than does the currently dominant generation. See <http://www.planning.org/features/2008/newprofessionals.htm>.

**Barnett:** But there has to be work with the development community, as well, to bring them along. Whenever we tried to do our green building program in Denton, the developers were the biggest hurdle. It was always, “But that guy’s not doing Energy Star on the houses he’s building in the neighborhood. The customer can get more per square foot per dollar by not buying the Energy Star house.” So we’ve said, fine, ten percent over International Building Code is the minimum standard. Everybody’s on a level playing field. I don’t want to hear any more about it. ... You all have to build to the same standard. Everybody has the same standard house. But, we couldn’t get the developers to make that change.

**Cook:** The political reality is that they get branded as an anti-development city, which hurts them economically in the long run. The other factors that you’re asking about are the kinds of things that we, as planners, have to rail against, saying, “Yeah. This is important. These are things that will eventually make our community and region and state and country better. But it’s a matter of whether you’re going to be able to get that point across, because competition from ... the next community over’s not doing it. That point gets lost pretty quick.

**Barnett:** We were able to do it because it was at a time when Denton was really booming and people were looking for houses. No big problem.

**Howard:** It’s interesting to me that adaptation to climate change potentially has a very different kind of politics around it than mitigation to climate change has had at the local level. Mitigation, locally, doesn’t help the local climate at all; it’s only a drop in the global bucket. Yet we *have* to have municipalities across the planet mitigating if we’re actually going to have mitigation on this planet. It’s essential. So, even though, for any individual community mitigation “doesn’t help,” we need every community to do it so that we can arrest climate change. On the other hand, adaptation has a local politics, because it’s local effects that we’re responding to.

**Smith:** Except in food production. Food production, in terms of adaptation, is going to be a global problem ... .

**Howard:** I agree that there are certain global dimensions to adaptation. I’m saying that the politics around local changes to adapt to climate change will tend to be a local politics, because people will be serving their own interests by adapting to climate change, preparing their communities to weather the storms, weather the heat waves, etc. That’s local communities serving their own ends, their own purposes, whereas mitigation requires communities to think globally and accept some sort of global responsibility.

40:00

**Smith:** I think that most of the cities around here have mayors that signed the climate change mitigation pledges.<sup>13</sup> ... I got her and said, “So we signed it, but what’s our baseline carbon footprint? Well nobody knows. We agreed to reduce it by this much by 2010.” [*Reference to*

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<sup>13</sup> In fact, only 17 of the region’s approximately 150 communities have joined Cities for Climate Protection and/or signed the U.S. Mayors Climate Protection Agreement. It is planners from these 17 communities who were invited to the roundtable.

*Harry Potter* movie and need for magic.] How am I going to do this?! I'm very excited to ... be from a city that signed this, but what does it *mean*? And our mayor at the time ... was very committed to this. He didn't just sign it lightly; he was very committed to it. But we have no idea what the benchmark is or where we're going with this.

**Barnett?:** Oh, no! And we still don't. We signed the agreement, and we still don't know.

...

**Hurst:** How many communities here have done a carbon footprint analysis? One. Two. So two would have an idea of what they're fighting against.

**Smith:** Did you do yours with ICLEI, right Katherine?

**Howard:** You're both ICLEI.

**Barnett:** They consulted — —

**Boomsma:** I'm not sure how it went.

**Howard:** At UT Arlington we had a relationship with Arlington's carbon footprint analysis. We had a consultant in common, and some of our grad students were your interns. They helped with the project, but the city staff steered the city's project.

**Steer:** We started it, but it was just too complex. The data that was necessary— —

**Smith:** Were you looking at the ICLEI framework?

**Steer:** Yeah. I think that we've since got the program up and we know how to do it. It's just essentially doing it.

**Howard:** No small undertaking. The green book on the table, there, is by two of the scholars I mentioned earlier<sup>14</sup> It gives an overview of the state of municipal engagement in climate protection measures: who does climate footprint analysis; how far past that they get; what the obstacles are; and what sort of strategies work.

**Hurst:** It analyzes the ICLEI relationship. Its lens is ICLEI Cities for Climate Protection program.

**Howard:** The picture presented there is *not* different than the picture we just heard here two minutes ago. That's very typical of what they find.

**Smith:** I kind of like the EMS. I remember when Dallas did it and talking to Laura Fiffick about it. She was just going, "Holy cow! Before you launch that, make sure you have the staff time to manage that and all the rest of it." I think that that's what you ran into in Denton, because I was looking at it and said, "Wow, Katherine is really struggling with ICLEI."

**Barnett:** It was a struggle with ICLEI. The format that they want the data in is nowhere near how we kept it. There was so much having to change formatting. Then figuring out, "Yeah, your fleet department records are just really not that great."

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<sup>14</sup> Harriet Bulkeley and Michelle M. Betsill. 2003. *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

**Howard:** We found here at the University that there were lots of places where you had to make translations, and lots of places where you had to make assumptions and guesses about what numbers to plug in. Par for the course.

**Barnett:** We went through a *year* working on it, and other cities were starting and finishing. I thought, “They must just not be as anal as we are!” We were developing our own coefficients for electricity. “Just use the one for Texas!” “No! We know ours is different!” ...

**Smith:** You’re extra complicated because you guys own your own utility ...

...

**Barnett:** Our fuel mix was more coal than what ERCOT<sup>15</sup> estimates for the Texas grid as a whole because of [unintelligible]. Now we’ll have to have a whole new emissions coefficient ... because of our wind generation. ... It’s a challenge! Estimating emissions from the municipal vehicle fleet was the biggest challenge. It was even harder than [unintelligible].

**Howard:** What’s the prospect in Fort Worth?

**Gray:** The Fleet Management section is working on their carbon footprint, and they should have numbers in September. But we are planning on using a lot of our EECBG grant money to assess—

45:00

**Howard:** To conduct the overall footprint analysis?

**Gray:** Yes.

**Howard:** And that would be when?

**Gray:** Well, you know, we have money ... coming to us by January, I expect, because we just turned in the first section. So we’ll get the first piece of money, but then we have to fill out that second phase for the rest of the money.

**Smith:** How did you apply for your strategy? I don’t know about Fort Worth, because you guys are so much bigger than we are, but we could apply for up to \$250,000.

**Gray:** That’s what we could get for our first step.

**Smith:** To do the strategy. We only applied for \$100,000 because we’ve already done kind of a phase one, so we were hoping not to spend so much of it. But we’re expecting that any day. ...

...

**Smith:** The tracking of grants, because of the metrics involved, is extremely hard. You can do—

—

**Gray:** And then there’s the reporting.

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<sup>15</sup> Electric Reliability Council of Texas.



**Smith:** You can use [unintelligible] percent of it for administrative, and I had my City Manager say, “No staff. No time.” There are quarterly reports associated with that. And you’re talking about what are your actual greenhouse gas emissions? It’s all broken down. It’s very—In the name of transparency, we’re going to be data-fat!

**Howard:** What’s the prospect in Coppell? What’s the discussion?

**Steer:** Right now we broke it out into the different departments gathering different data. We have one doing the facilities, one doing—I forget all the data we needed to collect. I remember that I had the “miscellaneous” data. <laughter in the room> That consisted of lawn equipment, getting with the Parks Department and figuring out all that sort of stuff. After we looked at the magnitude of the project, we said, “Let’s go and do an EMS for the Service Center. Let’s figure out how to do that.” I think that was getting our feet wet. *That* was a huge undertaking. We got Culture Technologies<sup>16</sup> to help us out. They were the consultant. They showed us actually how to do it, so we sort of abandoned the ICLEI data-gathering framework. But I think that we’ll revisit that soon.

**Howard:** Let me sum up what I think I’ve heard so far during the three sessions, and put it into context of this particular set of questions. I’m hearing that mitigation is happening to some extent in every municipality, some more than others, particularly with Denton purchasing 40 percent green energy. That’s a big step.

...

But in the communities where that green purchase isn’t happening, mitigation has a good deal less traction so far.

**Hurst:** Because everyone is talking about “sustainability” ... —

50:00

**Barton:** I don’t recall anyone going to City Council saying, “Oh, we want to be green just because it’s the right thing to do” or “We’ve got to solve the world’s problems.” Everything we’ve done we’ve done from an economic standpoint. Electricity costs are going up. Our budgets are fixed. There’s other—We’re planting a lot of trees on our medians, and it’s not because trees give off oxygen and take up carbon. It’s because our City Council said our medians are ugly. And we want to compete, we want to be an attractive city. How can we do that well? We can plant trees.” So we are sort of killing two birds with one stone.

**Howard:** Three birds, actually. You forgot *adaptation*.

...

**Barton:** We’re picking locally adaptive trees, and we’re installing drip irrigation and the low maintenance—We don’t want the parks guys to have to go out and mow around the trees. ... Everything is intended to be low maintenance, low impact, very cost effective. So that works, but it didn’t come about because we wanted to reduce our carbon footprint.

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<sup>16</sup> See Culture Technologies, Inc., at <http://www.culturetechnologies.com/>.

**Howard:** I understand. If you total up all the changes you have made and what their impacts on carbon emissions are, there's some traction there, but it's not an enormous amount of traction.

**Smith:** What will be interesting is when we start developing the energy strategy. At the cut in that thing, you have to show your carbon footprint reduction. You actually have to talk about that.

**Promise:** Related to what you're implementing.

**Smith:** Yes, sir. And the Council will have to approve those plans. We're going to come up with an energy strategy, and we going to have to go to Council, and we're going to have say, "DOE requires us to do this." ... It will be really interesting. Within the next six months, we're all going to be doing this.

**Howard:** Well, the ICLEI framework requires presentations to council, council approval of—

**Smith:** But you don't have as many ICLEI-member cities in the room. Everybody in this room—their cities are applying for these grants. Every single one of them.

...

**Howard:** [*Resuming summation:*] So mitigation is a mixed bag, I'd say, with a fair amount of traction some places, not as much traction elsewhere. Adaptation: not much of a conversation topic so far, even using analog terms, not necessarily the term *adaptation*, but the concept of needing to prepare for climate change that is coming. That concept is not really on the table. That's what I heard in the second session. In the third session, I've heard that there's a breakdown. Because adaptation is not on the table yet, the relationship between mitigation and adaptation is not on the table.

**Smith:** And the relationship of our local communities with our global community has yet to be built.

**Howard:** Yes. My big point about that, to reiterate, is that when we begin adapting in a fairly conscious way, if we adapt in ways that don't honor those global obligations and don't acknowledge the global impacts, we will wind up further contributing to climate change, undermining our mitigation efforts, and setting ourselves in a position—as communities—where we will have *more* climate change to adapt to in the future. We will not be setting a good example for neighboring communities and communities elsewhere; we will not be part of networks that are actually making mitigation happen in a systematic way. I'm pointing to adaptation as a crucial juncture for planners because of the scale of changes it will require and the climate impact of those changes if we don't watch our Ps and Qs.

...

55:00

**Hurst:** That again raises the education issue. Is that what is needed? Is it purely a lack of understanding? Admittedly, this whole conversation about the relationship between mitigation and adaptation is academic and complex, as we wonder what mitigation steps do or don't do to

adaptation. To what extent is more information going to help? To what extent does more university involvement in these issues help? Is that relevant?

**Smith:** When I go out in the community and talk about climate change, which I've had the pleasure of doing only a couple of times, ... my audiences are not necessarily receptive. I sort of feel like Russell does. He doesn't like the term "global warming" or "climate change."

**Howard:** What kind of audiences have these been?

**Smith:** McKinney Historical Neighborhood Society, which takes into account the historical sections of our neighborhoods. I've been out to HOA groups. There have been a couple of economic-development groups that have invited me to speak. When you first walk in you think, "Dadgummit! I left that flak jacket on the back car seat. I should have it on." But, pretty soon people start asking questions. I think the issue is so overwhelming, in some ways, that the need isn't necessarily more information. More information's not always helpful, I don't think.

**Hurst:** No. But delivered appropriately?

**Smith:** Not only delivered appropriately, but in a way that is not condemning, not pointing a finger, not placing blame. That's totally irrelevant at this point. And you talk about the low-hanging fruit: that's where we're going to start. Incrementalism works best even if we don't have time frames within which to really make that effective. If you can talk about things as simple as putting a tuna can in your yard when your sprinklers go on so you can see if you're watering too much.

**Barnett:** People want to know *what they can do*. They want something tangible. They don't just want information; they want concrete steps.

**Smith:** One of the things that you can do—we just started; our second one is going to be Saturday, and we've moved it all over town in all different neighborhoods, all economically different neighborhoods—we have a program on how to make your house more energy efficient. There's a person that works at Lowes<sup>17</sup>; he was a general contractor in one of his former lives, so he's built houses. Lowes is a top sponsor of this. I take advantage of having a captive audience, and I open it with about a ten-minute intro: "Here's who I am. Here's the people who work in our office. Here's how you get us. Here's a brochure on everything we do. By the way, here's a timer for your shower." Whatever kind of message we want to give. Those have been *extremely* well-received. I'm amazed by the people that are coming to that. And the guy from Lowes is so excellent. He starts with "Let's talk about what you can do in terms of static changes. Can anybody give me any idea?" Well, people go, "If you shut the curtains on the west side of your house—." ... That's the kind of thing that draws those people in that are a little put off by all of this or intimidated by the amount of information and the technicality of it. It's so hard to communicate it. I mean, who cares about VOCs and MTDs and NOx<sup>18</sup> and all these odd acronyms? But to try to get that across—And I learn from him every time. He talks in these very simple terms and concepts. He goes from that to, "Here are the different kinds of

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<sup>17</sup> See <http://www.lowes.com>.

<sup>18</sup> VOC: volatile organic compound; MTD: mean tolerated dose; NOx: nitrogen oxide.

radiant barriers.” By that time people are comfortable and they have this give-and-take kind of dialogue and they’re receptive to all of these things. And most of the stuff that we’re suggesting you can do yourself and is relatively inexpensive.

**Howard:** What do you call this program?

**Smith:** ... The Community Services department does our block grants for neighborhoods. We call it ... something like, “Neighborhood Services: How to Make Your House More Efficient” ... . I think that those kinds of programs—that’s how you can begin. That’s where you have to start. You can’t be having conversations about *mitigation*. Their eyes glaze over. <laughter in the room> But I do think that it’s really important for us to not run away from *climate change* or *sustainability* or whatever you want to call it. When I have the chance, I do take a moment to get that in front of them: “Is everybody aware that this is what’s going on on a global scale? And here’s what we can do in our backyard.”

60:00

People *do* want to do the right thing. At some level, most of us want to do the right thing if it’s relatively easy and if it’s not expensive. So, if we give them *those* things, people will do them. I really find that. I think that’s another place that we can all be—Anytime anybody calls and says, “Hey! Could you come and speak at— ? ... “Yes! I’d be happy to!” That really is where we’re really going to make those inroads: in education. You’ve got to have that face-to-face. ...

**Promise:** Twitter.

**Smith:** McKinney now has a Twitter site. But I do think that face-to-face contact is critical.

## Chapter 5—

# Regional coordination

*How could coordination and collaboration between North Central Texas communities help the region meet the challenges of effective climate change planning? What mechanisms are needed, and what mechanisms are available? What are the obstacles?*

**Promise:** ... I thought I might give a basic outline of how I see our organization approaching the subject. Then, Karen Walz, who is not going to be able to be with us, put together a PowerPoint and I'll jump into that. I'm John Promise with the North Central Texas Council of Governments (NCTCOG).<sup>1</sup> I'm here to help you <laughter in the room> since you're all member-governments of the NCTCOG. ... The last year or two we've been pushing the phrase "sustainable." You won't find "climate change" or "global warming" in any of our materials.

...

**Promise:** The broadest mantra that we're currently using is "Sustainable North Texas." We have that divided into three pieces linked to different activities that are going on within my department<sup>2</sup> and, somewhat, within the organization. We've spent a lot of time today talking about what falls within the first grouping, which is Sustainable Sites and Buildings.<sup>3</sup>

Recognizing that I do not have uniquely the transportation responsibility, but, obviously, also Fleet Management, Clean Fuels. That's a very big program at the Council of Governments. We win lots of awards. You should be very proud. There's lots going on in this region, looking to make it easier for everybody, especially in government, to have alternatives to the way in which we use fuel ... .

Under the heading Sustainable Sites and Buildings, ... there are transportation incentives for sustainability. There are calls for projects. There's money that's made available to our local governments to work with the private sector to do sustainability. I'm not speaking to those today, but there are those things. Among other things—just three projects I wrote down that some of you have some familiarity with—that we are helping you with in various forms that are aimed at implementation. One of those is energy codes. We have a very massive structure of many energy codes reviewed. We will be the people that are working with Texas A&M and the state to tell you that the 2009 code is this much better than the 2006 code or prior codes. Every time I ask, "Are we ready with that yet?" I get a "No, we haven't done all the work needed." But

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<sup>1</sup> See <http://www.nctcog.org>.

<sup>2</sup> Promise is director of the NCTCOG Environment & Development Department.

<sup>3</sup> See, e.g., reference to Sustainable Sites and Buildings in the NCTCOG Strategic Plan 2007-2011, <http://www.nctcog.org/edo/stratplan/envir/CODE.asp>.

we intend to, at some point through our committee process, state with support from SECO<sup>4</sup>—we have Texas A&M Systems Energy Lab<sup>5</sup> who are the people who say, “OK. If you implement the 2009 with COG’s proposed amendments, this is worth 8 percent, 10 percent, 15 percent.” We will be coming out with that, hopefully ... at the first of the year ... .

Some of you know that we have, for a long time, promoted Texas SmartScape,<sup>6</sup> which is the concept of using native and adaptive plantings. We partner with Extension Service and other interests—private sector folks. It’s certainly a voluntary program. It’s a way to get information out to people. We encourage our cities to join us in the spring each year to promote it as one region. Clearly, as we look to outdoor water use and what we’re going to do in the future, native and adaptive plantings fit into that. Xeriscape, etc. There’s not doubt in my mind that we’ll be continuing to examine that very closely and look to work cooperatively as a region on that topic.

A couple of us awhile ago were talking about Integrated Storm Water Management (iSWM).<sup>7</sup> Part of our storm water program, something that we have been promoting to our communities for development and redevelopment. Fort Worth was our leading-edge community that adopted it. A lot of other communities are using it or have adopted it. It’s now going through its first review. We set it up on a three-year review cycle. It’s going through a very extensive review cycle through the Public Works program. In a month or two we should have the new manual, which is *that* thick, as opposed to the old manual, which is *that* thick,<sup>8</sup> on-line tools, and all sorts of things. ... Because we’ve done all sorts of focus groups, people are saying, “It’s too big, too cumbersome.”

5:00

So we’re trying to satisfy all those sorts of challenges. As I said several years ago, all I want to do is fundamentally change the way every local government in the region deals with storm water in development and redevelopment. <laughter in the room> I want to do that all at the same time, which means by 2012 when all the small communities’ permits are due for renewal, iSWM is fully being implemented or we know why a community is *not* willing to do it. The only resistance we’ve had is from a couple of communities—one or more of whom may or may not be in this room—who feel like their practices are more advanced than what iSWM has in the past offered. But we’ll see over time how that works.

...

Julie used the phrase “low-hanging fruit.” I did go to training on climate change and global

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<sup>4</sup> State Energy Conservation Office, <http://www.seco.cpa.state.tx.us/>.

<sup>5</sup> See <http://esl.eslwin.tamu.edu/esl.html>.

<sup>6</sup> See <http://www.txsmartscape.com>.

<sup>7</sup> See <http://iswm.nctcog.org/>.

<sup>8</sup> Indicating that the new manual will be significantly thinner than the old manual.

warming that the American Water Works<sup>9</sup> put on a couple months ago. They trained on the phrase “No regrets.” So what we’ve been talking about today are things that we would have our local governments do with *no regrets*. It makes sense to change some of the fuel use and drive less because you can save money. You can say it different ways. You can save the money. It’s reducing *whatever!* But they suggest that there is a plethora of low-hanging fruit that they call “no regrets” measures ... .

There will be other things and there are other programs. The whole Sites and Buildings issue, you’re getting into it some. Form-based codes. It goes on and on and on. Certainly Sites and Buildings is something our agency, working for and with you, has a lot going on and will continue to do so. The *missing* piece that we have begun turning attention to this year is public rights-of-way. I’ve challenged my public works council—we’ve had a working committee of public works professionals, including Oncor, Atmos,<sup>10</sup> etc.—and after the first year they’ve agreed that they want to continue to talk to each other and try to work together and come up with suggestions of what cities should do. This is our third try at getting utilities and public works people together to talk about rights-of-way, and the last two have not been overly successful. The fact that these people even want to work together on a continuing basis is encouraging.

**Howard:** What do you want to have them do with public rights-of-way? What is your vision?

**Promise:** We want to help define for the region and together what is the concept of a *sustainable public right-of-way*. ...It’s just me philosophically talking and not the NCTCOG, but in my view the time at which a road can send its urban run-off to adjoining private property has ended, because all of *you* have permits and you are responsible for the discharge of that storm water, and no one has the right to discharge polluted storm water off their property. One of the ways we’re looking to tackle that is to say that it is a right-of-way. It is to serve multiple sustainable functions. A road is one of several very important functions. So are utilities underground. So is the urban heat island and plantings, etc. So is storm water runoff. The concept of what would a sustainable public right-of-way look like, feel like, taste like in a combination of cities, utilities, various interests, we have to tackle.

**Hurst:** Including natural gas pipelines?

**Promise:** Clearly, that’s what one of our state senators feels would be an appropriate thing to be in there, doesn’t she? ... Because it’s not up to John. I’m just letting you know that as cities look at topics of sustainability, climate change, etc., an area where cities have a very strong responsibility is public rights-of-way, and those have not been fully explored. Through my public works folks, who generally have a lot of responsibility for it, I’m letting you know that we have started a dialogue.

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<sup>9</sup> American Water Works Association, <http://www.awwa.org/>.

<sup>10</sup> Oncor, <http://www.oncor.com/>, handles electricity distribution (cf. production) for about 3 million Texas businesses and residences. Atmos Energy, <http://www.atmosenergy.com/>, handles natural gas distribution in North Central Texas (and beyond).

10:00

But today's presentation is mostly focused on the third piece. First was sustainable sites and buildings; second was sustainable public rights-of-way; the third is sustainable communities and a sustainable region. That goes from specific measures to implement to concepts of comprehensive plans. Land use issues. Broad community-based and inter-community-based sorts of things. I've got two things to share with you before I get into the slideshow.

First ... next fall, fall of 2010, we intend to release and to get buy-in into something called a "regional ecosystem framework," where we intend to move green infrastructure to the level of acceptance that gray infrastructure has long enjoyed. We're using hydrologic unit code boundaries, which the federal government has published, which are referred as 12-digit hydrologic unit codes. There are 413 of them in our region. They average 35 square-miles. We're doing everything from talking to Dana<sup>11</sup> in Planning to ... , the efforts you're talking about with watersheds. ... You're going to see a lot of attention over the next year in our agency trying to get local governments with federal and state interests all working together on the same geographies dealing with watersheds. .... It's not the same as Sam Atkinson's<sup>12</sup> watershed studies for Lake Lewisville. Everybody's got their own watersheds. The idea is to move toward standard units, which the federal government has now produced, which are common geographies. Local governments will subdivide them, but our interest will be to get folks cooperating together in common watersheds, all of which require ... sharing and cooperation among governments. Any of you that have anything to do with floodplain management will know that we are having a series of outreach meetings, and we have a major contract underway. We are taking all the flood data, all the new mapping, and putting it all into these new 12-digit hydrologic unit codes<sup>13</sup> as part of an effort with the Water Development Board.<sup>14</sup> ... When we say *sustainability* and *water* and *environment*, we need some common geography to assume. ... The federal and state agencies must use them.

**Barnett:** Is the Water Development Board looking at constructing a state water plan?

**Promise:** Well, that's certainly a direction that we very much would like ... for them to go.

The second item I want to mention is that our agency had a big think tank week-before-last where we brought in national, international people who have developed various land-use modeling capabilities. ... The agency feels like we need to make improvements in the way we work with our member governments in looking at future land use, especially to help our transportation program responsibilities. There's one land use-modeling tool—I'm not advocating any—called PICUS, which is being used in California, now starting to be developed

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<sup>11</sup> Dana Burghdoff, Assistant Director of Planning, City of Fort Worth.

<sup>12</sup> Professor Samuel Atkinson, Institute of Applied Science, University of North Texas.

<sup>13</sup> See [http://www.geodata.gov/E-FW/DiscoveryServlet?uuid={CD57C83C-BB0F-4464-9D76-FF07A445570F}&xmltransform=metadata\\_to\\_html\\_full.xsl](http://www.geodata.gov/E-FW/DiscoveryServlet?uuid={CD57C83C-BB0F-4464-9D76-FF07A445570F}&xmltransform=metadata_to_html_full.xsl).

<sup>14</sup> Texas Water Development Board, <http://www.twdb.state.tx.us>.



for Los Angeles and San Francisco, for example. It looks at every household and it tries to translate every household's characteristics and buying powers. ... Three million households in North Central Texas stratified by income level and buying power. How much fuel would they need? How much lumber would they need? They are looking to that level of detailed analysis for major urban areas. ...

**Smith:** What's the application in terms of lumber and fuel?

**Promise:** The input-out model capability to try and to figure out how will a region grow and develop and what will be the resources they need and what are the services that will be needed. I'm just suggesting it to you, not to advocate it. But people have developed complex computer models to that level that regions and Metropolitan Planning Organizations and communities are beginning to use.

15:00

So ... as we get into these topics that we're talking about today, we need to be thinking about where will technology take us in our conversation dealing with this subject. The point is, there is going to be more to come over the next several years as our agency selects, through an RFP process, and begins to put in place a much more sophisticated process. Trying to get some way to work with you and to determine what really looks like the future of our region.

...

Karen Walz is our Project Manager for Vision North Texas. She has a consulting firm and has been our project manager for several years. I'm going to run through some things quickly, some things a little less quickly. This is her outline for how could cooperation, collaboration, and coordination help us meet the challenges that we're facing as a region.<sup>15</sup> ...

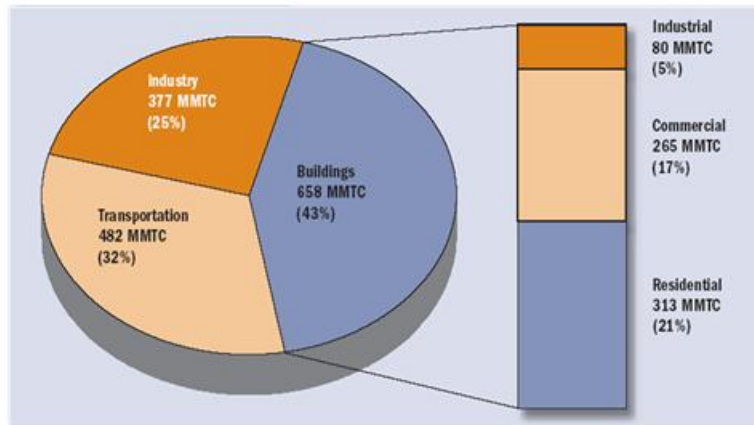
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<sup>15</sup> Graphics presented in this section are from the PowerPoint presentation entitled "Regional Coordination" that Walz prepared for this roundtable. Promise presents them in her absence.



Figure 2

- Carbon Reduction: Land Use is a Key *Addressing both Building and Transportation Sectors*



Source: 2007, U.S. Energy Information Agency

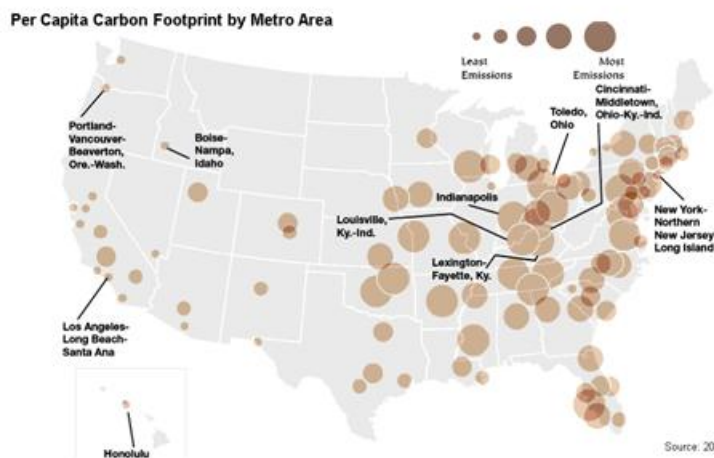
Also it's interesting that studies have suggested that the *type* of dwelling really can make a difference. So a multi-use, multi-family facility uses 35 percent less energy than does a free-standing single-family home. Recognizing that on the one hand you and we continue to get resistance to words like “apartment,” but more and more “multi-use” is getting more comfortable.

**Smith:** This is a really interesting slide. Do you know if it takes into account age? ...

**Promise:** Do not know. I'll get you the source.

Figure 3

- Metro Areas Are the Carbon Arena  
*All Communities Have Their Unique Challenges*



Source: 2008, Brookings Institute

This (Figure 3) is interesting because the graphic suggests their estimate—Brookings, 2008—of the per capita carbon footprint by metro area,<sup>17</sup> which is really interesting since we all agree that it is impossible to do a carbon footprint *easily* at the community level, how they can do it at a regional level? ... What you will see is that we're somewhere in the middle or lower range—in their view, at least.

**Howard:** That's nearly inconceivable to me.

**Promise:** I'm just suggesting to you that various people will throw out various data ... and this is all part of what ULI is using as they talk with their membership about the issues facing America and the issues to 2050.

Figure 4



This is Vancouver (Figure 4), and what their land institute has done—you can't read them very well—is come up with metrics, and they're emphasizing, as we would, the need to have metrics. It's nice to talk about these things, but in Vancouver "last call" for alcohol sales is 2AM. That had something to do with the pattern of how people travel and use their free time at night. It's interesting what they've chosen to include in their metrics. Various locational ones. ... Income. Population-related things.

20:00

The point of all this, very briefly, is that ULI, nationally, has come on board recognizing that climate change is one among several key factors influencing the United States in 2050 and the

<sup>17</sup> Shrinking the Carbon Footprint of Metropolitan America. The Brookings Institution. 2008. See [http://www.brookings.edu/reports/2008/05\\_carbon\\_footprint\\_sarzynski.aspx](http://www.brookings.edu/reports/2008/05_carbon_footprint_sarzynski.aspx).

need to pay attention to it. They have outlined a series of initiatives that they feel are important to be carried out.

**Figure 5**



This is Mexico City; the concept of “The City Wild” (Figure 5). Open space and greening of communities. The influence of water, power, light, and utility use.

**Figure 6**



We’re told that is a Texas slide (Figure 6).

Figure 7



Whether this is the vehicle of choice in the future (Figure 7) or not for moving around, it doesn't look like—

**Howard:** The new Hummer!

**Promise:** It doesn't look like it actually goes on waterways or hovers about waterways, but nevertheless—Various concepts of how we're going to get around in the future.

Figure 8



They're suggesting, beyond green buildings, the concept of "Whole Buildings" (Figure 8) and there have been studies that suggest attending to the security of buildings as well as energy efficiency of buildings.

...

Figure 9



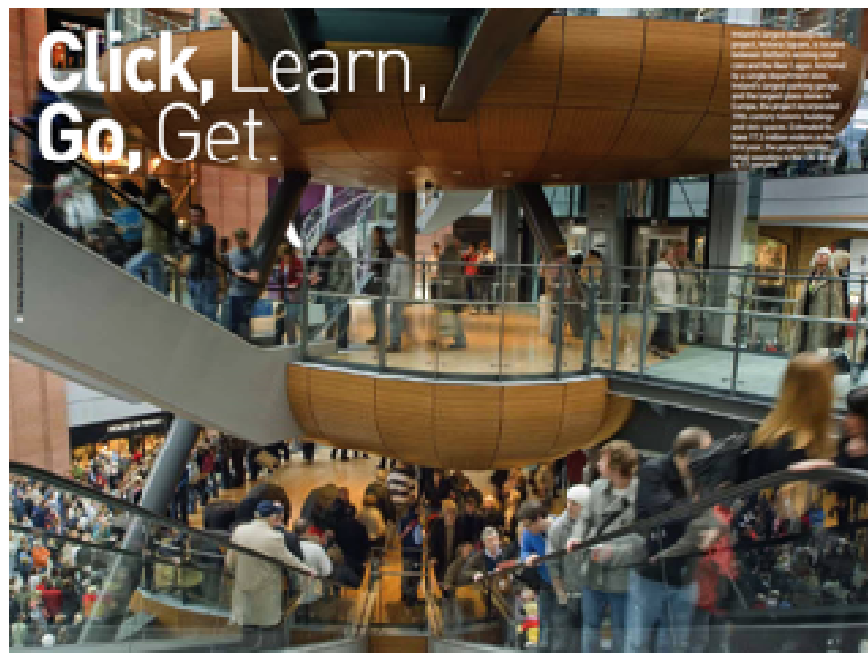
They talked about having choices throughout the community. We all have different phrases we use, but the family that grows up and still stays in the community —they certainly are advocating that concept. They are terming it *full-spectrum housing* (Figure 9).

Figure 10



“Plan it, Build it” is their concept of what ... future planned development efforts look like (Figure 10). These are concepts in San Francisco. I think it’s ... the redevelopment of Treasure Island ... .

Figure 11



The final one they call, “Click. Learn. Go. Get.” – which is ... how they characterize transportation (Figure 11). It’s not its own free-standing thing. They link it to technology and, obviously, those questions of how will we do business in the future and will we do it by



traveling, will we do it electronically, will we do it from home? How will we move commerce? It's interesting ... how they're characterizing the movement of goods and services and putting the *Go* along with the *Click* element.

In this region, there's an initiative called Vision North Texas.<sup>18</sup> It is a cooperative partnership begun by the charter members: ULI, NCTCOG, and UT Arlington. It is a private-public-academic partnership. We try to emphasize the *private* word first whenever we present it. Begun in 2004. We said that we want to increase awareness about expected future growth, be a forum for dialogue about that growth and the issues related, and build support for initiatives that create a successful and sustainable future.

Many of you know we did a workshop with Legos in 2005. It's nice to have the Mayor of Fort Worth and the Assistant City Manager of Dallas at the same table, playing with Legos. It took a year-plus to plan this session. At no time did we have any conversations about *continuing* it. This was never called a "first phase." It was never called anything but a single workshop with Legos to engage conversation. But 83 percent of the respondents (through keypad polling) supported the concept of moving to a preferred growth scenario and the need to continue to cooperate together.

So we've had a series of additional workshops. Committee structures. We've had outreach. We have been collecting money from you and from the private sector to support this continuing effort. We are currently working on something called *North Texas 2050*, intended to be released by the end of this year. Its intent is to combine a vision of what kind of region we want in 2050—one or more preferred scenarios, which will be the focus of the rest of the presentation today—an integrated infrastructure framework that would support that, and a series of action tools that you and others could use to put that vision into place.

## 25:00

We've had a regional summit last fall. We've had a meeting in June. Mark down September 18. That's our next big session, which is going to be in Irving. We're just starting to get the PR out. We'll have a summit in December or January where we'll release a draft of *North Texas 2050*. As we talk to people, we have asked: Should we be setting regional investment priorities based on a preferred growth scenario? That is, should Region C Water<sup>19</sup> be doing so? Should our metropolitan transportation plan? Should the energy discussions that are underway? Should the comp planning, which you all are involved in? Should the aim be ... some sort of a preferred vision for 2050 that the shared community is coordinating and integrating its investment decisions based on it? That is the question on the table.

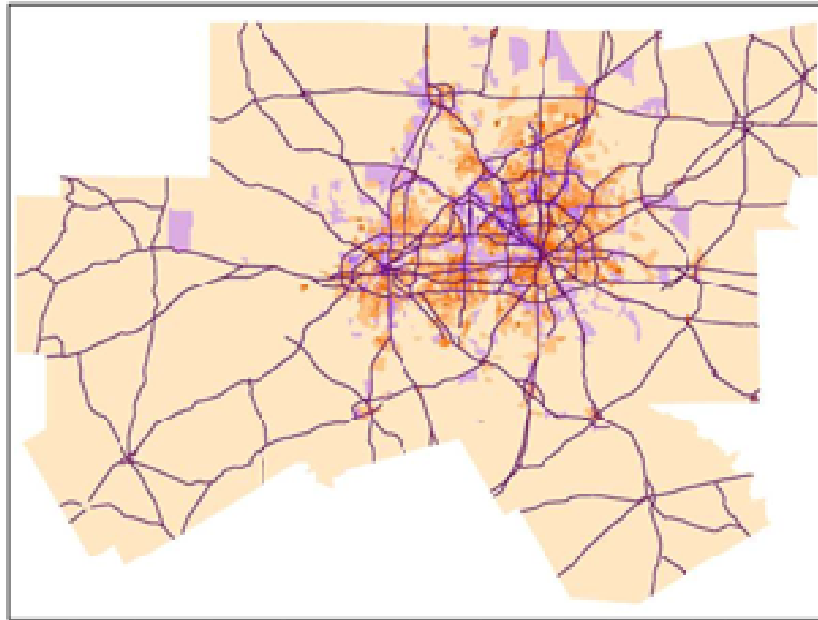
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<sup>18</sup> See <http://www.visionnorthtexas.org/>.

<sup>19</sup> Region C Water Planning Group, <http://www.regioncwater.org/index.cfm>. Region C, which covers much of North Central Texas, is one of 16 regional water planning groups established by the Texas Water Development Board to develop and revise a comprehensive water plan for Texas through mid-century.

Figure 12

## Business as Usual



Continuation of current trends and adopted plans

So what we have been doing is looking at alternatives to Business as Usual (Figure 12).<sup>20</sup> Business as Usual is COG's 2030 forecast, which you and others helped us to define and develop. It anticipates continued expansion of low-intensity development across the region. That is what the attractiveness models and the tools COG currently uses to do this work suggest is the more likely outcome when combined with the municipalities' plans for transit, for HOV. All those are built in, and there's still a distribution of development anticipated in the region. Not sure if Karen's got the slide in there, but recognize we're talking more than six million people now. We're talking more than nine million by 2030. We're talking somewhere at or near 12 million by 2050, which is more than double the 2000 population. That is what we're ... planning for.

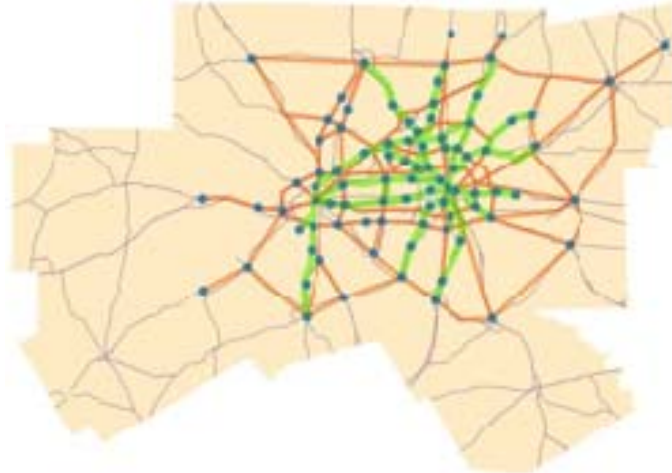
There are four alternatives which we are ... analyzing in great depth. We continue to welcome any and all of your help to analyze them.

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<sup>20</sup> Figures 12-19 were included in the PowerPoint file prepared by Karen Walz. They have been used in numerous Vision North Texas documents, including *North Texas Alternative Futures*, 2009, [http://www.visionnorthtexas.org/NTAF/Documents/NTAF\\_Sept18-09\\_Results.pdf](http://www.visionnorthtexas.org/NTAF/Documents/NTAF_Sept18-09_Results.pdf).

Figure 13

### Connected Centers

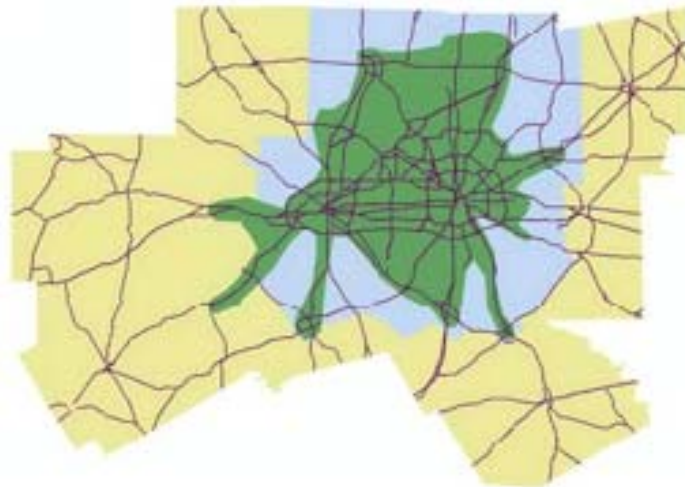


Give people more choice about how they connect to the places where they live, work, and play

The Connected Centers concept (Figure 13) begins with transit-oriented development and suggests that the investment framework for the next 20 to 40 years should be built around connecting people and places through more attention to transit-oriented development, through more attention to ... medium-high- to high-intensity ... development (we don't use the term *density* anymore) interconnected better as a region. Less development on the fringes of North Central Texas. That's the Connected Centers concept.

Figure 14

## Return on Investment



Maximize the benefit received from the extensive investment taxpayers and property owners have made in the region existing infrastructure & development pattern

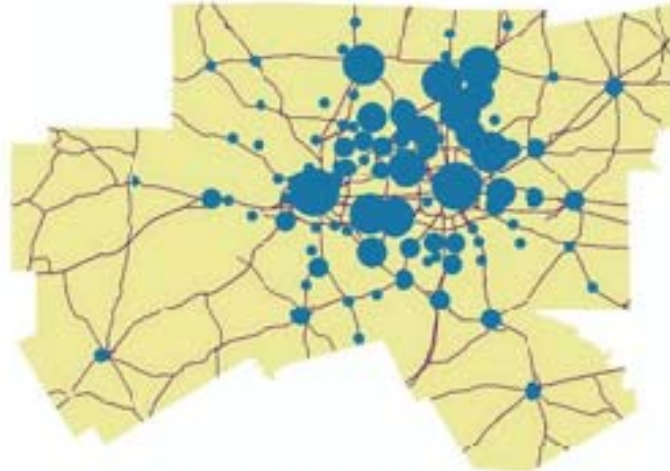
The Return on Investment concept (Figure 14) says we take some sort of urban service area,<sup>21</sup> somewhere approximating now, and we have a return-on-investment, meaning that there's rehabilitation, there are incentives for infill, that there's continued attention to transit, to bike-ped, etc. But the focus is on the investment. This has real implications for things like extending public water and wastewater service. It has real implications for extending highways or any activities like that. It has potential implications for communities like several in this room, which are not fully built-out yet. What would this mean to the concept of whether the remainder of your community is seen to truly build out yet—or does it turn into some other kind of protected use? But, the Return on Investment scenario would say, by definition, that there should be greater attention and incentives to investment where there is infrastructure already available.

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<sup>21</sup> An *urban service area* is the portion of a region in which municipal services (e.g., water, sewer, transportation, and transit) are available. It is commonly used to describe a line outside of which developers are asked to contribute monies to provide additional infrastructural support as part of the permitting process.

Figure 15

### Diverse, Distinct Communities



Create a region with different sorts of communities and centers but on the traditional character of regional communities but designed to meet the needs of the region's future markets

30:00

The third scenario—Diverse, Distinct Communities—is a concept (Figure 15) of beginning with downtowns, with the unique characters of different communities. You would think of it more as a nodal concept where the in-between pieces are not built-out as much. Maybe they are working lands and farmlands. Maybe they are protected natural areas. But rather than having impervious surfaces wall-to-wall across the region, we would have *centers* of imperviousness, but they could be surrounded by much larger areas, which are ... some form of working lands or open space. There's still development going further out, but celebrating the distinctiveness of various communities.

Figure 16

### Green Region



Green region green development structure serves as the foundation for future regional growth

... The Green Region scenario (Figure 16) ... More green jobs. Using watersheds as the new planning units for future development. Doing greenprinting<sup>22</sup> and other sorts of efforts ahead of time in those watersheds. McHargian<sup>23</sup> theories of looking at suitability, looking at areas for protection, and then having construction and building occur around ... that framework of green regions. Going to *everybody* using iSWM. Going to significantly less water use. That is, maximizing green. Not just that your city just wants to be green, but the entire community of communities indicating a full commitment to green, which includes green investment in the Eulesses, reinvestment in the Arlingtons and the downtown Fort Worths, daylighting the streams, putting in riparian buffers. ...

**Smith:** Is there *any* chatting about carrying capacity? Is that ever—

**Promise:** That's absolutely the concept with the Green Region. Some analyses have already been done; some are underway. You're welcome to join us in those over the coming months.

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<sup>22</sup> See, e.g., Trust for Public Land, "Greenprinting for growth in Texas," [http://www.tpl.org/tier3\\_cd.cfm?content\\_item\\_id=21160&folder\\_id=264](http://www.tpl.org/tier3_cd.cfm?content_item_id=21160&folder_id=264), and a 2008 presentation by TPL to the North Central Texas Council of Governments: [http://www.nctcog.org/trans/sustdev/bikeped/JamesSharp-Greenprinting\\_1\\_31\\_2008.pdf](http://www.nctcog.org/trans/sustdev/bikeped/JamesSharp-Greenprinting_1_31_2008.pdf).

<sup>23</sup> Referring to the landscape architect and regional planner Ian McHarg.

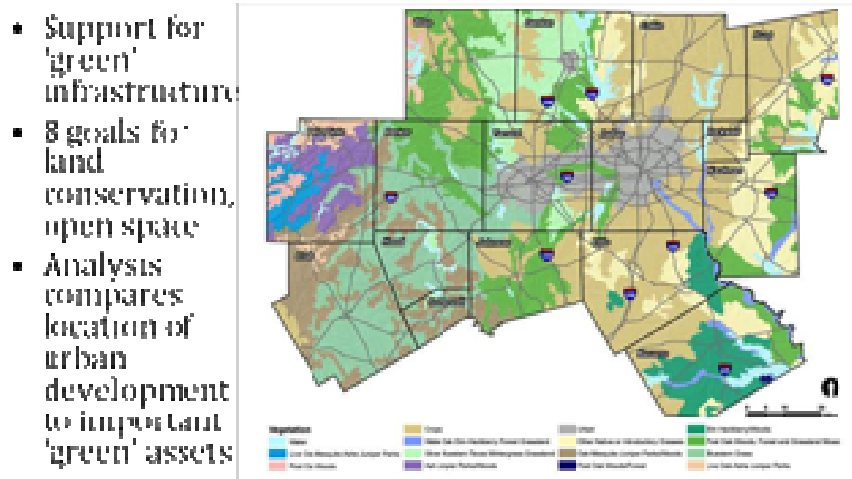
Figure 17

- Compared to **Business as Usual (BAU)**, all alternative scenarios reduce the average trip length by over 10%.
- **Green Region & Diverse, Distinct Communities** reduced hours stuck in traffic by 19%.
- **Diverse, Distinct Communities** shows the maximum air quality benefit, with 11% reduction in VOC & CO emissions.
- **Return on Investment** showed \$6.9 billion cost savings to meet infrastructure needs.

Our transportation modelers have taken the COG 2030 forecast, which we are publicly calling Business as Usual ... . They have modeled that and modeled all the other alternatives, and all the other alternatives have at least a 10 percent better performance on average trip length (Figure 17). They all have a better performance on vehicle miles traveled. They all have a better performance related to air quality, emissions, etc. It’s interesting that the Green Regions and the Diverse, Distinct Communities have the highest benefit for reducing hours stuck in traffic. It’s interesting that the Diverse, Distinct Communities scenario has the highest air-quality benefit.

... There’s a green attitude in the region that translates into green habits, and what they’re offering and what they’re looking to. I’m not going to say that it’s based on a “millennium” shift ..., but it recognizes some of what Julie was talking about as well. Return on Investment shows the highest cost savings to meet infrastructure needs, which seems to make a lot of sense, because all the other alternatives would require a lot more roads, a lot more investment in infrastructure ... .

Figure 18

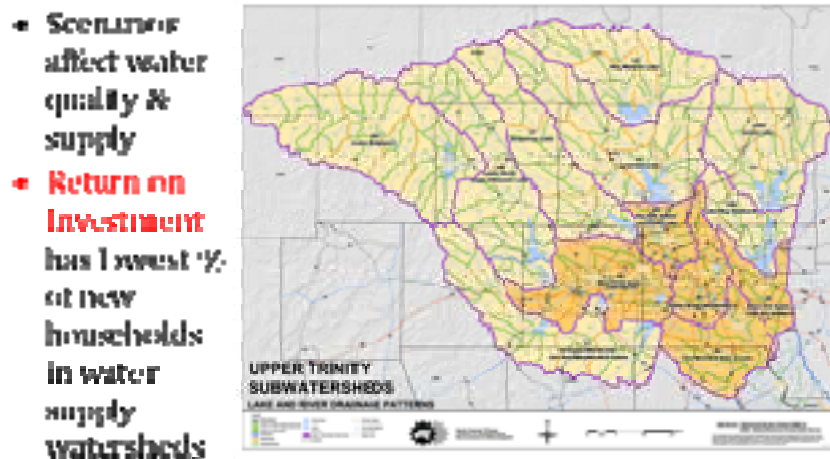


The natural assets: We are using eight goals for conservation that we’ve done through our greenprinting work (Figure 18). It would be ... no surprise to you that the Green Region

alternative is the one that has best response related to green concerns, by definition. Nevertheless, the Return on Investment—If we put all our money truly into returning investment, then the concepts of ... the Green Region come into the picture here as well: working lands, working farmland around the edges of our region to support that new agricultural production that we talked about in the future that we need to keep closer at hand. And as communities go in and redevelop, as Euless goes in and redevelops over the next 40 years, then under a Green Region concept there would be much greater attention to how natural assets and green infrastructure needs to be balanced with the grey infrastructure. I'm suggesting that that can be done under Return on Investment as well, because all that new water/sewer money is not going out to the fringes. It's coming to the new residents coming into Euless, which are higher, possibly, than your current comp plan calls for, because there's a higher intensity of use.<sup>24</sup> Not that your city doesn't want it, but even in some places the city hasn't identified yet as potential places for higher intensity. Doesn't mean it's got to be skyscrapers, but higher intensity of use as those communities redevelop.

35:00

Figure 19



For water resources, Julie, we're very much looking at the area developing to the rivers and the area developing to the lakes (Figure 19). If we were to reinvest—Return on Investment—then we would have significantly more new households in that dark area relative to the outlying parts of our region, which are represented as the drainage areas in yellow. It doesn't mean there aren't still people coming to Frisco, McKinney, or Denton; but ... the relative share of those new jobs for those new households would be greater in the darker area than Business as Usual would call for. We're talking, between now and 2030, another 1.5 million households. Our view is that there's plenty of population growth to go around. ...

We've got a variety of taskforces that are working on these alternative scenarios. We have a

<sup>24</sup> New residents coming to Euless are living in neighborhoods that may be at a higher intensity than those called for by the current comprehensive plan.



health group that has some of the big entities and interests in our region. The head of Parkland<sup>25</sup>, health department officials, they're all looking at some of the things that we talk about. And, yes, walkable is much preferred to drive-able. As part of this effort we expect a very strong push from the health community in our region to our elected officials and our communities advocating the need for change from Business as Usual. From the transportation standpoint, there's not enough money to build everything everybody wants. The next transportation plan gets developed over the next year for release in the fall of next year. So we are challenging our own process to consider which of these scenarios would work best if what we're trying to do is *truly* meet mobility needs for transportation. Not economic development needs—*mobility* needs for transportation.

From an ecosystem standpoint we're matching this up with a framework where we're looking at environment/watershed-related issues. We've got Region C very engaged in our dialogues, for discussion of the implications of these scenarios. Do any of these scenarios make any difference to water use? Next year they do their five-year update ... to their water plan.<sup>26</sup>

What I'm saying is that we've got a lot of different interests engaged. All of them have their own plans of what they see the future looking like in five years or ten years. *What do we want as a region in 2050?* Coming back, Jeff, to the conversations earlier: The President—last week, the week before—with international leaders, indicated a commitment to at least an 80 percent reduction in GHG emissions by 2050, compared to 1990 (which is interesting because we can't even do emissions inventories for today. Who's going to have it for 1990?)

**Howard:** We'll have to use backcasting.<sup>27</sup>

**Promise:** I'm just indicating to you that 80 percent—Some of you may be aware that last month the secretaries of Transportation and Housing and Urban Development and the Administrator of EPA testified to the Banking Committee of the Senate. This is the committee that has oversight over mortgage lending, over all of the foreclosures that are going on, over the total restructuring of the banking industry. This is the committee that is overseeing that. They went and testified that their intent is to work together and that *the days of sprawl are over* and that the new transportation bill and ... the financing and investment policies of HUD and the environmental regulations of EPA will generate a different development and investment pattern in the future than what we have seen. This is very interesting, because certainly our local governments advocate *local* control and, regardless of where you are on the spectrum of politics, I think that we would have some very strong sentiment in this region ... that local governments would still like to have some ability to influence their future themselves.

... So I anticipate that there will be significant federal dialogue, resisted or supported in various quarters, across this whole platform. As we're looking at these scenarios, they're talking about requiring metro areas to do scenario planning.

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<sup>25</sup> Parkland Hospital, <http://www.parklandhospital.com/>.

<sup>26</sup> For regional water plans, see <http://www.twdb.state.tx.us/rwpg/main-docs/regional-plans-index.htm>.

<sup>27</sup> Whereas forecasting derives a possible future (scenario) derived from the current state and trends, *backcasting* begins with a desirable future and develops a set of policies and plans for achieving it.

40:00

So, I would suggest to you, especially in many of your roles dealing with urban planning and the communities, we see a much healthier dialogue, or at least more extensive dialogue, coming in the next year, in the coming several years, as we as an agency and an MPO<sup>28</sup> are required to do certain things because of our responsibilities and how that translates to what business you're doing at the community level. Not the least of which is an emerging, stronger federal policy on climate change, etc.

Let's talk about where we are as a region. Certainly, there's a lot of attention being placed on what are the goods and bads. We know no single scenario is going to emerge as the winner. We are engaging lots of people in your communities—elected and others—to try to get some consensus on: "Can we really come up with a direction? Is there a direction here? What do you like or not like about the direction?" ...

**Howard:** A lot of regional coordination issues came into the conversation during our earlier sessions.<sup>29</sup> Now is the time to talk about how climate change mitigation, adaptation, and mitigation/adaptation looks differently, perhaps, through a regional lens and what we can do with that.

**Smith:** ... In McKinney we have a demonstration garden for xeriscaping, and all the bigwigs came when we did the opening, including Ralph Hall.<sup>30</sup> ... Unlike his other Congressional peers that were at that opening, he said, "Unfortunately—in DC—Texas is on the outside looking in." I thought that that was an interesting comment. I read into that a comment on the local control thing. That comes back to that disconnect between our local decision making and our impact on that global community. ... We come from a state that is land-rich, so we've always had a "land ethic" and somehow our personal liberty rights are tied up in land ownership in this state, more so than in other states. I *do* think that if we are not careful as a state and a region — I think that the Congressman has a point. And I think that it's one of the reasons that we have trouble getting federal funding for energy efforts that other states are managing to get. We have the universities here in this state. We have what we need to put them together in an attractive style.

**Hurst:** And we have one of the most high-functioning COGs in the entire United States in this region.

**Smith:** In terms of a global perspective, as the population changes, as that population is doubling, it's not coming from the same political background. It's going to change the politics of the area. And that's probably, in terms of all these policies and initiatives we're talking about, a good thing. I anticipate that to be a good thing.

**Howard:** Several factors possibly come together. One is the millennial shift. One is the influx of people from other parts of the country where there's a different mentality. There are climate-

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<sup>28</sup> Metropolitan Planning Organization.

<sup>29</sup> Chapters 2-4.

<sup>30</sup> Congressman, Texas 4<sup>th</sup> District

protection initiatives coming out of DC, supporting by and pushed by international initiatives on climate protection.

Coming down to the community level, between those other three and the community level is the regional level. I'm interested in thinking about what NCTCOG can do. You don't have regional *authority* but are the regional planning entity. What do our communities need COG to do to help bridge that gap between the national and the international, on the one hand, and the local, on the other hand? What can COG do to help us make conversations with councils easier, better, more far-reaching? How can a regional conversation—a regional collaboration—make some of these things possible that would otherwise be difficult?

45:00

**Barnett?:** I think you need a coordinated education and outreach effort.

**Smith:** I'm right there with you. I agree.

**Walker:** I think more of what was done ... when NCTCOG did the scenarios, the growth scenarios exercise. I was there; it was great. I think more things like that that get us thinking about where we are within our region, and when we started looking at some of the Connected Centers options, everybody was really intrigued by that: "Here's a way we can interconnect with each other without necessarily having to get in a car." Does it change our daily patterns of how we commute? Probably not. But, if we've got another option to go somewhere else (i.e., shopping, sporting events, another community) and we don't have to drive, then that changes our perspective. We're a lot closer to Fort Worth than we think when we can hop on a train and be there in an hour versus any other means. I think that those kinds of exercises are really great for me.

**Smith:** I thought that, too, John. Maybe we should try to do more of those exercises as a group.

**Gray:** I can also use legislative support to get land-use control in unincorporated areas, because if we can't control that we can't address anything.

**Smith:** What about TDRs?<sup>31</sup>

...

**Promise:** Well, part of the work we have underway—Clearly the challenge is one of those tools that are in place or would be needed that are missing now to bring about implementation of these non-Business as Usual scenarios. A couple that you just listed are ... biggies.

**Hurst:** Does anyone recall *Metropolitica*, by Myron Orfeld?<sup>32</sup> The guy from Minneapolis, where they implemented tax redistribution on a regional level in order to *direct* infrastructure development. Is there an opportunity for us to use a well-developed regional coordinating framework to assist in other ways, other than just in an advisory capacity? Right now, NCTCOG

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<sup>31</sup> Transferrable Development Rights allow developers foregoing development in areas targeted for protection to pursue development (possibly at higher-than-zoned densities) in other areas.

<sup>32</sup> Myron Orfeld, (1997), *Metropolitica: A Regional Agenda for Community and Stability*, Brookings Institution Press.

functions as our Metropolitan Planning Organization, but it has authority over only one pot of money, and that's the transportation funding. What would happen if other types of monies for, say, public housing development, went through a regional coordinating step before being distributed to cities? I'm just trying to poke you with a stick here. Are there roles COG could play—thinking outside the box—that they're not playing that could have a salutary effect on our adaptation or mitigation efforts? On our "sustainability" efforts?

**Howard:** John, how would you get more regional planning authority?

**Promise:** Let me just contrast for you, for example—There was a time when transportation funds were distributed differently. Currently, they're distributed through a coordinated process with a regional board of elected officials making choices about that. Let's contrast that with the new stimulus funds for energy. This region, as a total, will be getting over \$50 million. That money will be distributed individually to 31 larger local governments through DOE. Every other local government will get some share of those funds through the state energy office. There is no method of coordination or cooperation either available or required.

**Smith:** No, it's required—

**Promise:** There's no requirement for cooperation or coordination within any of that. There's a paragraph in an application where a community gets to say that they're working with their neighbors.

50:00

**Smith:** You have to say what other cities are doing whether you're working with them or not.

**Promise:** So, you've got a time when energy is important, energy is critical, yet the method by which the choice of how to move the nation along continues to be one where funds are distributed by the federal government or their agents directly ... to local governments, which is absolutely great for my members and absolutely does nothing to bring any kind of greater cooperation among local governments, because the pressure's on them to come up with good individual projects. You mentioned the tracking and things that need to be done. So, I say it not with an edge, because the recording is being transcribed, I just say that there are ways in which we could find ways to better use funds. We have been asked at meetings with our own local governments (i.e., members of NCTCOG): "Why did the state or federal government not do something where they pooled the funds? Let local governments get together and have some dialogue on whether they want to spend \$30 million and build a wind farm somewhere in this region that could supply multiple local governments?" There's no opportunity to have that dialogue.

**Howard:** Because there's no framework for it.

**Promise:** Yeah, because the funds have been distributed under this non-regional allocation framework. To the extent that funding—

**Smith:** There's another thing that you can do, though, and that's the distribution of federal energy funds. We're purchasing our hybrid fleet vehicles with it, John. It's not COG specifically, but there's some coordination. That's a ton of money! So some of it *is* coordinated.

**Promise:** Sure. But in response to your question, “What could be done?”: The concept of allocating money to metropolitan regions and having boards of elected officials and others make decisions together about how best to use those funds—at least in transportation, that is the model that we’re using. That doesn’t mean there’s not fighting and fussing and rancor, but at the end of the day there is a process to prioritize very limited funds. We don’t see that in any other program.

**Howard:** Would it help your communities if COG were to have a program that would highlight climate change mitigation/adaptation measures undertaken by cities in the region, highlighting, specifically, efforts in the seventeen cities that are in Cities for Climate Protection or that signed the U.S. Mayor’s Climate Protection Agreement? Tracking what they are doing? Something the cities could update periodically to keep track of what’s happening? Highlight the good stuff and maybe have some framework for discussion between the cities about joint problems?

**Barnett:** Well, Denton has absolutely worked with ICLEI on that. ICLEI already has most of those case studies available to members. When you start looking at your measures—

**Howard:** Yes, but I’m talking about case studies within the Metroplex.

**Barnett:** The ICLEI regional office has already started doing case studies for this region. But, we’re pretty far behind most of the other regions, so you need to pull from those other areas. With a partnership or some type of working relationship between the COG and ICLEI, then COG’s not having to spend the resources to recreate something that’s already there. But having those case studies available to *everybody* so that whenever you look at your emissions and go down that road to make your decisions about what’s the most cost-effective, ... what are we going to do first? What have other cities already done? Maybe it’s something you didn’t even think about. Having that available is absolutely invaluable.

**Smith:** It’s pretty interesting just to read the questions on the grants—EECS<sup>33</sup> from DOE. ... They’re pretty good in terms of cities writing in saying, “We’re thinking about doing this. Would this apply?” And there response is ... There’s some pretty creative stuff going on out there.

55:00

**Walker:** If there was a way for regional funding of some type—I think the biggest problem for us, individually, in cities trying to think regionally and what’s best for the region, is how we survive locally. Everything is so much through our local sales tax revenue. If we’ve got development on the perimeter of the city, and you’ve got a developer that wants to do something that’s completely against your comp plan or your better planning judgment (i.e., a bunch of big boxes with acres and acres of parking that you just cringe over) ... and knowing that it’s contributing to the heat island, it’s contributing to storm water run-off—everything that’s bad about that type of development—but they dangle the carrot: “We’ll go across the street and build it there, and then you don’t get any of the money.” So you end up selling your good planning soul to the economic devil because you don’t want to lose out on it, because you

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<sup>33</sup> Energy Efficiency and Conservation Strategy, part of the U.S. Department of Energy’s Energy Efficiency and Conservation Block Grant (EECBG) program

think, “Well, if we lose that money then we’re not going to be able to do other things that may be better in a different part of the city.” So, it’s kind of like what you were getting at that if there were something regional that rewarded good planning and good sustainable practices region-wide, then maybe we’d all quit the fighting amongst ourselves.

**Smith:** Because the developers play that game well.

**Walker:** They play it well. It’s competition between the municipalities.

**Howard:** The region needs some way to counter that economic stick the developers wield.

**Smith:** We *hand* it to them on a silver platter! We need —and then we need land development regulations region-wide, John.

**Howard:** Well, in a sense, John, this very question comes right back to ——This is an analogue of the question that will confront Vision North Texas at the point where the 2050 plan is available, or when the preferred scenario is developed. Then the municipalities will look at it and say, “Now what do we do? Do we have any basis for collaborating with our neighbors to implement this vision?”

**Promise:** It’s sort of a rhetorical question. You can’t ask me that, because you’re asking the municipal planners that. I’ll share some of the analysis we’ve been doing. Some of it has to do with what is that mix of development types that we’re talking about over the next 20 years. It is still, predominantly, low-intensity development, but it’s the difference between—Under Business as Usual, the region will have four million—rounded off—plots of land that are low-intensity housing, whereas under the other scenarios we will have three million or less. We will still have the vast majority of housing in this region in 2030 in what we would refer to as low-intensity single-family. But in order to influence 2030, a large portion, or meaningful portion, of the *new* development would obviously have to be in higher-intensity categories. A lot of you are already into trying to help make that happen. Recognize that the ULI is one of the strong partners in Vision North Texas. ... The ULI district council has gotten real engaged over the last years in this effort. This week ULI has been interviewing well-known individuals who are involved, for example, in relocation of folks<sup>34</sup>, asking them, “OK, how do people make decisions about such things?” There’s a well-known magazine in the region that publishes, “Here are the best suburbs in the region.” There are dialogues underway with them saying, “OK, now what are the metrics you use in deciding what a good suburb is? You know, that development pattern you’re praising is in the direction that seems to suggest ... business-as-usual growth. How can ULI, with its interest in sustainable development, help you, Unnamed Major Magazine, to maybe look differently, in the future, at how you score and rank, etc.?” We’re having those discussions, really trying to get at some of those real key messages, the most difficult of which ... is, “What will the population of 2030 or 2050 want?” The intent is that we have put these scenarios forward as responding to a need. This is not government regulating ... the pattern of growth. It is not necessarily saying government would exercise greater regulatory authority in other issues (i.e., other than transportation funding). It is saying that if, through whatever ways

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<sup>34</sup> This is a reference to discussions with Ebby Halliday Realtors, which deals extensively with people moving to the region because of major corporate relocations from elsewhere.

we can get consensus, it appears that individuals in the future will really want to live and work and play in a region that has stronger connected centers, then it is in everyone's interest to cooperate together to attract those individuals who might otherwise go somewhere else if our region's development is not based on connected centers.

60:00

...

And the private sector would say, "Well, that's great, but there are disincentives which local governments still impose that discourage us from developing in the regionally preferred way." One of the conversations we had earlier this week at EPA, along with other people, was about brownfields.<sup>35</sup> If we're talking about this reinvestment strategy, then we probably all need to visit together about how do we expedite some process that takes contaminated sites and turns them into something useful, because right now that ... can be a very long process.

**Smith:** It's a four-day trip to EPA to learn how to implement your grant once you get it.

**Promise:** If that is a priority, then we would need cooperation across the thousands of brownfields in this region in a coordinated way to really get the ability for the development community to truly access those sites. It's that sort of thinking we're talking about at the broadest level that we haven't talked about before.

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<sup>35</sup> Brownfields are contaminated sites that are sitting idle but could be remediated and redeveloped. North Central Texas, like most regions, is littered with such sites. See <http://www.epa.gov/brownfields/>.

## Chapter 6— Open discussion

**Howard:** I have no preconceptions about the remaining time, so I'll just throw the door open and ask what's on your mind that we haven't yet exhausted.

**Steer:** ... Does anyone have a specific program that they are following for their green initiatives? There are so many programs out there. Which one should a city follow? ... Any sort of green program. I think that TCEQ has a Clean Texas program.<sup>1</sup> Who else? There's several different programs out there, all with the same goal in mind. Which one do we follow? How do we keep on-track with the rest of the cities in the region?

**Promise:** No there is no such thing—no singular thing. Even with LEED you have people that would argue that Green Globe<sup>2</sup> and some other approaches would be preferable to it. Not me. But now LEED, which is ... fairly accepted as the standard, has some of its own challengers.

...

**Hurst:** John, what about your Development Excellence program?

**Promise:** Certainly we have Principles of Development Excellence<sup>3</sup> that we have advocated, and a recognition program<sup>4</sup>, part of which is within the discussions underway in Vision North Texas, where we make a statement of principles. The group ... has begun with those Principles of Development Excellence, which we generated several years ago, and those are getting hacked at. We would expect, under Vision North Texas, some attempt to—For example, those principles advocate pedestrian-friendly design, reduction in vehicle miles traveled, and energy efficiency, but they do not speak to *how*. One of the topics that ... has come through Vision North Texas is a very strong advocacy by the health department,<sup>5</sup> well aligned with the directions we have been talking about. ...

**Howard:** And it cuts across a lot of those boundaries between issues in connection to climate change. It connects to air quality—

**Promise:** Programatically, I've not seen an example that would be such that you or some community would say, "Well, if I just follow this *pro forma* or something—" It really is an

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<sup>1</sup> See <http://www.tceq.state.tx.us/assistance/cleantexas/cleantexas.html>

<sup>2</sup> See <http://www.greenglobecertification.com/>

<sup>3</sup> See <http://www.developmentexcellence.com/principles.asp>.

<sup>4</sup> CLIDE Awards, <http://www.developmentexcellence.com/awards/overview.asp>.

<sup>5</sup> VNT's Health Research Team has been led by Tarrant County Public Health, <http://www.tarrantcounty.com/eHealth/>.



emerging science. ICLEI<sup>6</sup> is probably the closest that's been developed to date to meet what you're talking about.

**Hurst:** Does your award evaluation program have a set of metrics ... that could be valuable to communities when they conduct cost-benefit analyses or return-on-investment analyses for various initiatives?

**Promise:** We have ten Principle of Development Excellence, and the way people submit projects is they have to submit information related to those ten principles—but without any unique metrics associated. Then we have a national judging panel we convene who know what's going on with such things and then do the selections.

**Hurst:** So the answer is “no.”

**Promise:** There are no quantitative metrics, but the relative location of a given development to another development, whether it's distant ... or in the center of the region—There are things that can be translated into metrics, but I feel the judges can evaluate it on the basis of the characteristics of what's being described. ... The judges ... generally have some national presence and kind of know, “Well, that's fine, but this is really at the low end of what people are doing.”

5:00

Our objective is to evaluate projects in this region against what might otherwise be called a national standard ... . Compared to other projects in the nation, how do these projects rank? Those that really appear to be strong are the ones that the judges select. This just occurred. We just had our every-two-year awards recently, so we've just been through the process.

**Howard:** Back to Matt's question: My question in response would be, “To what extent do the Cities for Climate Protection program and the Mayors Climate Protection Agreement provide a framework that you find useful? To what extent are those programs valuable as frameworks for doing this kind of work?”

**Smith:** Well, you guys in Arlington have done a whole lot more work in terms of the footprint type of stuff. In McKinney we're going to have to get a baseline, and you've done that.

**Boomsma:** Our city has. I'm just sort of an intermediary here.

**Smith:** I don't know if you guys have looked at this document,<sup>7</sup> but it's fascinating to me.

**Boomsma:** I think that that was presented at one of your classes.

**Steer:** Isn't that ICLEI?

**Smith:** Yes. And their greenhouse gas forecast is all about adaptation. I'm sure that if any of us did this we'd be tracking something similar. That's what scares me about it, because it's a pretty aggressive climb in greenhouse gas emissions between 2005 and 2020. And it recognizes the

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<sup>6</sup> ICLEI Local Governments for Sustainability, <http://www.iclei.org/>.

<sup>7</sup> Unidentified document.

kinds of things that John's saying, if we do Business-as-Usual, which it looks like it's going to be. It does take into account energy efficiency. ... They had to take nearly 200,000 passenger vehicles off the road to meet the objective of returning to baseline year 2005 vehicle emissions by 2020.

**Howard:** Never mind 1990.

**Smith:** Yeah. That's an *adaptation* graph right there, because *we're not mitigating*. I am sure all our footprints look similar to this. I'm sure that all would be climbing like this. I think that for communities like yours and mine, we won't do that intense growth. We're going to do the suburban-sprawl stuff, but we're going to see it in spades as soon as the economy starts to turn around. You're beginning to hear that come 2010, we might begin to see those rooftops grow again. That's depressing. <laughter in the room>

**Howard:** John, how much of a topic of conversation has climate change been in the Vision North Texas process?

**Promise:** It has been modest compared to a variety of other discussions. Yet mobility, transportation, and the ability to reduce vehicle miles traveled has been very prominent. Clearly that's well recognized as a primary indicator of seriousness as well as accomplishment in reducing greenhouse gases.

**Howard:** Implicitly, it's in the mix a lot?

**Promise:** I would say *implicitly*, yes.

**Walker:** This is just my opinion, but I think that there is so much focus on transportation and vehicle miles just because we've been fighting the past couple of legislative sessions to get some additional funding, and we're not getting it.<sup>8</sup> That pretty much overwhelms the discussion on it, just because everyone's trying to look united as far as going forward with this funding. We don't have any other approach.

...

10:00

**Howard:** Does the refusal in Austin to allow the local funding option for mass transit set back regionalism in North Texas?

**Promise:** ... The Fort Worth Council member who has led the effort to get ... revenue sources for mass transit was recognized by his peers for his efforts as the "regional leader of the year."<sup>9</sup> He had something like 5,000 recommendations. There's never been anybody so nominated as he was nominated. Clearly the pulse of the NCTCOG and those officials is that it is a long-term need, which will not be given up on. So it's not, "Well, that's gone." There's a renewed

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<sup>8</sup> This is a reference to efforts to pass the Texas Local Option Transportation Act in the 2009 Texas Legislature. See a related presentation prepared by the North Central Texas Council of Governments at <http://www.nctcog.org/trans/transit/planning/rnt/T-LOTA12-17-09.pdf>.

<sup>9</sup> See "Jordan wins William J. Pitstick Award," [http://www.dfwinfo.com/trans/outreach/localmotion/07\\_09pg2.asp](http://www.dfwinfo.com/trans/outreach/localmotion/07_09pg2.asp).

commitment. ... Recognize that it's not my program, but there seems to be a much stronger consensus on the need to do something together on transportation than there has been in a very long time, and the failure of the legislature to support the local option has only strengthened the commitment of the people involved in it to continue to work toward finding some way to get a positive outcome. Again, it has not been taken off the table; I think it's going to be even strengthened. But we talked before about the power of citizens and the need for community and leaders and individuals and business leaders and others to step forward and to make known their support, or not, for such things.

**Walker:** In Frisco, after the special legislative session had ended and it was obvious that nothing was going to happen ..., the City of Irving contacted us. The BNSF freight line that goes through Frisco, through Carrollton, and down into Irving station and crosses with the TRE<sup>10</sup> — — We got together on that and were trying to strategize: “OK. If we're not going to get this funding through tax monies, what can we do? Let's look at it differently.” What you're saying is that it has made the effort stronger for the cities that are actively wanting an option to go out and find a different way to do it. Does that make us less a player regionally, maybe, if we're just looking at the line between Frisco and Irving and trying to come up with some way to fund that ourselves rather than fighting with the system at large? I don't know.

**Smith:** That's not unlike NTTA,<sup>11</sup> though.

**Cook:** Or Burleson and Fort Worth trying to work together, as well.

...

**Walker:** It strengthens the partners involved, that bond and that relationship. How it all plays out ... Whether we end up having five or six different transit authorities. That would really be bad regionally. If I want to go from Denton to somewhere else, I've got to have three different DART passes or — —

**Smith:** Maybe it'll be just like the toll road now. You just drive straight through and somebody mails you the bill.

15:00

**Promise:** You asked me to give some thoughts. I'd prefer to give them unrelated to the specific role of the North Central Texas Council of Governments ... but just based on having been around awhile. The first point is that usually these things take a while, these kinds of issues ... usually take awhile to boil and bubble and stir, etc. Green/sustainability/climate change has very rapidly gotten into the network of local governments, probably more quickly than some might have imagined it could. The fact that we've got this many communities individually signed on with ICLEI without any real economic incentive — — I mean, they're not getting \$20

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<sup>10</sup> Trinity Railway Express, <http://www.trinityrailwayexpress.org/>, which links the downtowns of Fort Worth and Dallas.

<sup>11</sup> North Texas Tollway Authority, <http://www.ntta.org/>.

billion because they signed on. They signed on because they thought that was what was best for their communities. One of my perspectives is that this has moved along *very rapidly*.

Another perspective is that we are only at the beginning of at least a four-year administration which has made some of these topics very prominent: sustainability; putting Smart Growth into transportation bills; getting federal agencies to cooperate with common and integrated policies; attention to urban needs. The discussion today is at the very front end. From the seat I sit in, there's absolutely no doubt more and more attention and dialogue and requirements are going to occur from the federal level furthering that. I feel that programs like Vision North Texas, which really now has engaged the private sector, which has UT Arlington and other universities engaged, which has other communities engaged, is an excellent and proper way to, then, have a good regional conversation on what is it that we want to do. The latest issue of *Urban Land*, which is the national publication that's gone to all 30,000 members of ULI, is focused this month on suburbs. The lead article begins with something like: "The last 50 years is over. The next 50 years has begun."<sup>12</sup> We need to forget what we've seen in the past; the future will be dramatically different. That's the Urban Land Institute talking to its own members.<sup>13</sup> What that direction is we don't know, but it's going to be different than what it has been. So what a great time to have this dialogue here. ... It's a really good time to be engaging folks in trying to anticipate what might come and to prepare even more together about how we could ... cooperate together, but certainly cooperate with the private sector and get citizen groups and homeowners associations and others more engaged.

...

**Hurst:** In general, how sufficient do you all believe that the "sustainability" framework is for addressing climate issues? Everyone here has talked about "sustainability" initiatives ... almost to the exclusion of climate issues, for whatever reason. Are the "sustainability" discourses that are going on in your communities—"greener" this and "more efficient" that and "more 'intensive' development"—adequate proxies for discussions regarding climate protection?

20:00

**Smith:** They're a place to start, that's all they are. ...

**Promise:** I think we, at the Council of Governments, like to have multiple objectives management and multiple benefits ... A conversation that engages phrases like "sustainability" and includes and does not back away from issues like climate change, but also recognizes *other* benefits to *other* audiences or to *other* needs as well, have a higher likelihood of having long-term support and success. I don't think it's so much avoidance all the time as it is, maybe, trying to hit the right button that really brings multiple benefits together for an action that the local government will take.

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<sup>12</sup> "Retrofitting Suburbia." Ellen Dunham-Jones and June Williamson. *Urban Land*. June 2009.

<sup>13</sup> As Promise pointed out in an earlier session, ULI serves the real estate development community.

**Barnett:** I think *sustainability* is a broader topic, but I certainly don't think it's exclusive of climate change discussions. I think that the sustainability umbrella includes discussion of climate change.

**Hurst:** Even when you don't talk about it?

**Barnett:** When you don't say the words, specifically? Yeah, I think even when you don't say the words specifically. I think that there's a lot of things that can be implied through conversations without saying the words specifically. I don't know that saying those words, specifically, *gets you anything*. I don't think that there's a lack of awareness. Is that what you think, that it kind of turns its back on a lack of awareness? What do you think that using those specific—

**Hurst:** I don't have an opinion in this context.

**Howard:** Oh, you have an opinion. <laughter in the room>

**Smith:** In other parts of the country or national conventions on the topic, it's the opposite. Upside down. Climate change has become the umbrella and the driver for all these other concerns.

**Howard:** The lens through which the others are seen.

**Smith:** Exactly. As opposed to being a subset of it. And we haven't gotten there yet. We're definitely not there yet. What she described is absolutely right. What John is saying in terms of what we can sell and what is accessible and what people are willing to hear is exactly right. But, agreeing with Congressman Hall,<sup>14</sup> Texas is on the outside looking in. Everybody else on the inside is going, No, no, no, no! *This* [i.e., climate change] is what should be driving it!

**Howard:** My concern is that there is an inherent limit to how much climate protection and climate adaptation we can do when we're not willing to talk about climate and not willing to make it an explicit—and a central—topic of conversation. Not necessarily the lens through which you look at everything else—although I think that's intriguing—but, at least, a consistent and frequent and crucial kind of lens that we're putting before the public and our elected leaders. My sense is that there is ultimately a limit to what we can actually accomplish if we don't do that. There's a lot we can do without it, but there's a limit to what we can do without it.

**Gray:** I agree with you, but I also think that in this region, if that's where you want to go, you're going to make more progress saying "sustainability" and using the bigger, softer umbrella. You're going to effect more change by *not* talking about it directly today.

**Hurst:** But will you, then, be able to measure your progress in a way that is relevant to meeting climate protection and greenhouse gas emissions goals?

**Gray:** I certainly think we've set up outcome measures related to reduction in energy usage and in reducing carbon footprints. All of those things are part of the outcome measures you look for. I just think it's *framing* it in a different way. I think it's a more palatable way, today, for the public. I do think that the conversation will evolve.

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<sup>14</sup> See Smith's reference to Rep. Ralph Hall in Chapter 5 transcript.

**Smith:** I agree, because of cap-and-trade. Once cap-and-trade gets passed, and some version of that will be passed, then—And when we have our EECS grants and have to stand up and talk about climate change related to that, it's going to enter the conversation because we are going to be forced to do it.

25:00

**Promise:** I would challenge a little bit: Certainly I, and on behalf of my organization, ... support the idea of having a vision of where we want to be, and talking about how “We want to be a sustainable community. We want to be a sustainable region. Here are some of the ways that we achieve that.” We do not want to be a “climate change community and region”. And ... that raises some of the difficulties— ... Is climate change *where you want to get to*? No. It has impacts on our ability to get somewhere, obviously, but *where we want to be* cannot be, right now, translated into words like “greenhouse gases” and “climate change.” “Sustainability” or other words allow a dialogue of: “OK. That means that we reduce greenhouse gas by 80 percent from 1990 levels. We have interlaced parks and open spaces. You know, we have things that, together, end up with a *sustainable* something.” I would just argue a little. Some of the difficulties in being a regionalist—Climate change is not where we're trying to get to. ... How do we frame the topic in a way where we can put in front of someone the idea that “We're doing all this, and here's where we want to get to”? It would seem like an 80 percent reduction in greenhouse gases based on a 1990 baseline would get us to something. What is it going to get us?

**Howard:** Let me rephrase the question. Can we expect to achieve a goal of 80 percent reduction in greenhouse gas emissions by 2050 under a “sustainability” concept without talking about *climate*, or without having *climate* be a centerpiece of what we're grappling with? Is there any reason to seek an 80 percent reduction in greenhouse gases if climate change is not a central part of what we're talking about?

**Promise:** But we've gone through that discussion over the last couple of years from the health advocates who have come forward and suggested that all that discussion of mixed-use and stuff is great, but what about health? Shouldn't we be putting *health* in front of the public, because among the reasons we're talking about less miles-traveled and walkability is obesity and concerns with child health. Is it that we're trying to have less droughts? Is it that we're trying to have less floods? Is it that we're trying to have better health for the lady from Wisconsin who wants to move to McKinney? What is it that we're striving, Jeff, to achieve? If controlling climate change gets us to that, I think that helps the dialogue. You've got it in your handout, some of the ideas and ways people are framing this. We're doing it because we want these outcomes. We want a healthier life for our children. We don't want to be facing a lack of water, recognizing that today we can do something about making sure there's enough to meet our future needs. That's the essence of the dialogue.

**Hurst:** As Julie recognized earlier, our conception of the discourse that our region has surrounding climate change is “bass-ackwards” from the discourse that much of the rest of the entire country has. Much of the rest of the country has sort of put climate change at the center and said, “We will use these tools from the sustainability toolkit in order to achieve reduction in

greenhouse gases, in order to motivate adaptation responses ... ." Are we looking at things the wrong way?

**Cook:** I think we've stated it before. We've got a future that we have to accommodate, particularly in this area, because that's what we're focusing on. We have a culture that has what we discussed before. We have land/property ownership and property rights issues, similar to lots of states to the west of us. We have issues of personal freedom that they feel certain kinds of regulations intrude upon. We have that kind of culture ..., but also we've overcome other things that people felt were intrusive.

**30:00**

We've overcome CFCs<sup>15</sup>, for one thing. Everybody used them in one shape or form, and we've been very successful in eliminating a significant portion of CFCs out of our daily activities. Part of that has come through federal and state regulation. Maybe that's part of the direction that we need to go. It [(i.e., culture)] is overcome-able, but it is a significant impediment to change. It takes groups of individuals being able to keep the dialogue moving forward and finding ways of, for lack of a better term, *spinning* the way the policy direction needs to go in order for the incremental change to be able to achieve our final goals.

**Barton:** Maybe I haven't really heard this idea that "the rest of the world thinks it's climate change, and we keep calling it *sustainability*."

**Howard:** It's an oversimplification.

**Barton:** I don't perceive that difference in conversation, but maybe I'm not looking for it. But if that exists, maybe it's because in the rest of the world the conversation has evolved to that point, and they're all in a "do/don't talk" situation and we're not there yet. I can't imagine anybody in my jurisdiction arguing against Carrollton being a *sustainable* community. That's beyond imagination. And yet we still hear conversations and arguments about cap-and-trade and global warming and climate change— "You can't do this because it will cost too much and destroy the economy." I still hear those things out in public discourse.

I'm reminded of the time when I moved from Austin, Texas, to Lawton, Oklahoma, not knowing any better. ... When I left Austin, the controversy that was raging through the community— protests in front of city hall, letters to the editor, people calling into radio talk shows ... — was how to protect the cave invertebrates in the hills west of the city. Very high-level, esoteric discussion. When I moved to Lawton, Oklahoma, they were also having a controversy in town, raging through the community. People showing up at City Council for and against and arguing. Letters to the editor ... . And after about six months the answer was reached. That topic was: "Do we want sidewalks?" So, the rest of the world may just have evolved beyond ... "Do we call it *sustainability*?" They're just going to assume it's going to be done, somehow. But I can't imagine anybody around here being against "Let's be a sustainable region." Maybe that's just where we are.

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<sup>15</sup> Chlorofluorocarbons, which were banned internationally through the Montreal Protocol (1987) in order to protect the stratospheric ozone layer.

**Walker:** The political climate and climate change and all that other stuff has become so politicized. Cap-and-trade, it's so politicized. When you throw out the buzzwords it puts you're on one side or the other.

**Smith:** People feel like they have to line up on the issue based on which party they belong to.

**Walker:** ... And climate change is still "something that Al Gore made up and made a movie about."

**Smith:** ... "I don't like Al Gore, so climate change is non-existent."

**Walker:** Right.

...

35:00

**Walker:** I think in that respect, "sustainability" is not a political buzzword. It's harmless. It's something everybody can rally behind no matter your political affiliation. But you start in with some of these other things and they become such political buzzwords that you immediately draw a line down the middle of the room and people jump to one side or the other. And if you turn to the left side of the room and talk about climate change, everybody is embracing it; you turn to the right and start speaking to them, you've lost them completely. So you don't want to lose your audience just for the sake of keeping the broader goal front and center.

**Barton:** I'm not sure that I agree with your supposition that if we don't *call it climate change* we can't accomplish everything that we need to accomplish. I'm having a hard time figuring out if, in the name of sustainability we reduce VMT and we redesign our communities to be more compact and we have the green region and all this good stuff—Isn't that exactly what we want?

**Howard:** It may be. My revised question to John was: Can we, under the umbrella of *sustainability*, actually get a commitment to 80 percent reduction in greenhouse gas emissions? If not, then refusing to talk about *climate change* is a serious framing problem.

**Smith:** I think you have a very legitimate concern, because I don't think we can do that under the *sustainability* umbrella alone. That is such an extreme goal.

**Howard:** It's *not* extreme. It's exactly what's being talked about nationally and internationally.

**Smith:** I mean "difficult to reach." I don't mean extreme in terms of what we need. ... So the problem becomes, if you can reach that "sustainability" goal—maybe what John is envisioning is this process—and it's still not going to meet that 80 percent carbon reduction goal—that's the concern, if there's going to be a shortfall between what you're doing toward meeting "sustainability" goals in your community, because that 80 percent has to be planet-wide.

**Howard:** An "extreme" goal.

**Smith:** Yeah. It going to take more steps than just reducing *your* VMT and *your* carbon footprint in *your* community.



**Howard:** ... I'm not looking tomorrow for this dialogue to change enough so in your city councils or in your community meetings you'll be able to talk about climate change without that polarization occurring. I accept that analysis. I'm not under any illusions about that. My concern ... is that the climate change challenge requires us in our municipalities and in our regions ... to be able to move systematically toward the 80 percent goal or something approximate to that. I think planners have an important role to play in making that happen. One of the key ways that they need to do that—including here in North Central Texas—is to become advocates for climate change reality, climate change sensibility, climate change sanity. I don't see that happening tomorrow, but I do see a strong need for that happening in the coming years. I see more and more of a need for planners to be out front promoting climate change sanity, and that means using the phrase, pushing the concept, and somehow reorganizing this dichotomy, this rift in the room that occurs whenever the term is used. I think that the prospects for doing that are better a year from now than they are today and better five years from now than they are next year because of some of these same dynamics that we've talked about: cap-and-trade, the "millennial" shift, etc. Those changes are happening. We need to be ready to take advantage of them and push this dialogue hard in the coming years. We can't *wait* for it to happen; we have to *push* it.

40:00

**Smith:** ... I'm talking about urbanized areas, because you don't have to go very far outside urbanized areas to run into "What do you mean, 'climate change?'" Our urban area is one of the most important in the United States on the basis of all sorts of different metrics. If you take us and put us up next to other urban areas across the planet—not just across the United States—that's kind of [unintelligible]. That's one that worries me. It doesn't worry me a whole lot, because I feel the dynamic is changing. In the last five years it has been amazing compared to the previous fifteen, or the previous 20, for that matter. We have changed more in the last five years than we did in the previous twenty. Somewhat like the feedback systems we've got going on the planet, that's going to continue. I'm going to do like my buddy over there in Fort Worth and I'm just going to go, "The feds are making us do this. ... Can I still have my job?" <laughter in the room>

I would encourage you to go out—There's lots of seminars, lots of lectures on climate change from people who are very reputable here in the Metroplex. I would encourage you to go out there and self-educate somewhat, because I doubt that there are too many people among your bosses, your city managers, your assistant city managers that are knowledgeable about what the stats *really* are, what the science *really* is. It's so easy to dismiss it because it's overwhelming, and that's what we tend to do. And that's a huge mistake.

**Howard:** Is there something that you can see the School of Urban and Public Affairs and UT Arlington doing to help this along? Can you offer suggestions of what *we* can do here to help this process along?

**Smith:** ... The University of North Texas will sponsor lectures from time to time. I'm sure you guys at UT Arlington do, too. Maybe it would be worthwhile to have —I know Jon Shapiro

with the Texas Institute of Sustainable Technology Research.<sup>16</sup> ... His point is, “We’ve got it all in terms of the Metroplex. It’s just in a couple of different universities. We need to combine that effort.” As a very lowly adjunct at North Texas, I would really encourage us to all do that and provide these forums for people to come, and make it at a layman’s level. I don’t care if it’s Joe next door wanting to learn something about it or the planner at the local city planning department, we need to provide those forums.

...

As local government, we’re so suspect. ... I’ll never forget doing a certain comprehensive plan some years ago and our consultant was from out-of-state and had spent ... his childhood years in Europe. His first presentation to Council on how we might want to develop land development was pictures from cities overseas cities. He was looking at old cities; they didn’t have cars downtown. The response from the Mayor was, “Well, that’s not in the United States.” So the next presentation came back and the pictures were from several different cities in the United States, and he said, “Those are not in Texas.” So the next one came back and there were shots from down around Houston and it was, “There aren’t any picture of Dallas/Fort Worth.” <laughter in the room> Well, you know, “Isn’t that the point—to do it differently than we’re doing it in Dallas/Fort Worth? Isn’t that why you hired me?”

45:00

So, I do think it would be helpful if the local universities—that people have a fair amount of respect for—would sponsor that kind of series. We’re going to try to bring in some national-level speakers next year for Earth Day for that reason and gear it toward residents. I want high-powered, juried scientists who have credentials and who know how to talk to lay people. ... That is hard, but the ones that meet those criteria are excellent.

**Cook:** Our mayor is very involved in local green organizations and in getting that kind of speaker in front of those organizations. Then that’s what they bring back and start a dialogue and say, “Well, why aren’t we doing *this*?”

...

**Howard:** Final thoughts, anybody? Thank you all very much for coming.

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<sup>16</sup> See <http://www.texasinstitute.org/>.

## *Appendices*

- A. Invitation letter, May 2009
- B. Comments from nongovernmental organizations and others
  - B.1 State Rep. Lon Burnam
  - B.2 ICLEI Local Governments for Sustainability
  - B.3 Urban Land institute
  - B.4 Vision North Texas
  - B.5 Past Chair of the Environment, Natural Resources, and Energy Division, American Planning Association
- C. Supplemental information on City of Westlake
- D. Web resources on climate change
- E. Suggested reading

Appendix A—  
**Invitation letter**

May 2009



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**Roundtable:  
Planning Climate Change  
Mitigation and Adaptation  
in North Central Texas**

**School of Urban and Public Affairs  
Institute of Urban Studies  
University of Texas at Arlington**

**July 16, 9:00-4:00**

On July 16 the Institute of Urban Studies at the University of Texas at Arlington School of Urban and Public Affairs will sponsor a daylong roundtable on the crucial, emerging planning issue of climate change mitigation and adaptation.

Planning departments in each of the 17 Metroplex municipalities that are members of Cities for Climate Protection or signatories of the U.S. Mayor's Climate Protection Agreement are being invited to send representatives for a lively and stimulating conversation on climate-related planning initiatives throughout the region, strategies for addressing climate concerns in the coming years, and the challenges of doing so.

We invite you to select one member of your staff to participate.

Karen Walz and John Promise have graciously agreed to lend their expertise on climate affairs and help focus the discussion in part on regional coordination and collaboration. Karen is Project Manager of Vision North Texas and Principal of Strategic Community Solutions and has actively engaged in issues surrounding planning for climate change. John is Director of Environment & Development at North Central Texas Council of Governments and is involved in numerous related initiatives.

In designing the roundtable, we seek a balance between focused conversation and community education. In order to provide all participants an opportunity to fully engage in the conversation, we are extending invitations to only one member of each of the 17 signatory municipalities and there will be no audience. Following the roundtable, a summary and transcript of the roundtable, jointly edited by the participants, will be made available (at no charge) to Metroplex planners

and others to improve their understanding of climate change as a key challenge for municipal planning in the region.

We expect the participants to gain a clear understanding of the state of climate change mitigation and adaptation planning in Metroplex communities publicly committed to climate protection as well as fresh insights into corresponding opportunities and dilemmas. As scholars whose research focuses in part on climate change planning, we look forward to sharing our perspectives and learning those of key members of the Metroplex planning community.

There is no charge for participating in the roundtable, and lunch will be provided by the Institute of Urban Studies.

We look forward to hearing from you.

With kind regards,

Jeff Howard  
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## *Appendix B—* **Comments**

The editors invited the roundtable participants, planning directors in other cities who were invited to participate in the roundtable, and a number of nongovernmental organizations and others to comment on the draft transcript (Chapters 2-6).

Comments approved for publication were received from:

State Rep. Lon Burnam, an alumnus of UT Arlington’s City and Regional Planning program—Appendix B.1

ICLEI Local Governments for Sustainability, sponsors of Cities for Climate Protection—Appendix B.2

Urban Land Institute—Appendix B.3

Vision North Texas—Appendix B.4

American Planning Association—Appendix B.5

Appendix B.1—

## Comment from Rep. Lon Burnham

State Rep. Lon Burnham

October 8, 2009

Comments on UTA Roundtable on Planning and Climate Change  
July 16, 2009

First, I commend UTA for hosting this excellent event. Putting city planners in a room together to talk about climate change, what it means for North Texas municipalities, and how to incorporate it into their work is a huge step toward the kind of coordinated actions we must take if our communities are to survive the threat posed by climate change.

I must say, however, that upon reading the transcript from the discussions on mitigation and adaption, I am concerned that our region's planners do not yet grasp the gravity of the threat posed by climate change and the magnitude of the task before us. Time is running out as current emissions projections are heading toward worst case scenarios. As the Chairman of the Intergovernmental Panel on Climate Change said last month, "Science leaves us no room for inaction now."

In his testimony before Congress last year, NASA climatologist James Hansen said "we have used up all slack in the schedule for actions needed to defuse the global warming time bomb." If we don't take decisive action now, it will be "impractical to constrain atmospheric carbon dioxide...to a level that prevents the climate system from passing tipping points that lead to disastrous climate changes that spiral dynamically out of humanity's control."

If you share the scientific community's sense of urgency, as I do, most of the mitigation efforts discussed in the roundtable are woefully inadequate. Recycling programs and hike and bike trails are great things for our cities, but as climate change mitigation strategies, they are about as effective as an umbrella in a Class 5 hurricane.

Averting climate change catastrophe requires a paradigm shift in urban planning. Since two-thirds of carbon dioxide emissions in Texas come from transportation and electricity generation, a successful mitigation strategy must fundamentally change how people and goods move around our cities, how much electricity we use, and how that electricity is generated. In that sense, transit oriented development and community gardens are steps in the right direction, but they are not nearly enough. We need to vastly expand mass transit both within and between North Texas cities. (That point is directed as much at my colleagues in the Legislature as it is at local municipalities.) We must begin the transition now away from oil as the primary fuel source for our cars.

I applaud Denton's commitment to obtaining 40% of its electricity from renewable fuel sources and challenge other cities to match it. I also commend the City of Coppell for purchasing half of the electricity it uses for its government buildings from renewable sources. Those are the kind of steps that give us a fighting chance at diffusing the global warming time bomb. I am also encouraged by the number of cities adopting new, green building codes.

State Rep. Lon Burnam

October 8, 2009

The discussion on adaptation indicates that our region is even further behind the curve on that front than it is on the mitigation front. Julie Smith is right that climate change is not a matter of "if." With regard to the various impacts of climate change, it's a matter of "when" and "how much." Outside of planning for diminishing water supplies, it appears that we have not yet begun to think about the multiple and specific ways that climate change will disrupt our communities and change our current way of life.

I was glad to see discussion of what seems to me to be one of the critical aspects of climate change adaptation as it relates to planning -- the need to extend the planning horizon. Without considering what our cities will look like 30, 50, or 100 years down the road, it's virtually impossible to address the challenges posed and changes required by climate change. Changing flood patterns, relocation of coastal populations, and new urban-suburban spaces, for example, are difficult to plan for, but they are impossible to incorporate into comprehensive plans without thinking at least 30 or 50 years down the road.

Though it may not fall within the realm of the participants' planning areas, I saw no mention of the need to plan for some of the most concrete ways that climate change will affect North Texans' health. Rising urban temperatures will exacerbate already poor air quality through longer ozone seasons and higher summer ozone levels. We must start thinking now about how we will deal with such impacts, as well as adverse health effects such as increased heat-related illnesses and new or increased incidences of infectious diseases.

I understand the difficulty of getting our communities to take climate change seriously and the need to educate Texans at every level about the urgency of the situation. I filed an adaptation bill at the Legislature last session that would have required a number of key state agencies to begin planning for the effects of climate change. It would not have cost the state a penny, but the bill languished and died as a result of the Governor's hostility to the topic and the low priority that climate change is for many of my colleagues.

I would encourage each of us -- educators, planners, and policy makers -- to not shy away from talking about climate change and the urgent need for action. The political ground on this topic has shifted significantly for the better in the past three years, and will continue to do so if we each do our small part.

Thank you for the opportunity to contribute to this extremely important dialogue.

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Appendix B.2—

## ***Comment from ICLEI Local Governments for Sustainability***

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ICLEI is an association of local governments that assists CCP Campaign participants in achieving their goals by providing: technical support, quantification tools, fact sheets, best practice examples, policy templates, training workshops, regional and national events, and access to a thriving global network of local government leaders taking action on climate protection.

Over the last ten years, Cities for Climate Protection (CCP) Campaign participants have implemented thousands of mitigation projects and made operational and policy changes that are altering the way cities use energy. These changes have yielded annual reductions in greenhouse emissions of approximately 60 million tons.

As more cities join CCP, the opportunities for shifting the trends of climate change grow substantially. The good news is: cities recognize climate change impacts as threats to public health, security, and local economies.

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The future of the planet’s health lies with cities. Urbanization and demands driven by burgeoning cities create the imperative to act. Given the scope of the problem before us, and the increasing impacts of global warming, more cities must actively engage in the CCP Campaign to effectively diminish the upward trend of climate change.

When most local governments think of climate protection, they think first of **mitigation** – actions to reduce anthropogenic greenhouse gas emissions, to avoid further disruptions to the Earth’s atmosphere. But while effective mitigation action is crucial, it is not the only aspect of climate protection that local governments can engage in. **Adaptation** is the other half of

comprehensive climate protection. Adaptation involves recognizing impacts of climate change that are *already* occurring and will continue into the future, and planning ahead to maximize the positive aspects of these impacts while protecting lives, health, property and ecosystems from the negative ones.

#### *The Difference between Mitigation and Adaptation*

The IPCC Third Assessment Report (2001) defines mitigation and adaptation as:

**Mitigation:** An anthropogenic (human-caused) intervention to reduce the sources or enhance the sinks of greenhouse **gases**.

**Adaptation:** Adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Another way to think about it is to consider mitigation as activities to protect nature from society, while adaptation constitutes ways of protecting society from nature.<sup>1</sup>

A further difference between mitigation and adaptation lies in who takes action and who benefits. With mitigation, local governments can take actions that result in global benefits. For adaptation, local governments can also take action, but the benefits are more local as well.

Most of the climate actions that ICLEI local government members have focused on so far are intended to reduce greenhouse gas emissions by lowering energy use, cutting vehicle miles traveled, cleaning up emissions from industry and utilities, etc. – in other words, *mitigation* actions intended to avoid worsening climate change by slowing the rate at which greenhouse gas emissions are being added to the atmosphere.

While mitigation is a crucial part of climate action, it cannot be the only one that local governments focus upon if they want to protect and improve their long-term sustainability. As the IPCC Third Assessment Report noted, “Owing to the lag times in the global climate system, no mitigation effort, no matter how rigorous and relentless, will prevent climate change from happening in the next few decades.”<sup>2</sup>

Therefore, local governments must also consider *adaptation* – that is, planning and preparing for the impacts of climate change that are currently occurring and can be expected to continue in the coming decades due to existing greenhouse gas levels.

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<sup>1</sup> Nico Stehr and Hans von Storch. October 19, 2005. Introduction to papers on mitigation and adaptation strategies for climate change: protecting nature from society or protecting society from nature? Accessed from sciencedirect.com, Jan. 29, 2009.

<sup>2</sup> Working Group III Fourth Assessment Report (WGIII AR4), Chapter 11 (Barker et al., 2007); Working Group I Fourth Assessment Report (WGIAR4) (Christensen et al., 2007; Meehl et al., 2007)

Adaptation is receiving increasing attention in the media and in national and international policy circles, and is expected to be a major focus of the upcoming December 2009 international climate change meetings in Copenhagen, Denmark. The results of a recent study highlight its long-term importance: a team of NOAA researchers found that once carbon dioxide is emitted, it persists in the atmosphere and oceans, and will continue to affect the climate for centuries to come.<sup>3</sup> The researchers estimate that impacts to the U.S. that are anticipated in the next few decades, such as sea level rise and Dust-Bowl like drought in the Southwest, will persist for at least a thousand years, regardless of how much emissions are reduced.

### Synergies

Despite significant differences between mitigation and adaptation, there is more common ground between them than might at first be obvious. Some of the major actions that local governments may be taking to mitigate future climate change also have adaptation benefits. The tables below summarize how some climate action measures can work synergistically to achieve greenhouse gas reductions while at the same time making communities more resilient to expected climate change impacts.

Energy	
Mitigation	Adaptation
Reduce emissions by expanding use of renewable sources	Reduce vulnerability to widespread power grid outages by encouraging distributed generation from multiple renewable sources (solar, wind, biogas, landfill methane, etc.)
Reduce emissions by improving efficiency of energy and water delivery systems	Reduce potential for grid overload and failure by decreasing demand.

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<sup>3</sup> Susan Solomon, Gian-Kasper Plattner, Reto Knutti, and Pierre Friedlingstein. Irreversible climate change due to carbon dioxide emissions. Proceedings of the National Academy of Sciences for the United States of America, December 16, 2008. <http://www.pnas.org/content/early/2009/01/28/0812721106.full.pdf+html>

Green Building Strategies	
Mitigation	Adaptation
Reduce emissions by curbing energy use through greater efficiency	Lower energy use will create less demand on the grid during extreme events such as heat waves, decreasing the likelihood of blackouts
Adopt or encourage LEED building standards for commercial, residential, retrofit and municipal projects	Building standards could include greater resistance to high winds, flooding, etc.
Implement a weatherization program	Better insulated buildings that rely on day lighting and natural ventilation will be more functional and comfortable during power disruptions, reducing the potential for heat- or cold-related illness and death during power supply disruptions

Food Production and Distribution	
Mitigation	Adaptation
Reduce emissions by encouraging local food production through local agriculture, community gardening, etc. to decrease the number of miles food must be transported	Reduce reliance on centralized food system where commodity production is concentrated in a few locations that may be vulnerable to climate disruptions such as storm damage, pest outbreaks, etc.

Forestry and Open Space	
Mitigation	Adaptation
Increase carbon sequestration by promoting healthy forests (including urban forestry) and natural open space	Reduce vulnerability to flooding by promoting functional watersheds, including healthy forests and open space
	Increase habitat available to climate-stressed species by protecting open space

Forestry and Open Space	
Mitigation	Adaptation
	Counteract urban heat island impacts by planting trees to provide shade and cooling

Water	
Mitigation	Adaptation
Reduce emissions by reducing water use (less energy required for treating and transporting water)	Conserve water so more is available during more frequent and severe droughts

Smart Growth and Transportation Strategies	
Mitigation	Adaptation
Reduce emissions by decreasing vehicle miles traveled through compact development	Improve delivery of disaster assistance and reduce costs of rebuilding
Promote high-density and in-fill development through zoning policies	Reduces area that emergency personnel must cover, making delivery of disaster assistance more efficient
Institute growth boundaries, ordinances or programs to limit suburban sprawl	
Give incentives and bonuses for development in existing downtown areas and areas near public transit	Makes evacuation easier and more efficient
Discourage sprawl through impact, facility, mitigation, and permit fees	Reduces number of miles and costs of repairing or replacing infrastructure (i.e. roads, bridges, electrical and sewer lines) when climate-related disaster strikes; also reduces fragmentation of ecosystems, allowing them to function more effectively.

These are only a few examples of synergies between mitigation and adaptation actions. Local governments are likely to find others as they look for solutions that will work for their communities. The key is to consider BOTH:

- How much, and at what cost, a particular action will reduce greenhouse gas emissions; and
- How effective a particular action will be at reducing climate-related risks to lives, health, property and ecosystems.

### Contradictions

Although there are many examples of how mitigation measures may provide adaptation co-benefits and vice versa, the opposite can also be true: some adaptation measures may increase greenhouse gas emissions and therefore work against mitigation; while some mitigation measures may increase climate-related risks to lives, health, property and ecosystems, and therefore work against adaptation.

Several factors may add to the contradictions between mitigation and adaptation efforts<sup>4</sup>:

- Different time horizons (i.e., the longer-term perspective of mitigation strategies vs. the shorter term needs of adaptation);
- Differences in administrative scales: mitigation can be managed at national and international scales (as well as by local governments), while most adaptation planning and implementation must occur at the local scale; and,
- The different stakeholders involved in each, such as energy and transportation officials primarily engaged in mitigation efforts while public health and emergency management personnel are more likely to be involved with adaptation planning.

Here are some potential contradictions to consider between mitigation and adaptation planning actions:

**Land use planning:** Increasing the building density of urban areas can be an effective mitigation action because it reduces vehicle miles traveled and can make public transportation more feasible and efficient. However, although removing or preventing development in flood plains and allowing open space for floodwaters to inundate can be sound adaptation strategies, such actions may work against building more compact developments that will reduce vehicle miles traveled and emissions if they cause fragmentation of the built-up area. Increasing density may lead to the loss of trees, parks and permeable surfaces, which can prevent floodwater absorption and increase flood damage.

**Urban heat island effects:** Increasing building density in hot areas may block air circulation that would have otherwise carried away excess heat generated by air conditioners and absorbed by

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<sup>4</sup> R.E. Pizarro, The mitigation/adaptation conundrum in planning for climate change and human settlements: Introduction, Habitat International (2008), doi:10.1016/j.habitatint.2008.10.008.

buildings and pavement. This “urban heat island effect” can work against efforts to adapt to hotter temperatures by raising temperatures in built-up areas, increasing both the public health threat of excessive heat and the amount of energy required to cool buildings. However, solutions such as installing light colored roofing and pavement materials, strategic use of vegetation for shade and cooling can both reduce the urban heat island effect and reduce the amount of energy required for cooling.

**Sea level rise:** As coastal cities seek to adapt to more intense storm surges and sea level rise, they may increasingly rely on pumps to keep critical infrastructure such as subways and water treatment systems operational. While greater use of pumps is a proactive adaptation measure, it requires more energy use, which works against mitigation goals.

**Water supplies:** With lower rainfall and higher temperatures causing drought to become more common in many areas, as well as increasing demands from higher populations, more flexibility in obtaining water supplies will be necessary. Increasing the capacity to transport water over long distances could therefore be an effective way of adapting to drought. However, moving water requires large amounts of energy, and thus works against mitigation efforts.

**Infrastructure:** Stronger infrastructure to deal with increased flooding, such as larger culverts and bridges, may also be a good adaptation strategy, but will require more materials such as steel and concrete. The production of these materials normally generates greenhouse gases, but new materials with less embodied CO<sub>2</sub> are under development.

The list of contradictions goes on – as does the list of actions that can reduce such contradictions and create win-win solutions. As local governments seeks solutions to both mitigation and adaptation challenges, they must pause to reflect on the relationships between greenhouse gas emissions and reducing risk, and, where possible, choose actions that provide benefits for both goals, rather than those that will cancel each other out.

### **ICLEI, North Texas members**

The table below illustrates mitigation and adaptation initiatives currently in progress in the North Texas region of ICLEI, South Central. The list is by no means exhaustive and contains a sample of programs and projects for the purposes of this study.

<i>City</i>	<i>Program / Project</i>	<i>Mitigation</i>	<i>Adaptation</i>
<b>Arlington</b>	Develop Climate Action Plan	Create comprehensive strategy for reducing emissions to a target amount by a target year	Adaptive benefits may be realized through specific projects under the plan, however project selection is based on economic benefits and emissions reductions
	Municipal Building Energy Efficiency Upgrades	Reduction of total energy demand reduces need for fuel therefore lowering emissions	Reducing energy requirements and enhancing building shells increases structural utility during disasters / grid outages
	Energy Code Enhancement Study	Incremental code improvements will include higher energy efficiency standards, leading to a reduction in energy demand and emissions	Code improvements could increase building sector resiliency to sustained heat events and reduce the impact of utility service disruptions
	Commercial Sustainability Outreach Program	Emissions reductions occur through conservation strategies in the commercial waste, energy, and transportation sectors	Sustainable focus leads to institutional knowledge-building, affecting adaptability of property, systems, and human activity
	Energy Efficiency Home Enhancement Program	Efficiency gains and behavioral education reduce demand and emissions	Onsite renewable energy provides backup generation and disaster “outposts”
	PV Solar Array Pilot	Reduced grid demand lowers emissions	Local renewable energy sources sustain basic infrastructural needs during emergencies



<b>City</b>	<b>Program / Project</b>	<b>Mitigation</b>	<b>Adaptation</b>
	Anti-Idling Vehicle Emissions Reduction	Idle reduction technology saves fuel and lowers emissions	Prevention of idling bears no specific adaptive benefits
<b>Coppell</b>	Community Sustainability Living Practices Program	Instituting backyard gardening, rainwater retention, composting, and other practices reduces emissions by avoiding the standard supply chain processes like transport, refrigeration, etc	Reducing reliance on water, food, and other supply chains increases individual preparedness in the event that those chains are disrupted
<b>Dallas</b>	Dallas Sustainable Skylines Initiative	Comprehensive greenhouse gas emissions reductions across government and community sectors	Heat island/stormwater mitigation and local renewable energy sources make city more resilient to droughts/floods
<b>Denton</b>	Denton Municipal Electric 60 MW Wind Power Purchase (40% of Baseload)	Directly supports renewable energy development, offsetting fossil-derived energy/lowering emissions	Multiple energy sources hedge pricing/service failure anomalies, however static supply from wind reduces adaptive capacity
<b>Grapevine</b>	Grapevine GHG Mitigation and Efficiency Improvement Measures	Strategic cost/benefit mitigation projects across water, wastewater, fleet, solid waste, traffic, and buildings sectors	Infrastructural streamlining leads to enhanced performance but “locks in” property and services, potentially leading to reduced adaptability
<b>Plano</b>	Residential Energy Efficiency Revolving Loan Fund	Sustainable financing mechanism for continual emissions reductions in residential building sector	Can be used as contingency fund in disaster scenarios

<i>City</i>	<i>Program / Project</i>	<i>Mitigation</i>	<i>Adaptation</i>
<b>Richardson</b>	Xeriscape Promotion / Water Conservation Kits (Indoor and Outdoor)	Reducing potable water demand reduces stress on delivery systems and associated energy use	Reduced water needs translate to lessened impacts in the event of drought and service disruptions

### Conclusions

Acknowledging that mitigation and adaptation are two sides of the same climate protection coin is crucial to both maximizing the benefits of actions taken, and also to ensuring that an action taken to promote one set of goals does not undermine the other. Not all mitigation actions will provide adaptation benefits of reducing the risks of negative climate change impacts to lives, health, property and ecosystems; nor will all adaptation actions avoid or reduce greenhouse gas emissions so that mitigation goals can be met. These are some of the challenges all local governments in the United States will face in the coming years.

The only solution is for local governments to clearly understand the significance of both mitigation and adaptation, and know how to evaluate the effects of particular actions they are considering implementing for their effects on both objectives. It is possible to achieve balance between the two by acknowledging the trade-offs and complexities of comprehensive climate protection planning. The result will be towns, cities, counties and regions that are both more resilient to current and future climate impacts, and that reduce emissions to avoid making such impacts worse in the future.

Appendix B.3—

## Comment from Urban Land Institute

### Submitted by

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### *Climate Change Mitigation and Adaptation in North Central Texas*

Texas is resilient. The current economic downturn has proven it—statewide, the unemployment rate has remained two points below the national average, not to mention maintaining one of the lowest rates of housing repossession in the country. In addition, several Texas cities—San Antonio, Austin, Dallas, Houston, McAllen—are some of the strongest performing metropolitan areas in the country.

However, even as the economic stars remain bright over the state, a variety of new imperatives related to global climate change loom large on the Texan horizon, as they do in communities across the country. Climate change imperatives will require an even greater resilience of Texas communities to both mitigate and adapt to a changing economic landscape—one with more people, less water, more costly energy and directives to reduce greenhouse gas (GHG) emissions. ULI believes that more compact land use patterns will be a fundamental strategy in creating resilient communities. While Texas is one of fifteen states in the U.S. that has not yet formalized a climate change action plan, a number of Texas cities are signatories of the U.S. Conference of Mayor’s Climate Protection Agreement, and are strategically positioned to achieve local outcomes.

We congratulate the land use planning community in North Central Texas for tackling these challenges.

### ULI Statement on Climate Change

*ULI—the Urban Land Institute will bring its organizational resources to the complex issues surrounding energy and climate change, acknowledging that the successful global reduction of greenhouse gas (GHG) emissions requires substantial*

*investments in local communities. We believe ULI has the ability to foster new policies and solutions to address global climate change that are both feasible and effective at the nexus of land use, real estate, energy, and infrastructure. As an organization, we seek to move forward with new urgency by fostering leadership among ULI members and identifying the tools, techniques, and best practices needed to address difficult choices and tradeoffs, for which there are no precedents to measure decisions. We seek to empower individuals and organizations to solve one of the most important and complex long-term challenges ever faced by communities around the world, in a manner that meets the needs of the present, without compromising the ability of future generations to meet their own needs.*

*ULI recognizes that effective strategies to combat global climate change will require cooperative effort by all segments of the economy and all segments of society around the globe. Given the multifaceted challenge and the many exemplary efforts by organizations around the world to meet this challenge, ULI does not seek to duplicate the effective efforts of others, such as those focused on transportation technologies or building technologies. By focusing on issues at the core of the ULI mission—the responsible use of land—ULI seeks to make an important contribution within the emerging chorus of collaboration and partnership.*

### **ULI Climate Change Principles**

- 1. Foster a Global Response at the Local Level.** While the challenges are global in scope, effects and actions will vary from region to region. Each community must adapt in unique ways and rise to the challenge of mitigating existing trends with bold and transformational long-term solutions. The effort to achieve a low-carbon global economy will rely on local communities around the world.
- 2. Empower Strategic Regional Coordination.** Public and private investments made throughout our communities cumulatively define a region's sustainability. Transportation, energy, industry, housing, and agriculture must be coordinated as part of an effective regional vision. Success is dependent upon all levels of government being engaged in the effort to effect change.
- 3. Reduce GHG Emissions.** Greenhouse gas emissions must be reduced in a verifiable manner, as communities and organizations make the transition to a low-carbon economy. The real estate sector should have the ability to participate in carbon markets, by generating emissions reductions through investments in community revitalization and sustainability.
- 4. Conserve Natural Resources by Using Land Wisely.** Land use strategies should foster the conservation of water and energy in our communities, preserve ecological integrity, and minimize waste and pollution. Sustainable development should be generally compact and mixed-use, and conserve or

restore land for its value as green infrastructure and to sustain biodiversity. New land use models should be pursued that allow communities and economies to grow, without sacrificing the coherence, quality, or capacity of natural resource systems.

5. **Create Mixed-Use, Mixed-Income Livable Communities.** Employment is the cornerstone of community vitality, and housing choice is necessary to sustain a workforce. Concentrated areas of civic uses and employment can be organized with housing to form a land use framework for efficient regional transportation. Housing must include a diversity of types and a choice of locations to provide easy access to employment and daily needs. Housing choice mitigates the forces of sprawl and reduces the amount of VMT.
6. **Promote Accessibility and Choices in Mobility.** Enhance ongoing innovations in automobile efficiency by reducing the overall amount of VMT. Encourage communities and regions to make moving people, rather than cars, a priority by promoting emissions-free and public modes of transportation, and by locating daily destinations in easily accessed places. Reduction of VMT is a cornerstone of overall emissions reductions and will result in the enhanced health of citizens.
7. **Track Progress and Explore Feasibility.** Define the metrics of community sustainability, measure ongoing performance, and transparently communicate real progress with all stakeholders. Recognize that sustainable development relies on exploring feasible and practical opportunities grounded in reality, and incorporate a reasonable investment return. Sustainability grows from a culture of sound business practices, equitable fiscal management, and accountability.
8. **Cultivate Leadership, Invention, and Entrepreneurship.** Growth is inevitable; sustainable growth is a community's choice. We can grow into a sustainable future through partnerships that transform markets and achieve the necessary economies of scale to mitigate existing effects. Sustainable innovation is achieved through deliberate decisions that are made iteratively at every stage of projects and endeavors.

### ***The Importance of Land Use***

Land use truly is the nexus of sustainable development practice. Long-term demographics, projected through the year 2050, indicate that some 1.5 million homes per year will be required to keep up with population growth in the U.S. In the commercial office market, approximately 127 billion additional square feet are needed to meet projected demand. In some communities, as much as 80 percent of new building development is projected to occur at the edge of suburban areas on "greenfield sites," while other communities have sufficient "brownfield or greyfield sites" to accommodate growth.

Demographic forecasts put land use professionals in a strategic position to affect climate change outcomes. The growing concern over greenhouse gas emissions and energy efficiency is spurring demand for the inclusion of sustainable practices in the planning, design, and development of buildings and communities.

The beneficial outcomes of energy-efficient land use strategies are many, and are only now being broadly recognized. At a minimum they include reduced energy use, preserved open spaces, better water quality and availability, improved public health, increased physical activity, and fewer infrastructure costs. The list of such benefits continues and broad based efforts are underway to quantify these impacts and internalize them in real estate valuation. Unlike many technological solutions, compact development provides a low-cost climate change strategy by reducing upfront and ongoing infrastructure and transportation expenses. Typically, they represent investments that were going to be made anyhow.

Both housing choice, location of employment, and especially the mixed-use integration of retail and community services are crucial to mitigate the forces of sprawl and reduce the amount of emissions from VMT. Concentrated areas of civic uses and employment situated near a diversity of housing types can form a land use framework for efficient regional transportation. Creating mixed-use, mixed-income livable communities recognizes that while employment is the cornerstone of community vitality, it is housing choices and mixed-use neighborhoods that can sustain a workforce in an energy-efficient manner.

### ***Rising to the Challenge***

Mitigating climate change—the process of coordinating actions to reduce the emissions of GHGs—includes a variety of activities, such as increasing energy efficiency, increasing the use of low-carbon technologies, reducing fossil fuel emissions, and reducing the demand for emissions-intensive goods and services. At the core of most strategies is the reduction of GHG emissions through a reduction of fossil fuel-based energy use, and a companion strategy of a substitution to non-GHG emitting “clean” energy sources—and to its great credit, the state of Texas leads the nation in renewable wind energy generation.

Yet the effort to achieve dramatic reductions in greenhouse gas emissions faces a substantial challenge from rapidly increasing energy demand associated both with economic development and underlying population growth. This growth is directly manifested in planning and development. Moreover, the proposed public policy timeframes and specific benchmarks for achieving dramatic long-term cuts in GHG emissions has not been instituted in either domestic or international public policy frameworks.

The implications are becoming clear for local communities around the world. No amount of mitigation will prevent the need to adapt to changing conditions. Indeed, according to the U.S. government data, we have already begun to see these changes in all regions across the country.

Evolving climate conditions present new risk factors for land planning, development and real estate investment. In the U.S. and globally, people are witness to the effects of rising temperatures and the resulting effects on their regions, communities, and quality of life. As the number and intensity of catastrophic weather events increases, including storms, precipitation, wildfires, sea-level rise, and coastal erosion, land use adaptation measures are crucial across a variety of sectors and industries.

Some regions and localities, especially in a state as large as Texas, are more vulnerable to the effects of climate change than others. Specific effects related to drought and drinking water supplies are likely to include greater demand for air conditioning during prolonged heat waves, which puts stress on the capacity of infrastructure systems. Changes in weather patterns might, for example, erode and restrict access to construction sites, slowing productivity in the building sector. Many other secondary and tertiary effects could be imagined.

Adaptation, as it relates to planning and real estate recognizes the need to factor such risks into long-term investment strategies and assesses the susceptibility of existing assets once assumed to be “fixed.” From building methods to infrastructure sizing to coastal development regulations, projected climate changes present the planning and real estate professions with varying degrees of uncertainty. Site selection, regionally appropriate products, economic and political costs, and timing, among others, will all play a part in the adaptation strategies that land use professionals must consider.

Mitigation and adaptation initiatives are not an “either-or” proposition—each needs to strategically compliment one another. Adding to the challenge, communities will need to work with all levels of government to effectively engage solutions.

### ***Regional Benchmarking***

The North Central Texas communities who participated in the July 2009 Planning Climate Change Mitigation and Adaptation in North Central Texas roundtable are experiencing similar obstacles that cities across the country face with regards to reducing climate change impacts. Time and time again at the summit a theme of improved inter-agency coordination came up, as various public departments struggle to affect collective change despite different systems, missions, protocol, and budgets that often hamper true innovation towards reducing the impacts of climate change.

The North Central Texas region, like many American metropolitan areas, was developed in the era of the automobile, and without excellent regional collaboration on envisioning a direction

for growth, the region’s municipalities have borne the costs of lengthy public roads, new water and sewer hookups, higher costs on police and fire department services and schools. By bringing this group of planners, students, and public officials together, the University of Texas at Arlington’s Institute of Urban Studies can not only help to share knowledge of innovations and best practices that individual communities are advancing, but can also help to sustain an important regional conversation on the shared impacts of growth, and the best strategies for handling it.

### ***The Role of Planning***

Confronting climate change in part through strategic land use planning is essential. Decisions about what and where to build—strategic land use decisions—directly engage multiple sectors of the economy and their respective energy and emissions attributes. Successful execution of these plans will “lock in” their benefits.

Herein lies the significance of land use. The linkages between climate change, land use, and energy consumption make the strongest case ever for responsible planning and the use of land. Strategic land use decisions in the North Central Texas region, as well as those state-wide, will have critical consequences on growing communities and improving the lives of their residents and enabling communities to thrive in an ever more competitive global marketplace.

**Select ULI Resources on Climate Change available at [www.uli.org](http://www.uli.org).**

*Climate Change, Land Use and Energy 2009- Investment Niche or Necessity?* October 2009.

*Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.* July 2009.

*Growing Cooler: The Evidence on Urban Development and Climate Change.* April 2008.



Appendix B.4—

## Comment from Vision North Texas

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**A brief outline of the relevance of Vision North Texas (VNT) for municipal and regional planning in relation to climate change.**

The Vision North Texas process (discussed in Chapter 5) is, in my view, the best vehicle for discussion and agreement on planning in North Texas that will help the region and its individual communities address climate change issues. This is because:

1. It expects to create a product, “North Texas 2050,” that is intended to be a statement of information, policy direction and action tools that regional decision makers can use so their own choices lead to a region that is more successful and sustainable.
2. It includes the private, public, academic and other relevant communities. So if there is a successful result it will reflect the concerns and objectives of all of them. And it will become a “shared agenda” for future action.
3. The individuals and organizations that have contributed to VNT bring expertise in a wide range of areas, many of which relate to climate change in the sense that action to address one also addresses the other. (For example, health initiatives that lead to more walking instead of driving are based on reductions in obesity and heart disease. But they also reduce VMT, and thus reduce carbon emissions, and thus help mitigate this region’s contribution to climate change.)

When VNT began (in early 2005), there was not much discussion in North Texas about climate change. There was a great deal of support, beginning with that workshop, for sustainability. Over time, we have added climate change to the dialogue in several ways (as part of “keypad polling” at workshops, for example). Also, VNT participants identify it more frequently as a concern in workshops and other small group discussions. Some elaboration:

- Since climate change (both mitigation and adaptation) affects many issues shaping communities and requires action in many different arenas, it is an issue that is very difficult to address in a process or organization focused on a single issue. Thus, VNT offers the best (or at least one of the best) opportunities for dialogue about climate change and for building some level of regional agreement on this issue.
- Climate change has not had as much focus in VNT as some issues because there have been fewer resources to address it. But it's been part of the process for several years now. VNT research and documents related to climate change are described below.
- One major challenge faced by individual municipalities whenever there is a new issue is the way that municipality answers the questions of “who else is doing this?”; “how would we do it?”; and “what impact will it have on our community character, economy and fiscal health?” VNT helps individual communities by providing the background research and policy basis for their own discussion. Its “action package” helps to explain how a city would act, ideally with local case study examples. And the results of the discussion (particularly if there is some shared regional set of incentives) can help a city feel more comfortable that its neighbors won't be more competitive as a result.
- I think most of these comments are relevant for both mitigation and adaptation. As we draft the ‘North Texas 2050’ document, I think we will have the opportunity to incorporate some of the ideas discussed at the roundtable.

**VNT webpage & documents relating to climate change:**

[www.visionnorthtexas.org](http://www.visionnorthtexas.org) is the main website for Vision North Texas information for the general public. On that page are links to the following:

- *Regional Choices for North Texas* – This is the major report on existing conditions, trends for the future and alternative choices. It was released last December and was the basis for discussion at the Regional Summit 2008. Climate change is addressed on page 48 (regarding climate change and the region's current carbon footprint) and on page 91 (regarding alternative choices for the future). Much of this report would provide a foundation for any research on the dynamics that will affect how this region contributes to climate change – like the population growth, the development patterns, the transportation options, etc.

In that report, I note that “as of early 2008, over 60% of the people in the North Texas region were living in cities whose mayors had signed the U.S. Conference of Mayors Climate Protection Agreement.” At that time, the list was Arlington, Carrollton, Coppell, Dallas, Denton, Euless, Fairview, Fort Worth, Frisco, Garland, Hurst, McKinney, Plano, and Richardson.

- *North Texas Alternative Futures* – The Executive Summary describes the set of alternative scenarios we evaluated this year. Some of these issues (e.g., transportation) had detailed computer modeling, others (e.g., water) had very active teams of professionals responsible for regional projects, and others (e.g., health) had teams pulled together specifically for this VNT purpose. Climate change was one of three issues for which VNT assembled “expert dialogues” so we could include that issue in the analysis. So we made a special effort to be sure it was considered along with the other issues, even though there is not a comparable level of existing research or organizational structure in North Texas.

The Executive Summary includes climate change among the issues for which it provides a qualitative comparison across alternatives. This is found on page 16.

The research behind the topics in the Executive Summary is found on the website under “Contributing Research” (and case studies, though those are less relevant to this discussion). Contributing Research includes reports that were specifically created for VNT and Other Background Reports.

The report on a “Climate Change Experts’ Dialogue” held in August 2009 will be posted on the Contributing Research page when it is complete. On the “Other background reports” page are several relevant reports and documents. These include the “Dallas Urban Heat Island Study” and “Growing Cooler.”

Other issues evaluated here are also relevant to climate change – such as the CO<sub>2</sub> emissions discussed under “air quality” and the tree canopy/urban heat island discussed under “natural assets.”

- *Stakeholder Input* – There are comments about climate change in the notes from stakeholder discussion at many VNT events. These include the NTAF event in September, the General Assembly workshop in June, and earlier workshop sessions. In general, people are concerned about climate change but it is a lower priority than issues such as air quality, education and others.

### **On the question of making climate change an explicit and leading component of our discussion of regional development**

I think North Texas is a region where people can (and do) accomplish an enormous amount in very creative ways if there is either a broad base of support or a particular individual champion. I think there are many individuals in the region who recognize the importance of dealing with climate change. But there are also a lot of people for whom those words lead to an immediate negative reaction. So from that standpoint I think it’s useful to have additional ways to frame the conversation.

I think action to address climate change will require change in many different aspects of our region, so the concept of having a single person as the ‘champion’ who gets the whole region to solve the problem is not very likely to succeed, even if such an individual were identified. Therefore, I think the approach of building a broad base of support is more likely to be successful. Because climate change relates to so many other issues, I believe our most effective strategy to deal with it is to include it whenever we are trying to address those other issues (as well as when we are trying to deal with it by itself). To me, this is one reason why VNT has the potential to serve as a venue for advancing this discussion.

I think the other issues you mention (sustainability, water supply and air quality) are ones that already have some base of support but have a great need for coordination and integration, particularly to the extent they relate to the pattern of physical development and use of land. Action on climate change is helped by these efforts even if it’s not explicitly mentioned. Including it directly, of course, will allow specific concerns to be addressed more particularly.

The area in which I think the region gains the most by an explicit consideration of climate change is to the extent that potential structures to deal with climate change (like carbon sequestration) may provide economic benefits that also help with other community goals (like retention of natural areas).

In areas like the Texas coast, the impacts of climate change are becoming clearer and clearer to the general public because they relate to sea level rise. We don’t have anything that dramatic to point to for North Texas. So I think the inclusion of climate change as one out of many objectives our region embraces for its future offers us a good platform for education, persuasion and action that will help us mitigate and adapt to climate change. That may not be enough to fully address it, and we may need to do more as time goes on. But in my view, pragmatically, that approach has the best potential to create a foundation of support for action on this issue now. And without such a foundation, it will be even harder to take stronger action a year or two from now.

I would love to have the opportunity for a much longer discussion with you on these questions. Reading through the transcript, I was even sorrier to have missed the session. These are important questions for our region and I applaud SUPA for convening this dialogue about them.

Appendix B.5—

***Comment from Past Chair of the  
Environment, Natural Resources, and  
Energy Division, American Planning  
Association***

**Submitted by**

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I'm sorry to say I have not been able to get to reading all of the manuscript from the roundtable. I have not been well and am still feeling under the weather, which has not allowed me any extra energy to give your manuscript the attention it deserves. I was able to read some of it and I am very impressed by the discussion. This sort of sharing seems very useful and extremely supportive for the participants. They are up against a lot to get anything done in this complex area. There are great ideas here, as well as a realistic assessment of what is possible now and what isn't. I think this kind of discussion should be taking place all over the country. Global warming may be global, but climate change is local. Anything we can do to get local communities to discuss it and integrate measures into their other priorities is essential. I have become very discouraged by the trend now to doubt the science of global warming, which breeds reluctance to do anything. I say we should do whatever seems to be a good idea for other reasons as well (energy efficiency and other wise use of resources; local food networks; reducing sprawl and dependence on automobiles, etc. all have other good reasons for accomplishing). Your group of participants no doubt offered each other a boost in morale—broader networks could only help. Thanks for sharing this wonderful project with me. Once again, I apologize for not being able to produce fuller comment.

Appendix C—  
**Supplemental Information,  
City of Westlake**

**Submitted by**

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What the Town of Westlake is doing

- Encourage LEED certified development by allowing deviations from our development standards when necessary to accommodate designs that are energy efficient and eco-friendly. All non-residential projects are individually reviewed and approved via formal Site Plan submittal process whereby variances to our design standards can be granted collectively.
- Water conservation education program.
- Town sponsored shuttle buses to transport people to and from corporate campuses, commercial/retail developments, hotels and DFW airport.
- An outdoor lighting ordinance that is on track with the International Dark Sky Association guidelines.
- Tree City USA designation. A tree conservation and mitigation program coupled with a Community Forestry Program.
- Timely adoption of the most current construction codes including the International Energy Conservation Code.
- Consideration of environmental impacts when adopting new ordinances. For example a recently passed Gas Drilling and Production ordinance containing very strict regulations relative to light, sound, smoke and gas emissions and a recently amended ordinance to encourage drilling of water wells for irrigation to reduce the demand on our treated water supply.

These programs and others have the full support of the town's elected officials and appear to have overwhelming support from the citizens.

Obstacles

The Town of Westlake, being a very rural community with a scattering of large corporate campuses and the only municipally owned charter school in Texas, has some unique challenges relative to things like transit oriented development. The logic of having higher density residential development located in close proximity to commercial/retail and recreational developments where you get the “work, live, play” scenario would result in an increased student load on our school. This would necessitate expansion of the school and since the Town of Westlake does not collect ad valorem taxes the added residential units would not help fund the expansion. The school was conceived and designed when the Comprehensive Plan for the development of the town matched anticipated revenues from sales tax and development fees to planned residential densities.

Appendix D—

## Web resources on climate change

American Planning Association material on climate change

<http://www.planning.org/topics/climate/>

Texas Climate Initiative

<http://www.texasclimate.org>

EPA Region 6 Clean Energy and Climate Change Strategy

<http://www.epa.gov/region6/climatechange/strategy.htm>

Based on data from:

[http://www.epa.gov/climatechange/emissions/state\\_energyco2inv.html](http://www.epa.gov/climatechange/emissions/state_energyco2inv.html)

When the strategy was developed, Region 6 had access to data only up to 2004. This data has now been extended to 2007.

EPA's Region 6 climate change page

<http://www.epa.gov/region6/climatechange>

EPA assessment of the impacts of climate change on in Region 6 (TX, OK, LA, NM, AR)

<http://www.epa.gov/region6/climatechange/impact-in-r6.htm>

United States Global Change Research Program

<http://www.globalchange.gov>

“Potential impacts of global warming on Texas and the Southern Great Plains”

<http://www.climatehotmap.org/impacts/texas.html>

Texas Climate News

<http://www.texasclimatenews.org/>

The Impact of Global Warming on Texas

<http://www.texasclimate.org/Home/BookImpactofGlobalWarmingonTexas/tabid/481/Default.aspx>.



Appendix E—

## Suggested reading

Compiled by Kent Hurst and Jeff Howard

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Kane, S., and J. Shogren. (2000). "Linking adaptation and mitigation in climate change policy." *Climatic Change* 45: 75-102.

Kirby, A. 2009. *Climate in peril: A popular guide to the latest IPCC reports*. Arendal, Norway: United Nations Environment Programme, GRID-Arendal. [http://www.preventionweb.net/files/11038\\_ClimateInPeril1.pdf](http://www.preventionweb.net/files/11038_ClimateInPeril1.pdf).

Laukkonen, J., P.K. Blanco, et al. (2009). "Combining climate change adaptation and mitigation measures at the local level." *Habitat International* 33(3): 287-292.

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