Cornell Journal of Law and Public Policy

Volume 22
Issue 2 *Winter 2012*

Article 4

Suburban Climate Change Efforts: Possibilities for Small and Nimble Cities Participating in State, Regional, National, and International Networks

Hari M. Osofsky

SUBURBAN CLIMATE CHANGE EFFORTS: POSSIBILITIES FOR SMALL AND NIMBLE CITIES PARTICIPATING IN STATE, REGIONAL, NATIONAL, AND INTERNATIONAL NETWORKS

*Hari M. Osofsky**

This Article provides a novel analysis of the capacity of suburbs to play a constructive role in addressing climate change. Small suburban cities represent the majority of metropolitan populations and emissions; encouraging their mitigation efforts, in addition to those of large center cities, is critical. In contrast to the conventional critique of suburbs as an undifferentiated group of sprawling emitters, the Article analyzes pathways for different types of small, nimble, suburban governments to learn from other localities and find cost-effective approaches to reducing emissions. It intertwines scholarship on (1) cities, suburbs, and climate change, (2) the complex demography of suburbs, (3) the role of climate

* Associate Professor, University of Minnesota Law School; Interim Director, Consortium on Law and Values in Health, Environment & the Life Sciences and Joint Degree Program in Law, Health & the Life Sciences; Affiliated Faculty, Geography & Conservation Biology; Fellow, Institute on the Environment. I very much appreciate the helpful suggestions from both academics and state and local officials, including Sarah Bronin, Tai-Heng Cheng, Jessica Clarke, Kirsten Engel, Daniel Farber, Michael Gerrard, Alexandra Klass, Peter Lindstrom, Beth Mercer-Taylor, Philipp Muessig, Amir Nadav, Ashira Ostrow, Pierre-Henri Prelot, Ben Richardson, and Ruti Teitel, which have helped me shape this project and ensure that it reflects the on-the-ground experiences in the Twin Cities Metropolitan Region. I am also grateful to Myron Orfield for allowing me to reproduce his map of the Twin Cities divided by type of suburb. This Article has been significantly improved by the insights of participants in workshops at the Emory University Law School, Georgetown University Law Center, New York Law School, University of British Columbia Law School, University of Minnesota Law School, and Washington University School of Law. Kenzie Johnson provided invaluable research assistance on the case studies of individual cities and their involvement in multi-level networks, and helped to design the charts in Table 2 and the Appendix; David Warden also provided helpful research assistance on the efforts of Minneapolis and St. Paul and on the limitations of the current data on measurable emissions reductions by the suburbs studied; and Joseph Dammel assisted me greatly with crucial updating and finalizing of the piece, as well as with locating missing sources. The Law Library at the University of Minnesota Law School, and particularly Suzanne Thorpe, was extremely helpful, especially in locating interdisciplinary sources on suburbs and climate change. I additionally appreciate the editorial efforts of the *Cornell Journal of Law and Public Policy*. I also thank Meghan Schwartz for her assistance with formatting. I was greatly assisted by the financial support of the 2011 Lampert Fesler Research Fellowship, the 2011–14 Institute on the Environment Fellowship, and an award from the University of Minnesota's Institute for Advanced Studies. As always, I am grateful for the love, support, and patience of Josh, Oz, and Scarlet Gitelson. This Article is dedicated to the memory of Keith Aoki, who introduced me to geography and inspired my interest in local government's role in addressing multi-level governance problems.

change networks in transnational governance, and (4) more inclusive multi-level climate change governance to describe the limits of the current discourse on suburbs and climate change and to propose a new model for encouraging more suburban action.

Using the Twin Cities metropolitan region as an initial case example, the Article considers what steps different types of leader suburbs are taking and how they are participating in voluntary multi-level climate change and sustainability networks. It argues that, especially in the absence of top-down mandates requiring cities to mitigate their emissions, these voluntary networks play an important role in fostering local action and connecting that action to international climate change treaties. The Article proposes that these networks could have a greater impact, however, through strategies that reflect the differences among types of suburban cities and foster more cross-network interaction.

INTRODUCTION 398
I. CONCEPTUALIZING SUBURBS AND CLIMATE CHANGE GOVERNANCE 401
A. *Local Climate Change Action and Suburban Demographics* 402
B. *Locating Suburbs in Multi-Level Networks and Pluralist/Polycentric Governance Approaches* 406
II. SUBURBAN MITIGATION EFFORTS IN THE TWIN CITIES METROPOLITAN REGION 411
A. *Twin Cities Suburban Action as a Case Study* 411
B. *Stressed Inner Suburbs* 417
1. Falcon Heights 418
2. Hopkins 420
3. St. Anthony 422
C. *Developed Job Centers* 423
1. Eagan 424
2. Eden Prairie 427
3. Edina 428
4. Maplewood 430
D. *Developing Job Centers and Bedroom Developing Communities* 432
1. Apple Valley 433
2. Cottage Grove 434
3. Farmington 435
4. Mahtomedi 435
5. Oakdale 437
E. *Accomplishments and Limitations of These Suburban Efforts* 439

III. SUBURBS' ROLE IN PLURALIST, POLYCENTERIC CLIMATE CHANGE GOVERNANCE 440
A. *Possibilities for Encouraging Greater Suburban Participation Through Multi-Level Networks* 441
B. *Possibilities for Integrating Multi-Level Networks with Formal Governance* 448
C. *Proposals for Increasing the Impact of Multi-Level Networks* 452
1. Differentiating Strategies Based on Type of Suburb 452
2. Greater Interconnection Among Voluntary Networks 454
CONCLUDING REFLECTIONS ON THE BENEFITS AND LIMITATIONS OF FOSTERING SUBURBAN CLIMATE CHANGE ACTION THROUGH VOLUNTARY MULTI-LEVEL NETWORKS 457

> [S]o far, climate action has extended slowly to suburbia. Central cities in smart growth states have taken on climate change, but vast swaths of metropolitan suburbia continue to reproduce a political geography of local free-riding.[1]
>
> The suburbs contain more than half of the U.S. population, an even higher percentage of voters, and an overwhelming majority of elites. The perceived power of the supposed suburban monolith shapes American domestic policy and politics but, in truth, this power is fragmented . . . . Many suburbs and older satellite cities are beginning to experience rapid social changes, particularly in their school systems, but they lack the local resources to deal with those changes. Some places are more troubled than the central cities they surround. Another large and important group of fast-growing communities lacks adequate local resources for schools and infrastructure. Finally, a smaller, more affluent group of cities enjoys all the benefits of a regional economy without having to pay the costs.[2]

---

[1] Yonn Dierwechter, *Metropolitan Geographies of US Climate Action: Cities, Suburbs, and the Local Divide in Global Responsibilities*, 12 J. ENVTL. POL'Y & PLAN. 59, 79 (2010).

[2] MYRON ORFIELD, AMERICAN METROPOLITICS: THE NEW SUBURBAN REALITY 28–29 (Brookings Institution Press 2002).

INTRODUCTION

As international negotiations and U.S. federal efforts continue to fail to produce an adequate response to climate change,[3] a growing number of cities—including many small suburban cities—are playing critical roles in multi-level efforts to address climate change. U.S. Environmental Protection Agency (EPA) Administrator Lisa Jackson noted in a January 2012 presentation that "those local efforts are where the action is right now."[4] Especially as global and national trends towards urbanization continue,[5] cities are becoming increasingly important sites for mitigation and adaptation. Their local land use planning helps to determine per capita emissions and preparedness for changes in the physical environment.[6] Moreover, leader cities are often ahead of their national governments. These cities form ever-stronger intersecting, multi-level networks in which they make voluntary pledges to reduce emissions and through which they pressure national governments.[7]

However, the piecemeal nature of these urban efforts to address climate change constrains their overall impact. In the United States, for example, 1,054 mayors, representing a total population of over 88,920,962 citizens, have joined the U.S. Mayors Climate Protection Agreement (Mayors Agreement) in which they pledge to meet what the U.S. commitments under the Kyoto Protocol would have been: reducing emissions to seven percent below 1990 levels by 2012.[8] While this number is impressive against the current political backdrop in which the U.S.

---

[3] This Article assumes that the consensus climate change science synthesized by the Intergovernmental Panel on Climate Change is correct. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 37 (Abdelkader Allali, et al. eds., 2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf. An in-depth discussion of challenges to climate change science is beyond the scope of this paper. I have explored these challenges elsewhere in more detail. *See* HARI M. OSOFSKY & LESLEY K. MCALLISTER, CLIMATE CHANGE LAW AND POLICY 4–25 (2012). For an assessment of the emissions gap published at the time of the 2011 Durban COP, see U.N. ENV'T PROGRAMME, BRIDGING THE EMISSIONS GAP: A UNEP SYNTHESIS REPORT (Joseph Alcamo, et al. eds., 2011), *available at* http://www.unep.org/pdf/UNEP_bridging_gap.pdf.

[4] Lisa P. Jackson, Adm'r, U.S. Envtl. Prot. Agency, Presentation at the University of Minnesota, Jan. 17, 2012, *available at* http://mediamill.cla.umn.edu/mediamill/display/144205 (notes from talk on file with author).

[5] For analyses of the complexities of urbanization and environmental management, see Robert H. Freilich & S. Mark White, *Transportation Congestion and Growth Management: Comprehensive Approaches to Resolving America's Major Quality of Life Crisis*, 24 LOY. L.A. L. REV. 915 (1990–1991); G.S. Kleppel, *Urbanization and Environmental Quality: Implications of Alternative Development Scenarios*, 8 ALB. L. ENVTL. OUTLOOK J. 37 (2002); Edward H. Ziegler, *China's Cities, Globalization, and Sustainable Development: Comparative Thoughts on Urban Planning, Energy, and Environmental Policy*, 5 WASH. U. GLOBAL STUD. L. REV. 295, 302 (2006).

[6] *See infra* Part I.A.

[7] *See infra* Part I.B.

[8] *List of Participating Mayors*, MAYORS CLIMATE PROT. CTR., http://www.usmayors.org/climateprotection/list.asp (last visited Jan. 10, 2012); *About the Mayors Climate Protection*

political leaders cannot agree on a coherent pathway forward, these mayors represent only about 5% of U.S. cities and 28% of the total U.S. population.[9] The vast majority of cities and people are not participating in the Mayors Agreement. Even if a number of cities have not joined the Agreement for political reasons but are still taking significant mitigation reduction steps, a problematic gap in the Mayors Agreement's coverage remains.

Suburbs play a critical role in the U.S. capacity to address this gap. They contain the majority of population and emissions in metropolitan areas and most of them have not joined the Mayors Agreement.[10] A rich scholarly literature across many disciplines documents that, in comparison to their central cities, suburbs are aggregate free loaders, which serve as a barrier to urban efforts to address climate change.[11] Suburbs as a whole sprawl more, have a higher per capita carbon footprint, and are less likely to take action on climate change, a trio of concerns that are intertwined with inequality and segregation.[12] These problems have led many to call for larger scale governmental mandates—especially state and metropolitan regional ones at times in conjunction with national level action—to force suburbs to reduce their emissions and to address the difficulties of metropolitan regions more broadly.[13]

These analyses, while validly characterizing suburbs in the aggregate and often proposing laudatory policies, have two significant limitations. First, they do not engage fully the diversity of the cities within suburbs; first ring stressed cities have different needs and mitigation pathways than do the first and second ring developed job centers or the faster-growing developing job centers and bedroom communities in the second and third ring and beyond. While mandates could force action by all cities, understanding how a city's positionality affects appropriate ac-

---

Center, MAYORS CLIMATE PROT. CTR., http://www.usmayors.org/climateprotection/about.htm (last visited Jan. 10, 2012).

9 The U.S. Census Bureau estimated that as of September 16, 2012, the United States had a total population of 312,562,990 people. U.S. CENSUS BUREAU, http://www.census.gov/ (last visited Sept. 16, 2012). In 2008, these people lived in roughly 35,350 places (aggregating many different types of local government). *County Subdivision Types and Numbers for States, the District of Columbia, Puerto Rico, and the Island Areas: 2008*, U.S. CENSUS BUREAU, http://www.census.gov/geo/www/geoareas/cousubtable.html (last visited Nov. 6, 2011). For analysis of the percentage of the population living in municipal and urban areas, see *Local Governments by Type and State: 2012* (preliminary), U.S. CENSUS BUREAU, Aug. 30, 2012, *available at* http://www2.census.gov/govs/cog/2012/formatted_prelim_counts_23jul2012_2.pdf, (noting that municipalities account for 19,522 of the 35,886 sub-county units); *2010 Census Urban Areas FAQs*, U.S. CENSUS BUREAU, June 21, 2012, http://www.census.gov/geo/www/ua/uafaq.html (noting that "urban areas," which are defined as an area containing more than 2,500 residents, represent over 249 million people in the U.S., 80.7% of the population).

10 *See List of Participating Mayors*, *supra* note 8.

11 *See infra* Part I.A.

12 *See id.*

13 *Id.*

tion could help guide models targeted to different types of suburbs. Second, the U.S. Congress and many state legislatures are not likely to pass legislation mandating local emissions reductions or even more comprehensive land use planning in the near term. Although making a case for this legislation is important to envisioning functional multi-level approaches, we also need strategies for making progress on suburban emissions in the absence of top-down, forcing action.

This Article responds to these concerns by taking a new approach to thinking about suburbs and climate change mitigation. In contrast to the conventional critique of suburbs, it considers how individual suburbs working within their local government powers can and do play a constructive role in climate change mitigation. While acknowledging the need for more action on climate change at international, national, and state levels, and regional ones in between, this Article explores how different types of suburbs, as they participate in multi-level networks, can provide models for suburban action and serve as part of efforts to address climate change which complement the treaty regime. Using a diverse group of suburbs in the Twin Cities metropolitan region making innovative climate change and sustainability efforts as a case example, it analyzes pathways for small, nimble governments to: (1) learn from other localities and find cost-effective approaches to reducing emissions, and (2) serve as a constructive influence on national and international efforts to address climate change.

The Twin Cities metropolitan region provides an interesting case study for considering suburban action on climate change because its central cities, Minneapolis and Saint Paul, have leading mitigation efforts and, at the state level, Minnesota has established a structured program to support urban sustainability efforts.[14] Moreover, as discussed in more depth in the individual case examples, some of its suburbs—including ones that lean Republican—have been particularly innovative in their efforts to achieve rapid progress in greenhouse gas emissions reductions, at times even receiving national recognition. Together with the metropolitan region's combination of fragmentation and significant regional governance, these climate change and sustainability efforts provide a rich context in which to analyze pathways for suburban emissions reduction. This Article acknowledges, however, that these very characteristics that make the example interesting may also constrain its broader applicability and replicability.[15] A full national study is beyond the scope of this pa-

[14] *See* MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/index.cfm (last visited Sept. 13, 2012).

[15] For example, the Article does not attempt to tackle how these patterns compare to those of other regions in the United States that have less well-developed regional governments, cover larger physical areas, or contain central cities engaged in aggressive annexation. These issues are all important ones that future research should explore.

per, but this initial look at one particularly innovative metropolitan region and the efforts of some of its suburbs helps to frame questions and potential strategies for a broader study.

Part I develops the conceptual approach of the Article by interweaving scholarly literatures across disciplines on: cities, suburbs, and climate change; the changing demography of suburbs; the role of networks in transnational climate change governance; and more inclusive multi-level climate change governance. Part II uses the Twin Cities as a laboratory for exploring how different types of leader suburbs approach mitigation. It analyzes mitigation steps by twelve Twin City suburban participants in a voluntary, statewide sustainability program, grouping them by type: stressed suburbs, developed job centers, and developing job centers and bedroom communities. Part III examines these suburbs' participation in statewide, regional, national, and international climate change networks, in the broader context of participation by cities in the Twin Cities metropolitan region, as a basis for exploring the constructive role of these networks in increasing the amount of suburban climate change action—both in terms of number of suburbs participating and in terms of what they are doing—and in contributing to international and national efforts to address climate change. Based on this analysis, it proposes strategies for networks to act more effectively by differentiating among different types of suburbs and encouraging cross-network participation. The Article concludes with reflections on the benefits and limitations of using multi-level networks to foster action in different types of suburban cities.

I. CONCEPTUALIZING SUBURBS AND CLIMATE CHANGE GOVERNANCE

Four streams of well-developed scholarship provide a basis for understanding suburban action on climate change, both within each individual city and in interaction with multi-level networks. First, an ever-growing scholarly and policy literature explores the role that cities can and should play in responding to the problem of climate change. Some of this literature addresses suburbs, but mostly in the aggregate, as a part of the metro that has a greater carbon footprint, sprawls, and engages less with multi-level networks.[16] Second, a rich and rapidly developing literature in law, geography, and urban studies dissects the way in which suburbs are changing and the differences among individual suburbs. While this literature has addressed sustainability to some extent, it has not considered how different suburbs might respond to climate change.[17] Third, scholars in numerous disciplines have explored the way in which cities form and interact with networks. Some of this scholarship has fo-

16 For a discussion of this literature, see *infra* Part I.A.

17 For a discussion of this literature, see *infra* Part I.A.

cused on climate change networks among localities in particular and their interaction with U.S. federalism, including potential domestic mechanisms, but it has not separated out suburbs.[18] Fourth, a broader stream of scholarship, not focused on cities in particular, has called for pluralist or polycentric approaches to climate change governance. This literature has not yet provided in-depth analysis of mechanisms for integrating multi-level efforts by cities or smaller city suburbs into a governance scheme.[19]

This Part intertwines these streams of scholarship to frame this Article's conceptual approach. Section A provides an overview of the current scholarly discourse on cities, suburbs, and climate change, and explains how the literature on the complex demography of suburbs could complement it to frame Part II's analysis of Twin Cities suburbs. Section B brings together scholarship on networks and multi-level governance with the literature on pluralist, polycentric climate change governance to ground Part III's examination of the current and potential role of climate change networks in the suburban context.

A. *Local Climate Change Action and Suburban Demographics*

As localities increasingly take actions within their power to mitigate (and also adapt), academics and policymaking institutes have considered the appropriate role of local action in addressing climate change. For example, *Growing Cooler: Evidence on Urban Development and Climate Change*, a 2008 book by Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen, provides a comprehensive analysis of how to bring down vehicle miles traveled in urban areas.[20] Alice Kaswan's 2009 article, *Climate Change, Consumption, and Cities*, analyzes the mitigation role of local action on land use, transportation, buildings, and energy consumption and the ways in which federal legislation could support that local role.[21] Katherine Trisolini's 2010 article, *All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation*, details a wide range of local powers relevant to mitigation including buildings and energy efficiency, zoning and land use power, waste and garbage, and local proprietary functions and proposes a bi-directional coordination model.[22] Kirsten Engel has written several pieces which complement these analyses of what cities can and should do to address climate change by exploring what moti-

---

18 For a discussion of this literature, see *infra* Part I.B.

19 For a discussion of this literature, see *infra* Part I.B.

20 *See* REID EWING ET AL., GROWING COOLER: THE EVIDENCE ON URBAN DEVELOPMENT AND CLIMATE CHANGE 27–31, 35–36 (Urban Land Institute eds. 2008).

21 *See* Alice Kaswan, *Climate Change, Consumption, and Cities*, 36 FORDHAM URB. L.J. 253, 280–83, 296 (2009).

22 *See* Katherine A. Trisolini, *All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation*, 62 STAN. L. REV. 669, 735, 743–45 (2010).

vates them to act.[23] Michael Burger, in his article *Empowering Local Autonomy and Encouraging Experimentation in Climate Change Governance: The Case for a Layered Regime*, has considered how Charles Tiebout's arguments for the value of inter-local competition interact with local decisionmaking to take action on climate change.[24]

This literature provides an important context for understanding how actions by small suburban cities compare to what it possible under their authority. However, to the extent that leader cities' actions are analyzed in depth in this literature, case examples tend to center on large localities with minimal focus on the variety of little cities that comprise their suburbs and the actions that these cities are taking. For example, Heike Schroeder and Harriet Bulkeley produced an interesting comparison of actions by London and Los Angeles.[25] Melissa Powers produced a thoughtful study that compares the efforts of several major U.S. municipalities.[26] I have had a similar focus in my own scholarship, such as when Janet Levit and I compared actions by Portland and Tulsa and when I analyzed the role of a lawsuit by California in shaping the efforts of the physically massive San Bernardino County.[27]

While some of this scholarship considers how suburbs fit into metropolitan efforts to reduce emissions, it tends to treat the suburbs as an undifferentiated mass to be contrasted with the center city.[28] This litera-

---

23 *See, e.g.*, Kirsten Engel, *State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?*, 38 URB. LAW. 1015, 1023–25 (2006).

24 Michael Burger, *Empowering Local Autonomy and Encouraging Experimentation in Climate Change Governance: The Case for a Layered Regime*, 39 ENVTL. L. REP. NEWS & ANALYSIS 11161, 11164–65 (2009).

25 *See* Heike Schroeder & Harriet Bulkeley, *Global Cities and the Governance of Climate Change: What is the Role of Law in Cities*, 36 FORDHAM URB. L.J. 313, 351–59 (2009); *see also* David Dodman, *Blaming Cities for Climate Change? An Analysis of Urban Greenhouse Gas Emissions Inventories*, 21 ENV'T & URBANIZATION 185, 189, Table 2 (2009) (comparing greenhouse gas emissions of 11 cities in Europe, North America, South America, and Asia).

26 *See* Melissa Powers, *U.S. Municipal Climate Plans: What Role Will Cities Play in Climate Change Mitigation?*, *in* LOCAL CLIMATE CHANGE LAW: ENVIRONMENTAL REGULATION IN CITIES AND OTHER LOCALITIES 69 (Benjamin J. Richardson, ed. 2012).

27 *See* Hari M. Osofsky, *Is Climate Change "International"?: Litigation's Diagonal Regulatory Role*, 49 Va. J. Int'l L. 585, 610–15 (2008–2009) [hereinafter Osofsky, *Climate Change*]; Hari M. Osofsky, *Scaling "Local": The Implications of Greenhouse Gas Regulation in San Bernardino County*, 30 Mich. J. Int'l L. 689 (2009) [hereinafter Osofsky, *Scaling "Local"*]; Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks: Local Climate Change Coalitions*, 8 Chi. J. Int'l L. 409, 414–15 (2007–2008).

28 *See, e.g.*, EWING ET AL., *supra* note 20, at 67–73 (exploring ways in which compact development can reduce vehicle miles traveled, with specific examples of suburban efforts included); Edna Sussman et al., *Climate Change Adaptation: Fostering Progress through Law and Regulation*, 18 N.Y.U. ENVTL. L.J. 55, 109–10 (2010) (discussing efforts by New York suburbs on smart growth, California regional planning, and their implications for adaptation); Dan Tarlock, *Fat and Fried: Linking Land Use Law, the Risks of Obesity, and Climate Change*, 3 PITT. J. ENVTL PUB. HEALTH L. 31 (2009) (examining how land use strategies could

ture critiques their unsustainable land-use patterns, which result in their comparatively large carbon footprints[29] and perpetuate racial segregation.[30] These analyses are dominated by discussion of controversies over how to address sprawl or approach smart growth.[31]

---

work in both cities and suburbs); Trisolini, *supra* note 22, at 716 (noting that many of the cities adopting Smart Code were suburbs and exurbs in the South). Although there have long been more nuanced analyses of suburbs, *see, e.g.*, Darcy Seaver, *Conference Explores Older Suburbs as Regional Pivot Points*, THE FREE LIBRARY, http://www.thefreelibrary.com/Conference+Explores+Older+Suburbs+as+Regional+Pivot+Points.-a054032273 (last visited Nov. 5, 2011) (a 1999 conference at the University of Minnesota on first ring suburbs), these are rarely incorporated into the legal literature on suburbs and climate change.

[29] For examples of the literature on cities, suburbs and sustainable land use, see John R. Nolon, *The Land Use Stabilization Wedge Strategy: Shifting Ground to Mitigate Climate Change*, 34 WM. & MARY ENVTL. L. & POL'Y REV. 1, 3 & n.16, 8–9 (2009) (citing EWING ET AL., *supra* note 20) (relying on Ewing's article's claim that Chicago citizens drive less than 21,000 miles, compared with nearly 30,000 in suburban Chicago County, and emit 80% fewer tons of carbon dioxide per household than suburbanites in the surrounding county, and further exploring strategies urban areas can use to reduce their carbon footprint); J.B. Ruhl, *Taming the Suburban Amoeba in the Ecosystem Age: Some Do's and Don'ts*, 3 WIDENER L. SYMP. J. 61, 75, 78–86 (1998) (using contested suburban development in Austin, Texas as a starting point for proposing ten principles for law's role in sustainable suburban development); Patricia E. Salkin, *Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations*, 34 WM. & MARY ENVTL. L. & POL'Y REV. 121, 124–25 (2009) (exploring a variety of approaches that state and local governments can take to increase sustainability and mitigate climate change).

[30] For examples of articles looking at the nexus of suburbs, racial segregation, and climate change, see Alice Kaswan, *Climate Change, Consumption, and Cities*, 36 FORDHAM URB. L.J. 253 (2009) (exploring the land use measures that might address city-suburb divide and reduce vehicle miles traveled, barriers to doing so, the role for federal measures, and the need to integrate the socio-economic and environmental concerns in local land use planning); James A. Kushner, *Affordable Housing as Infrastructure in the Time of Global Warming*, 42/ 43 URB. LAW. 179, 182, 197–200 (2011) (presenting a vision of smart growth that would address climate change and segregation simultaneously); Bekah Mandell, *Racial Reification and Global Warming: A Truly Inconvenient Truth*, 28 B.C. THIRD WORLD L.J. 289, 304–05, 335–43 (2008) (exploring the way in which city-suburb segregation contributes to climate change); Florence Wagman Roisman, *Sustainable Development in the Suburbs and Their Cities: The Environmental and Financial Imperatives of Racial, Ethnic, and Economic Inclusion*, 3 WIDENER L. SYMP. J. 87 (1998) (exploring the role of racial and ethnic segregation in undermining sustainability).

[31] For a few interesting examples from the voluminous literature on sprawl, see William W. Buzbee, *Urban Sprawl, Federalism, and the Problem of Institutional Complexity*, 68 FORDHAM L. REV. 57 (1999) (exploring the multi-level governance challenges of addressing sprawl and the potential role for conditional federal funding in ameliorating it); Reid Ewing & Fang Rong, *The Impact of Urban Form on U.S. Residential Energy Use*, 19 HOUSING POL'Y DEBATE 1 (2008) (analyzing the way in which urban form impacts residential energy use); Christine A. Klein, *The New Nuisance: An Antidote to Wetland Loss, Sprawl, and Global Warming*, 48 B.C. L. REV. 1155 (2007); Christian Iaione, *The Tragedy of Urban Roads: Saving Cities from Choking, Calling on Citizens to Combat Climate Change*, 37 FORDHAM URB. L.J. 889 (2010); Nicole Stelle Garnett, *Save the Cities, Stop the Suburbs?*, 116 YALE L.J. 589 (2007) (reviewing recent books about debates over urban growth restrictions); Alexandra Lampert, *California's Fight Against Global Warming: Finally Getting Smart about Sprawl?*, 20 STAN. L. & POL'Y REV. 193 (2009) (describing California's Senate Bill 375 as a small step forward); Mary D. Nichols, *Sustainable Communities for a Sustainable State: California's Efforts to Curb*

An emerging interdisciplinary literature on metropolitan emission patterns and reduction strategies takes a similar approach; often with great spatial sophistication, it maps broad emissions patterns in the suburbs that generally do not differentiate among the varying types of little cities that comprise them.[32] One of the more nuanced of such analyses by Yonn Dierwechter, for example, engages in sophisticated mapping of local climate change action in six major metropolitan regions to explore the patterns of climate change action and what motivates behavior.[33] Using participation in the Mayors Agreement as a proxy and situating itself in the broader context that only about 5% of cities nationwide participate in this agreement, it finds that substantial climate change action in the central cities did not spread adequately into the suburbs, and argues for larger scale mandates to address "a massive implementation gap."[34] However, its analysis considered neither the characteristics of the suburbs taking action nor how climate change action varied across the different types of cities that make up a metropolitan region.[35] Similarly, a policy brief by Edward Glaeser and Matthew Kahn compares emissions patterns across metropolitan areas.[36] The brief explores the differences

---

Sprawl and Cut Global Warming Emissions, 12 VT. J. ENVTL. L. 185 (2010) (discussing California's Senate Bill 375 as an example of metro-regional land use planning approaches); J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CAL. L. REV. 59 (2010) (discussing complexity of understanding and addressing sprawl). *See also* Mary D. Nichols, *Sustainable Communities for a Sustainable State: California's Efforts to Curb Sprawl and Cut Global Warming Emissions*, 12 VT. J. ENVTL. L. 185 (2010) (discussing California's Senate Bill 375 as an example of metro-regional land use planning approaches); Alexandra Lampert, *California's Fight Against Global Warming: Finally Getting Smart about Sprawl?*, 20 STAN. L. & POL'Y REV. 193 (2009) (describing California's Senate Bill 375 as a small step forward).

32 For examples of metropolitan-focused analyses in climate change mitigation, see Marilyn A. Brown et al., *Shrinking the Carbon Footprint of Metropolitan America*, *in* BLUEPRINT FOR AM. PROSPERITY 6–11 (Brookings Inst. Metro. Policy Program, D.C. May 2008) (arguing that federal policy leadership is needed to complement state and local efforts on metropolitan emissions); PATRICK M. CONDON ET AL., URBAN PLANNING TOOLS FOR CLIMATE CHANGE MITIGATION: POL'Y FOCUS REP. 20–42 (Lincoln Inst. of Land Policy, Cambridge, Mass 2009) (exploring, illustrated through case studies, the ways various modeling tools can help in the planning process to reduce carbon footprints of new development); Dierwechter, *supra* note 1 (considering city-suburb dynamics of six U.S. metropolitan regions, but without detailed comparison of the individual suburban cities); Edward L. Glaeser & Matthew Kahn, *The Greenness of Cities*, *in* POL'Y BRIEFS (Rappaport Inst. & Taubman Ctr., Cambridge Mass. Mar. 2008) (exploring variations in metropolitan emissions patterns across metropolitan areas and the differences between city-suburb dynamics). For an example of a study focusing purely on suburban action, see Sarah E. Knuth, *Addressing Place in Climate Change Mitigation: Reducing Emissions in a Suburban Landscape*, 30 APPLIED GEOGRAPHY 518, 520 (2010) (providing a case study of efforts to develop a climate change mitigation plan in a wealthy suburban county).

33 Dierwechter, *supra* note 1, at 66–67.

34 *Id.* at 60, 80.

35 *See id.*

36 *See* Glaeser & Kahn, *supra* note 32, at 1–3, 7–8.

between city-suburb emission dynamics in older East Coast cities like Boston (suburban emissions higher than in central cities but leveling off after 10 miles) and the West Coast city of Los Angeles (suburban emissions lower than in the central city).[37] But their interesting mapping did not differentiate among the suburban cities by urban type.[38]

The basis for a more detailed look inside suburbs engaging in climate change action exists, however, because of the emerging scholarly literature exploring the nuances of the cities that make up suburbs. Myron Orfield, sometimes in collaboration with Thomas Luce, has been an important pioneer in this type of spatial-legal analysis. Using GIS technology together with demographic data, Orfield has produced detailed maps that provide a clearer understanding of the very different types of suburbs that make up major U.S. cities.[39] Based on this data, Orfield has classified the different types of suburbs that surround center cities into several categories: stressed, developed job centers, affluent residential, developing job centers, and bedroom developing.[40] Moreover, Orfield's work is part of a broader literature in geography and urban studies that examines the nuances of the cities that make up suburbs and how they are evolving.[41] Part II's case study of the Twin Cities metropolitan region models how this data can be brought together with an examination of climate change efforts within particular suburban cities to provide a more nuanced analysis of where possibilities for suburban action lie.[42]

B. Locating Suburbs in Multi-Level Networks and Pluralist/ Polycentric Governance Approaches

An analysis on suburban climate action focused simply on the actions of particular leader suburbs and their demography would be incomplete, however, without an exploration of their interaction with multi-level networks and legal action. Local action in climate change takes place in a broader context of debates over international, national, and state action. An extensive scholarly literature across many disciplines explores the role of networks in governance. Much of this discourse occurs in relatively isolated streams. One stream, at the intersection of international law, international relations, and transgovernmentalism, examines relationships among a range of governmental and nongovernmental entities and the ways in which they shape international govern-

---

37 *See id.*

38 *See id.*

39 *See, e.g.*, ORFIELD, *supra* note 2, maps 1-1, 2-1.

40 *See id.* at 46–48.

41 For examples of thoughtful analyses of the changing nature of suburbs and metropolitan regions, see *id.*; TWENTY-FIRST CENTURY GATEWAYS: IMMIGRANT INCORPORATION IN SUBURBAN AMERICA (Audrey Singer et al. eds., 2008).

42 *See infra* Part II.

ance. Anne-Marie Slaughter's *A New World Order*, for instance, provides a vision of an international and transnational system, comprised of vertical and horizontal networks of governmental officials interacting with each other and with disaggregated international organizations.[43] Another stream at the intersection of urban studies and geography examines transnational interactions among world cities and their implications. Saskia Sassen, for example, has explored the ways in which economic globalization and the emergence of new information and communication technologies have made world cities key nodes for cross-border networks and resource concentration.[44] A related approach in the geography scale literature considers whether different governmental levels are themselves networks, with Kevin Cox arguing that local spaces are comprised both of core local interactions and multi-level ones.[45] At the law and anthropology intersection, Annelise Riles has examined the operation of multi-level networks in the context of Fijian activists and bureaucrats preparing for and then participating in the United Nations Fourth World Conference on Women.[46] While each of these accounts is distinct in its focus and orientation, a common thread running through these literatures is their analysis of the way in which interactions at multiple levels outside of the formal strictures of law formation help to constitute governance,

---

43 ANNE-MARIE SLAUGHTER, A NEW WORLD ORDER 18–23 (Princeton University Press eds. 2005).

44 *See* Saskia Sassen, *Locating Cities on Global Circuits*, *in* GLOBAL NETWORKS, LINKED CITIES 1, 28–31 (Saskia Sassen ed., 2002). For additional analyses of the role of cities in a globalizing world, see NEIL BRENNER, NEW STATE SPACES: URBAN GOVERNANCE AND THE RESCALING OF STATEHOOD (Oxford University Press eds. 2004); NAT'L RESEARCH COUNCIL, CITIES TRANSFORMED: DEMOGRAPHIC CHANGE AND ITS IMPLICATIONS IN THE DEVELOPING WORLD (Mark R. Montgomery et al. eds., 2003); GLOBALIZING CITIES: A NEW SPATIAL ORDER? (Peter Marcuse & Ronald van Kempen eds., 2000); HEIDI H. HOBBS, CITY HALL GOES ABROAD: THE FOREIGN POLICY OF LOCAL POLITICS (1994); SASKIA SASSEN, THE GLOBAL CITY: NEW YORK, LONDON, TOKYO (2d ed. 2001); H. V. SAVITCH & PAUL KANTOR, CITIES IN THE INTERNATIONAL MARKETPLACE: THE POLITICAL ECONOMY OF URBAN DEVELOPMENT IN NORTH AMERICA AND WESTERN EUROPE (2002); RICHARD SENNETT, THE CONSCIENCE OF THE EYE: THE DESIGN AND SOCIAL LIFE OF CITIES (1990); SPACES OF GLOBALIZATION: REASSERTING THE POWER OF THE LOCAL (Kevin R. Cox ed., 1997); WORLD CITIES IN A WORLD-SYSTEM (Paul L. Knox & Peter J. Taylor eds., 1995); Gerald E. Frug & David J. Barron, *International Local Government Law*, 38 URB. LAW. 1 (2006).

45 *See* Kevin R. Cox, *Spaces of Dependence, Spaces of Engagement and the Politics of Scale, or: Looking for Local Politics*, 17 POL. GEOGRAPHY 1, 2 (1998). For other scholarship interacting with Cox's approach, see Katherine T. Jones, *Scale as Epistemology*, 17 POL. GEOGRAPHY 25 (1998); Dennis R. Judd, *The Case of the Missing Scales: A Commentary on Cox*, 17 POL. GEOGRAPHY 29 (1998); Michael Peter Smith, *Looking for the Global Spaces in Local Politics*, 17 POL. GEOGRAPHY 35 (1998); Lynn A. Staeheli, *Globalization and the Scales of Citizenship*, 19 GEOGRAPHY RES. F. 60 (1999). For Cox's response to some of that scholarship, see Kevin R. Cox, *Representation and Power in the Politics of Scale*, 17 POL. GEOGRAPHY 41 (1998).

46 *See* ANNELISE RILES, THE NETWORK INSIDE OUT (2000) (providing an anthropological account of networks which includes in depth engagement of sociolegal spaces at multiple levels).

whether we call it law or not, and the ever-more-important role of cities in those dynamics.

Of most relevance to the current topic, scholarship has explored the potential governance role of multi-level subnational climate change networks. Judith Resnik, Joshua Civin, and Joseph Frueh have examined the wide range of subnational networks working on climate change and argued that these networks could play a constructive role in shaping federal policy.[47] Janet Levit and I have considered the way in which bottom-up networking among cities could contribute to international efforts to address climate change.[48] I also have explored the role of transnational networks of cities, states, and provinces at the Copenhagen negotiations and queried how these networks could be integrated into the treaty process.[49] These analyses provide pathways for thinking about the current and potential international and national legal significance of networks among cities working for climate change, either through formal legal reform or through expanded recognition of networks' capacity to influence those formal processes.

Another largely separate stream of scholarship about pluralist or polycentric climate change governance complements this discourse about subnational climate change networks. Although a rich scholarly literature has existed for a number of years on various aspects of multi-level climate change governance, Elinor Ostrom's 2009 World Bank Research Working Paper—arguing for polycentric approaches to climate change—has helped spur greater interest in developing governance models that recognize the relevance of a wide range of formal and informal action beyond the confines of the United Nations Framework Convention on Climate Change.[50] After extensive discussion of why smaller-scale, including local and networks of local (mostly focused on major cities), action can serve as an important part of addressing this collective action problem, concludes:

---

[47] *See* Judith Resnik et al., *Ratifying Kyoto at the Local Level: Sovereigntism, Federalism, and Translocal Organizations of Government Actors (TOGAS)*, 50 ARIZ. L. REV. 709, 726–33, 764 (2008).

[48] Osofsky & Levit, *supra* note 27, at 412–14.

[49] *See* Hari M. Osofsky, *Multiscalar Governance and Climate Change: Reflections on the Role of States and Cities at Copenhagen*, 25 MD. J. INT'L L. 64, 67 (2010) [hereinafter Osofsky, *Multiscalar Governance*]; *cf.* Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 Wash. U. L.Q. 1789, 1814–15 (2005) [hereinafter Osofsky, *Transnational Regulatory Governance*] (exploring climate change as a multi-scalar regulatory problem).

[50] *See* Elinor Ostrom, *A Polycentric Approach for Coping with Climate Change* (World Bank, Policy Research Working Paper No. 5095, 2009), *available at* http://wdronline.worldbank.org/worldbank/a/nonwdrdetail/162. For an example of scholarship building on this approach, see Daniel H. Cole, *From Global to Polycentric Climate Governance*, (European Univ. Inst. Robert Schuman Ctr. for Advanced Studies, Working Paper No. 2011/30, 2011), *available at* http://cadmus.eui.eu/handle/1814/17757.

> Given the complexity and changing nature of the problems involved in coping with climate change, there are no "optimal" solutions that can be used to make substantial reductions in the level of greenhouse gases emitted into the atmosphere. A major reduction in emissions is, however, needed. The advantage of a polycentric approach is that it encourages experimental efforts at multiple levels, as well as the development of methods for assessing the benefits and costs of particular strategies adopted in one type of ecosystem and comparing these with results obtained in other ecosystems. A strong commitment to finding ways of reducing individual emissions is an important element for coping with climate change. Building such a commitment, and the trust that others are also taking responsibility, can be more effectively undertaken in small- to medium-scale governance units that are linked through information networks and monitoring at all levels.[51]

Ostrom's analysis helps pave a way for better conceptualization of the role of cities, even very small ones, in multi-level climate change governance because it treats the international treaty negotiations as just one piece of a complex puzzle.[52] In particular, it focuses on the ways in which small-scale governments can help build the trust and commitment needed to overcome collective action failures, a function that arguably can be performed more effectively in the small cities of the suburbs than in the larger center cities where there are many more constituencies by virtue of their greater size.[53]

Ostrom's polycentric model has much in common with pluralist approaches,[54] which in turn have commonalities with the New Haven

---

[51] Ostrom, *supra* note 50, at 39.

[52] *See id.* at 35.

[53] *See id.* at 33–35.

[54] Global legal pluralism examines the multiple normative, and sometimes legal, communities operating in shared social space and the implications of having simultaneous valid orders. For examples of this approach in a variety of substantive contexts, see Robert B. Ahdieh, *Dialectical Regulation*, 38 CONN. L. REV. 863 (2006); Diane Marie Amann, *Abu Ghraib*, 153 U. PA. L. REV. 2085 (2005); Diane Marie Amann, *Calling Children to Account: The Proposal for a Juvenile Chamber in the Special Court for Sierra Leone*, 29 PEPP. L. REV. 167 (2001); Elena A. Baylis, *Parallel Courts in Post-Conflict Kosovo*, 32 YALE J. INT'L L. 1 (2007); Paul Schiff Berman, *Global Legal Pluralism*, 80 S. CAL. L. REV. 1155 (2007); William W. Burke-White, *International Legal Pluralism*, 25 MICH. J. INT'L L. 963 (2004); Janet Koven Levit, *A Bottom-Up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments*, 30 YALE J. INT'L L. 125 (2005); Ralf Michaels, *The Re-*state-*ment of Non-State Law: The State, Choice of Law, and the Challenge from Global Legal Pluralism*, 51 WAYNE L. REV. 1209 (2005). I have examined pluralism in the context of climate change

School,[55] in that they all treat a diverse set of activity as relevant to lawmaking. Under such models, activities by multi-level networks of cities, some of which are suburbs, to spur more local, state, national, and international mitigation efforts can be considered as part of a lawmaking process that also includes the formal treaty processes and accompanying national legislation and regulation.[56] Other streams of scholarship, like new governance,[57] regulatory institutions theory,[58] and adaptive management[59] explore mechanisms for creating more inclusive, responsive, decentralized governance. In the U.S. domestic law context, an extensive and rapidly growing dynamic federalism literature complements this

---

litigation in Hari M. Osofsky, *Climate Change Litigation as Pluralist Legal Dialogue?*, 26 STAN. ENVTL. L.J. 181 (2007).

55 The New Haven School treats law as "a process of authoritative decision by which the members of a community clarify and secure their common interests." 1 HAROLD D. LASSWELL & MYRES S. MCDOUGAL, JURISPRUDENCE FOR A FREE SOCIETY: STUDIES IN LAW, SCIENCE AND POLICY, at xxi (1992); *accord* Myres S. McDougal et al., *The World Community: A Planetary Social Process*, 21 U.C. DAVIS L. REV. 807, 810–11 (1988). For a discussion of the New Haven School's goals, see LASSWELL & MCDOUGAL, *supra*, at xxix.

56 *See* Osofsky *supra* note 54, at 184.

57 For examples of new governance scholarship, *see*, LAW AND NEW GOVERNANCE IN THE EU AND US (Gráinne de Búrca & Joanne Scott eds., 2006); Bradley C. Karkkainen, Reply, *"New Governance" in Legal Thought and in the World: Some Splitting as Antidote to Overzealous Lumping*, 89 MINN. L. REV. 471, 471–80 (2004); Orly Lobel, Surreply, *Setting the Agenda for New Governance Research*, 89 MINN. L. REV. 498, 498–99 (2004); Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 MINN. L. REV. 342, 371–76 (2004); J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CALIF. L. REV. 59, 106–07, 109–13 (2010).

58 For examples of scholarship from the Regulatory Institutions Network at Australia National University, see Valerie Braithwaite, *Ten Things You Need to Know About Regulation and Never Wanted to Ask*, Regulatory Inst. Network, Occasional Paper No. 10, Austl., Dec. 2006, *available at* http://pandora.nla.gov.au/pan/67415/20080123-0746/ctsi.anu.edu.au/publications/10thingswhole.pdf; Charlotte Wood et al., *Applications of Responsive Regulatory Theory in Australia and Overseas*, Regulatory Inst. Network, Occasional Paper No. 15, Austl., June 2010, *available at* http://pandora.nla.gov.au/pan/67415/20110121-0705/ctsi.anu.edu.au/publications/OccasionalPaper_15.pdf.

59 Adaptive management, at times drawing from concepts of panarchy, *see* C.S. Holling et al., *In Quest of a Theory of Adaptive Change*, *in* PANARCHY: UNDERSTANDING TRANSFORMATIONS IN HUMAN AND NATURAL SYSTEMS 3, 5 (Lance H. Gunderson & C.S. Holling eds., 2002), explores how law can be structured to allow for regulatory evolution in response to change. *See* Alejandro E. Camacho, *Assisted Migration: Redefining Nature and Natural Resource Law Under Climate Change*, 27 YALE J. ON REG. 171, 171–72 (2010); Robin Kundis Craig, *"Stationarity is Dead"—Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 17–18 (2010); Michael Ilg, *Complexity, Environment, and Equitable Competition: A Theory of Adaptive Rule Design*, 41 GEO. J. INT'L L. 647, 650–51 (2010); Bradley C. Karkkainen, *Information-Forcing Environmental Regulation*, 33 FLA. ST. U. L. REV. 861, 884–88 (2006); J.B. Ruhl & Robert L. Fischman, *Adaptive Management in the Courts*, 95 MINN. L. REV. 424, 436–40 (2010); J.B. Ruhl, *Law's Complexity: A Primer*, 24 GA. ST. U. L. REV. 885, 890–901 (2008); Sandra Zellmer, Essay, *A Tale of Two Imperiled Rivers: Reflections from a Post-Katrina World*, 59 FLA. L. REV. 599, 627–30 (2007).

scholarship through its analysis of how to structure appropriate and effective multi-level governance structures.[60]

Together, these approaches provide fruitful ground for conceptualizing practical ways to leverage multi-level networks of cities—and leader suburbs participation in them—to make important incremental progress in mitigating climate change. Building on my prior work on multi-level climate change and environmental governance, which draws from these diverse streams of theory, and on Part II's case study, Part III considers how the participation of small, suburban cities in multi-level networks can be used as a mechanism for spurring needed action on climate change, especially at a time when critical larger-scale former processes remain stalled. It analyzes the potential dual roles of these networks in fostering greater suburban participation and in influencing larger scale formal processes.

II. SUBURBAN MITIGATION EFFORTS IN THE TWIN CITIES METROPOLITAN REGION

This Part uses the Twin Cities metropolitan region as a laboratory for considering how suburban positionality influences cities' approaches to climate change. It begins with an overview of the Twin Cities metropolitan region, how the twelve example cities were selected, and their demographic characteristics. It then groups those cities by the type of suburb that they are—stressed city, developed job center, and developing job center or bedroom community—to examine the extent to which cities' demographic characteristics shape the types of mitigation initiatives that they choose to pursue.

The Part concludes with some reflections, based on that grouping, of how differentiating among categories of suburbs might help to shape efforts to encourage mitigation in them. While these suburban cities are all taking measures that comport with the types of appropriate local steps outlined in the scholarly literature on cities and climate change, the emphasis and form of these measures varies among the different kinds of cities. This variation suggests strategies for framing the benefits of mitigation approaches in ways tailored to diverse local needs.

A. Twin Cities Suburban Action as a Case Study

As noted in the introduction, the Twin Cities metropolitan region is highly fragmented, has significant regional governance, and its central

60 I have provided an extensive summary and synthesis of this literature in the context of climate change in Hari M. Osofsky, *Diagonal Federalism and Climate Change: Implications for the Obama Administration*, 62 ALA. L. REV. 237 (2011); *see also* Kirsten H. Engel, *Harnessing the Benefits of Dynamic Federalism in Environmental Law*, 56 EMORY L.J. 159, 160 (2006).

cities have leading mitigation efforts.[61] Myron Orfield and Thomas Luce have documented in their in-depth study of the Twin Cities that the region contains 172 cities and 97 townships and ranks as the fifth most fragmented among the United States' fifty largest metropolitan areas.[62] Like most major metropolitan areas, jobs and population have decentralized significantly over the last thirty years, with current growth concentrated in the outer suburbs; from 1990 to 2004, Minneapolis grew at 1.3% and St. Paul grew at 3.0%, as compared to the region's overall growth rate of 22.5%.[63] As this growth has occurred, suburban differentiation has taken place, with some suburbs, especially inner ones, increasingly reflecting the fiscal stresses and racial and poverty concentrations of the central cities, and other suburbs, especially outer ones, facing the complexities of rapid growth with inadequate infrastructure.[64] Only a small percentage of the region's suburban cities fit the traditional model of wealthy residents who commute into the central city.[65]

---

61 *See* MYRON ORFIELD & THOMAS F. LUCE JR., REGION: PLANNING THE FUTURE OF THE TWIN CITIES xiii–xiv (2010).

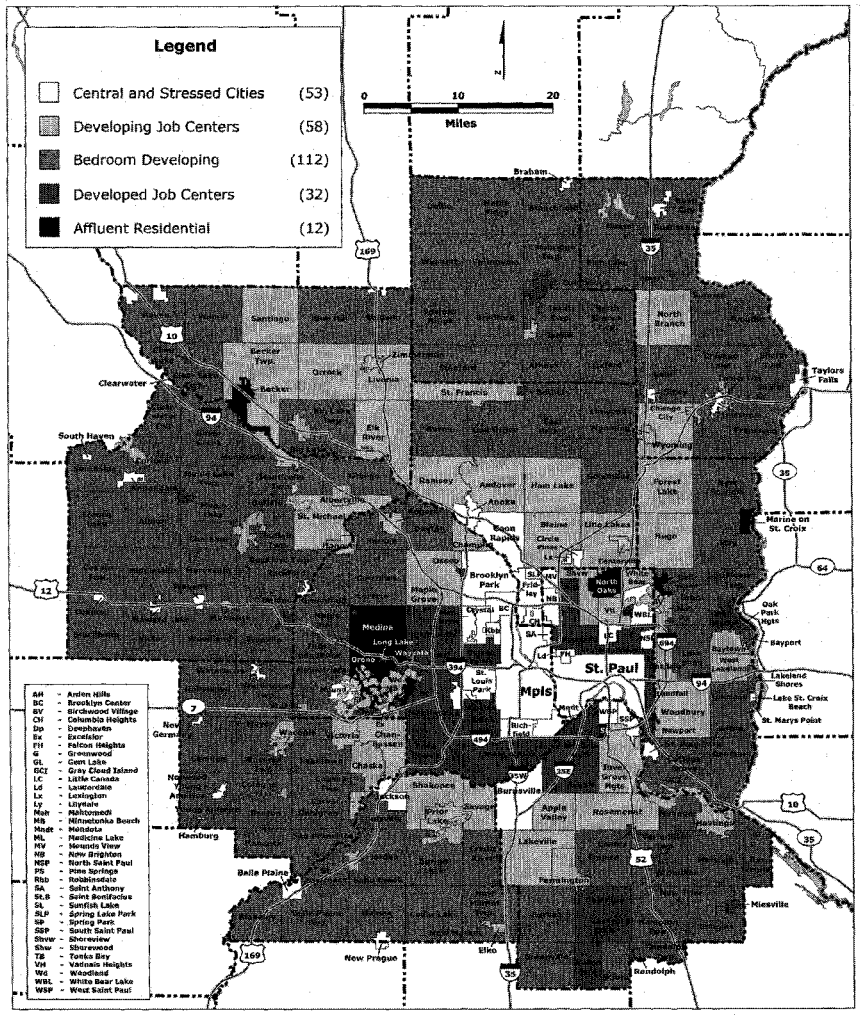
62 *Id.* at 2.

63 *Id.* at 14.

64 *Id.* at 43–49.

65 *Id.* at 46.

FIG. 1 MAP OF THE TWIN CITIES[66]



The distribution of the Twin Cities' approximately 3.1 million residents, as depicted in the map at Fig. 1, is: 24% in the two central cities, 23% in the 53 stressed suburbs, 25% in the 58 developing job centers, 8% in the 112 bedroom developing communities, 19% in the 32 developed job centers, and 1% in the 12 affluent residential communities.[67]

These demographic patterns highlight the importance of the smaller cities that comprise the suburbs taking action on climate change to the success of metro-regional emissions reduction initiatives. The two center

66 ORFIELD & LUCE JR., *supra* note 61, at 44 (reproduced with the permission of Myron Orfield).

67 *See id.* at 2–3, 45.

cities, Minneapolis and St. Paul, have been national and international leaders on climate change since the early 1990s, joining International Council for Local Environmental Initiatives (ICLEI) in 1992 and co-founding its Cities for Climate Protection Campaign in 1993.[68] Since pioneering one of the first local greenhouse gas emissions reduction plans in the country, they have consistently had aggressive reduction goals and received national recognition for their innovative efforts on climate change.[69] However, these significant initiatives by Minneapolis and St. Paul—even taking into account the suburban residents who work in those central cities—only address a small fraction of the metropolitan region's emissions.

Few metropolitan regions have developed regional governance structures to the extent that the Twin Cities one has.[70] Minnesota's experiment in regional governance began in 1967, when its legislature established the Met Council to meet new federal requirements for regional governance;[71] as of January 2012, the Met Council listed 183 communities in its seven-county metro area.[72] This entity was intended to build upon decades of ad hoc collaboration among the cities and to address concerns over land use planning, wastewater coordination, and transit funding.[73] The state legislature gradually expanded the Met Council's powers over time, and the council has played and continues to play a significant role in regional planning, including growth management.[74] Orfield and Luce argue that while the appointed Met Council has accomplished less than Portland's elected regional governing body, in part due to Oregon's more-developed statewide comprehensive land use planning system, both Portland and the Twin Cities show less sprawl than would be expected at their level of fragmentation.[75] These regional-level accomplishments, even if they could be augmented significantly following

---

68 *International Council for Local Environmental Initiatives*, SAINT PAUL, MINNESOTA, http://www.stpaul.gov/index.aspx?NID=464 (last visited Feb. 12, 2012); *Climate Change Solutions: Twin Cities Trim Climate Change*, U.S. ENVTL. PROT. AGENCY, http://nepis.epa.gov/Adobe/PDF/40000PQ6.pdf (last visited Feb. 12, 2012).

69 *See* MINNEAPOLIS–SAINT PAUL URBAN CO_2 PROJECT PLAN: A FRAMEWORK FOR DEVELOPING STRATEGIES TO REDUCE CO_2 EMISSIONS, SAVE TAXES, AND SAVE RESOURCES (Dec. 1993), *available at* http://www.minneapolismn.gov/www/groups/public/@citycoordinator/documents/webcontent/convert_284899.pdf; *International Council for Local Environmental Initiatives*, *supra* note 68; *Minneapolis Climate Action Plan*, CITY OF MINNEAPOLIS, http://www.minneapolismn.gov/sustainability/climate/index.htm (last visited Sept. 24, 2012).

70 For another example of a well-developed metropolitan regional government, see GREATER NASHVILLE REGIONAL COUNCIL, https://www.gnrc.org/; METRO, http://www.oregonmetro.gov/ (Portland).

71 *See* ORFIELD & LUCE JR., *supra* note 61, at 52–53.

72 *List of Community Profiles*, METROPOLITAN COUNCIL, http://stats.metc.state.mn.us/profile/list.aspx (last visited Jan. 28, 2012).

73 *See* ORFIELD & LUCE JR., *supra* note 61, at 52–80.

74 *See id.*

75 *See id.*

Portland's model, provide a context in which appropriately-focused, locally-based initiatives on climate change could supplement regional mitigation efforts.

Over the course of the last several years, a number of the Twin Cities suburbs have begun to join their center cities in local action on climate change. This Article focuses on a subset of those suburbs that were the first twelve to join the Minnesota GreenStep Cities program in the Twin Cities metropolitan region. Although this program focuses more broadly on sustainability, many of its earliest suburban participants are taking steps on climate change. Examining these participants allows (1) identification of suburbs that have been willing to commit publicly to sustainability goals, which are often less politically controversial than climate change mitigation goals,[76] and (2) consideration of what actions they are taking—whether as part of their Minnesota GreenStep Cities participation or separate from it—to reduce their greenhouse gas emissions.[77]

Minnesota Greenstep Cities emerged from the fall 2007 Minnesota Clean Energy Resource Teams' (CERTS) regional listening sessions around the state regarding community-based energy opportunities and the Next Generation Energy Act of 2007.[78] The legislature in 2008 directed the Minnesota Pollution Control Agency (MPCA), Department of Energy Resources, and CERTS to recommend voluntary actions which cities could take as part of a voluntary program to recognize "green star" sustainable cities.[79] The resulting program, Minnesota GreenStep Cities, which launched in June 2010, focuses on twenty-eight best practices and has three "steps" depending on how many best practices the participating city has taken;[80] a guide explains how to get started and how to achieve each step.[81] The Steering Committee—consisting of representatives from the MPCA, Great Plains Institute, CERTS, Urban Land Institute

---

76 This ability to focus on less divisive framing is a potentially important concern in a political climate in which the Minnesota State Republicans ousted Public Utility Commission Chair Ellen Anderson in January 2012 in part based on her past leadership as a Democratic state senator on renewable energy legislation. *See* Jim Ragsdale, *Senate Republicans Oust Ellen Anderson as PUC Chair*, STAR TRIBUNE, http://www.startribune.com/politics/blogs/138357554.html (last updated Jan. 30, 2012). Although the November 2012 election brought the Minnesota legislature back under Democratic control, Frederick Melo & Mary Jo Webster, *Election 2012: Minnesota, by the Numbers, Was Nearly True Blue*, PIONEER PRESS, Nov. 11, 2012, http://www.twincities.com/ci_21978013/election-2012-minnesota-by-numbers-was-nearly-true (last visited Nov. 28, 2012), deep divisions remain in viewpoints about climate change.

77 MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/aboutProgram.cfm (last visited Oct. 21, 2011).

78 *Id.*

79 *Id.*

80 *Id.*

81 *Id.*

Minnesota, League of Minnesota Cities, Izaak-Walton League-Minnesota Division, and the Minnesota Department of Commerce-Division of Energy Resources—reviews the program annually.[82] Businesses and other organizations can sponsor GreenStep Cities Awards and receive public recognition for their role in the program.[83] The program is growing rapidly, with new cities continuing to join.[84]

The twelve GreenStep Cities' participants that are the focus of this article represent a diverse cross-section of Twin Cities suburbs, as summarized in Table 1.[85]

TABLE 1: CHARACTERISTICS OF TWIN CITIES METROPOLITAN REGION GREENSTEP CITIES

	Pop.[86]	Pop. Change (1990-2004)[87]	Suburb Location[88]	Community Type[89]	Household Tax Capacity (2004)[90]	Party Preference (by State Senate Dist.) (2006)[91]
Apple Valley	49,084	+41.3–75.6%	3rd Ring (S)	Developing Job Center	$2,261–$2,950	Leaning R Volatile
Cottage Grove	34,502	+22.5–40.2%	2nd Ring (SE)	Bedroom Developing	$2,007–$2,254	Leaning D Volatile
Eagan	65,800	+22.5–40.2%	2nd Ring (S)	Developed Job Center	$2,261–$2,950	Leaning D Volatile
Eden Prairie	60,797	+41.3–75.6%	2nd Ring (SW)	Developed Job Center	$3,006–$3,992	Leaning R Volatile
Edina	47,941	+0.0–11.5%	1st Ring (SW)	Developed Job Center	$3,006–$3,992	Leaning R Volatile
Falcon Heights	5,300	+0.0–11.5%	1st Ring (N)	Stressed City	$1,580–$1,986	Safe D
Farmington	21,086	+78.6% or more	3rd Ring (S)	Developing Job Center	$2,007–$2,254	Leaning R Volatile
Hopkins	17,481	+0.0–11.5%	1st Ring (W)	Stressed City	$1,580–$1,986	Safe D
Mahtomedi	7,563	+41.3–75.6%	2nd Ring (NE)	Developing Job Center	$2,261–$2,950	Leaning R Party Line
Maplewood	38,018	+13.1–22.3%	1st Ring (NE)	Developed Job Center	$2,261–$2,950	Safe D
Oakdale	27,378	+41.3–75.6%	2nd Ring (E)	Developing Job Center	$1,580–$1,986	Safe D
St. Anthony	8,226	-34.5–-0.2%	1st Ring (N)	Stressed City	$794–$1,506	Leaning D Party Line

82 *Id.*

83 *Id.*

84 *Greenstep Cities List*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/allCities.cfm (last visited Nov. 12, 2012).

85 *See id.*

86 *See id.* (Click on each city for population count).

87 ORFIELD & LUCE JR., *supra* note 61, at 15 map 1.2.

88 These are rough classifications from a map of the Twin Cities Metropolitan Region. *See id.*

89 *Id.* at 44, map 1.17.

90 *Id.* at 37, map 1.14. The regional average tax capacity was $2,261. *See id.*

91 *Id.* at 277, map 7.2.

While their self-selection into a voluntary program suggests that these cities are likely mitigating more actively than many other small cities in the region, and thus probably unrepresentative of suburban efforts more broadly, they have a wide range of population, recent growth, location, community type, household tax capacity, and party preference. That diversity, paired with the similarities among the measures these cities are taking to address climate change and achieve sustainability, suggests that they may provide a helpful example of how leader, small city-suburbs can contribute to broader multi-level climate change efforts; the ways in which these local initiatives cross-cut party lines is particularly hopeful sign at this time of deep division in the United States. Focusing on a statewide sustainability program, even though some leader cities—including the center cities—may not participate in the program because they are too far ahead,[92] also provides a way to capture efforts by cities that may not opt in to the Mayors Agreement but are taking mitigation efforts under the rubric of sustainability.

These twelve suburbs' greenhouse gas mitigation efforts focus on steps entirely within their local control. Although many of the measures that they are taking potentially pair constructively with regional-level policies to address sprawl and consequently reduce metropolitan vehicle miles traveled, these local initiatives do not center on the regional level or above. Participating suburbs generally began their efforts on climate change and energy, often because of the persuasive efforts of one or a small group of politically active individuals who have the capacity to make a significant difference at that scale, well before the GreenStep Cities program commenced. By the time these cities joined Greenstep Cities, many of them were already members of a number of other networks of cities—described in depth in Section III.A—operating at different scales.[93]

B. Stressed Inner Suburbs

Stressed inner suburbs, also referred to as "at-risk communities," face many of the difficulties of their center cities—poverty and social instability that put great pressure on limited resources—but often without center city resources. These cities include "older suburbs, satellite cities, and newer, lower density communities with relatively high poverty rates."[94] They often become poor faster than their center cities because

---

[92] Confidential interviews with people involved in cities active in other multi-level climate change and sustainability networks but not participating in GreenStep Cities (Fall 2011).

[93] *See infra* Part III.A.

[94] ORFIELD, *supra* note 2, at 36.

they lack business districts as well as urban resources such as public infrastructure, cultural attractions, parks, and other amenities.[95]

The Twin Cities' stressed inner suburbs, including the three cities described below—Falcon Heights, Hopkins, and St. Anthony—follow this pattern. They all have below average household tax capacity and growth compared to the other suburbs, with St. Anthony poorer and growing more slowly than the other two. Politically, they are the most liberal group of cities in this sample; like their center cities, they all lean or are solidly Democratic in their voting patterns. As demonstrated in the details of their planning relevant to climate change mitigation, these suburbs' greater economic stresses influence their approach to climate change and sustainability. Their efforts have to be particularly sensitive to economics and up-front costs and often include an urban redevelopment component.

1. Falcon Heights

Falcon Heights, a city of just 5,578 people that votes Democratic, is a first ring suburb just north of Saint Paul which has been categorized as a stressed city.[96] This city is unusual because it houses both the Minnesota State Fair and the University of Minnesota St. Paul campus in its 2.28 square miles.[97] It is by far the smallest of the suburban cities that this Article discusses and particularly exemplifies how, at such a scale, even in a comparatively under-resourced suburb, the leadership of the mayor and key city council members can enable rapid, nimble efforts to take advantage of available state and federal funds and innovate.[98] Over the course of just a few years, the city has made and met major commitments, often at very low cost or free through creative use of university and other local resources.

In 2008, at the urging of the Mayor Peter Lindstrom and several city council members in support of initiatives by the city's Environmental Commission, the Falcon Heights city council unanimously supported joining the Mayors' Agreement, as well as having the Climate Change Corp—using retired engineers through the Minnesota Pollution Control Agency—provide a free inventory of its carbon footprint.[99] The city changed several of its zoning ordinances to allow for high density and

---

95 *Id.* at 33–36.

96 *See supra* Table 1.

97 FALCON HEIGHTS, http://www.ci.falcon-heights.mn.us/ (last visited May 18, 2011).

98 Beth Mercer-Taylor, Member, Falcon Heights City Council, Presentation to Renewable Energy Class at the University of Minnesota (Feb. 7, 2011).

99 *Falcon Heights City Council Minutes 5/28/08*, FALCON HEIGHTS, *available at* http://www.ci.falcon-heights.mn.us/index.asp?Type=B_BASIC&SEC={1F53A76A-3B66-4BE5-AF98-19906858FCE2}&DE=[5F9CE4F7-AABC-4865-A7E2-FBDA27F097B1}(last visited May 17, 2011).

mixed mixed-use zoning along its transportation corridors, implemented programs to promote walking, and increased the number of bike parking stations throughout the city.[100] It also established a building permit fee rebate for energy star improvements.[101]

In fall 2009, the University of Minnesota Sustainable Communities course prepared suggestions on developing a city sustainability program.[102] In summer 2010, Falcon Heights implemented a streetscape project on the major thoroughfare Larpenteur Avenue that includes planting and landscaping, which highlights pedestrian and cyclist street uses.[103] In October 2010, it completed a City Hall energy audit and efficiency upgrades, with the upfront capital costs to be paid back in under two years.[104]

In February 2011, Falcon Heights implemented an Environmentally Preferable Purchasing Policy that complies with the EPA Comprehensive Procurement Guidelines.[105] In August 2011, based on data it had been collecting since 2007, Falcon Heights performed energy audits on two park shelters and installed motion-activated interior lights in response to the audit.[106] Finally, Falcon Heights city council approved a 40kw solar array for the rooftop of its City Hall, which is currently being built with the support of the "Minnesota Made" program and other federal and state subsidies for renewable energy.[107]

The city passed a January 2011 resolution joining the GreenStep Cities program, in which it is taking steps to achieve best practices with

---

100 CITY OF FALCON HEIGHTS, COMPREHENSIVE PLAN 71–86 (2009), *available at* http://archive.ci.falcon-heights.mn.us/compplan2008/FalconHeights2030_CPUcorrected.pdf; CITY OF FALCON HEIGHTS NEW HIGH DENSITY MULTI-FAMILY/MIXED USE ZONING (2010), *available at* http://greenstep.pca.state.mn.us/viewFile.cfm?id=194 (depicting proposed zoning changes in the Comprehensive Plan); *City of Falcon Heights Planning Commission Minutes* (Aug. 24, 2010) (on file with author) (explaining the zoning changes).

101 *Falcon Heights Energy Rebate Program*, FALCON HEIGHTS, http://www.ci.falcon-heights.mn.us/index.asp?Type=B_BASIC&SEC={569404F2-FC29-4662-A633-19F52012CC3E}&DE={5FB80221-04AF-44BE-A8D2-350AC478DECC} (last visited Sept. 28, 2011).

102 *See Student Work*, UNIVERSITY OF MINNESOTA SUSTAINABILITY STUDIES, http://sustainabilitystudies.umn.edu/SustainabilityStudiesMinor/StudentsWork/index.htm (last modified June 30, 2011); Bridget Rathsack et al., Falcon Heights Sustainability (unpublished student report), *available at* http://www.susteducation.umn.edu/wp-content/uploads/2012/02/Falcon-Heights-Sustainability.pdf.

103 *See Larpenteur Streetscape Project Begins*, FALCON HEIGHTS (July 6, 2010), http://www.ci.falcon-heights.mn.us/index.asp?Type=B_PR&SEC=%7B78A505D2-DD94-41B6-88D7-E6CD41853F1C%7D&DE=%7BDFD769E6-4023-4B2E-90A9-81CB002596F1%7D.

104 *See City of Falcon Heights*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394738 (last visited Sept. 28, 2011).

105 City of Falcon Heights Environmentally Preferable Purchasing Policy (Feb. 23, 2011), *available at* http://www.falconheights.info/02-23-2011_fhcc_packet.pdf.

106 *City of Falcon Heights*, *supra* note 104.

107 *See* E-mail from Beth Mercer-Taylor, Member, Falcon Heights City Council, to Hari M. Osofsky, Assoc. Professor of Law, Univ. of Minn. Law Sch. (Mar. 1, 2012) (on file with author).

respect to public buildings, private buildings, comprehensive planning, higher density, complete green streets, mobility options, environmental purchasing, urban forests, green infrastructure, local air quality, benchmarks and community engagement, green business development, and local food. It also is pursuing putting solar panels on its city hall through federal income tax credits, Xcel Energy rebates, private financing, and city lease payments.[108] Falcon Heights reached Step 3 on June 10, 2012.[109]

2. Hopkins

Hopkins is a somewhat larger first ring suburb of 17,481 just west of Minneapolis that also has been categorized as a stressed city and consistently votes Democratic.[110] It was recognized for its sustainability efforts as early as 2005; the Sierra Club designated the Excelsior Tech Center and Regency redevelopment project—which transformed an old torpedo factory into a mixed use community which incorporates residential, business, and industrial development—as one of "America's Best New Development Projects."[111] The city also installed solar-powered trail crossing signs in two locations in 2008.[112]

In 2009, Hopkins' efforts accelerated. It formed a Green Team of city staff and began entering data into the B3 benchmarking database.[113] The Green Team has used this data to guide projects which include: installing motion sensor lights at city facilities and efficient boilers in City Hall, setting thermostats at city facilities lower when not in use, and expanding public outreach on environment and energy issues.[114] For example, the city upgraded its boilers because its City Hall was in the

---

108 *See* FALCON HEIGHTS, MINN., Resolution 11-01 (2011), *available at* http://www.ci.falcon-heights.mn.us/vertical/Sites/%7BA88B3088-FA03-4D5D-9D04-CCC9EF496399%7D/uploads/%7B4399331C-0D81-4A42-9934-EA324FCF40B8%7D.PDF (last visited May 17, 2011); Falcon Heights City Council Workshop, Mar. 2, 2011, *available at* http://www.falcon-heights.org/vertical/Sites/%7BA88B3088-FA03-4D5D-9D04-CCC9EF496399%7D/uploads/%7B57FA6563-4C34-42B0-85A6-6B72250887FE%7D.PDF. For additional steps Falcon Heights is taking, see *Region 5 Climate Change: Municipalities*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/r5climatechange/municipalities.html (listing Falcon Heights as a new Community Climate Change Initiative Partner) (last updated Nov. 23, 2011).

109 *City of Falcon Heights*, *supra* note 104.

110 *See supra* Table 1.

111 SIERRA CLUB, BUILDING BETTER: A GUIDE TO AMERICA'S BEST NEW DEVELOPMENT PROJECTS 2, 18 (2005), *available at* http://www.sierraclub.org/sprawl/report05/buildingbetter.pdf.

112 *See City of Hopkins*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394417 (last visited Sept. 25, 2011).

113 *See id.*

114 *The Green Team*, CITY OF HOPKINS, http://www.hopkinsmn.com/green/index.php (last visited Oct. 27, 2011); *see also* CITY OF HOPKINS, HOPKINS IS GOING GREEN, *available at* http://www.hopkinsmn.com/council/pdf/going-green.pdf (describing Hopkins as "mindful of the environment").

bottom third of the B3 energy performance rankings;[115] the city expects to see a 25% reduction in heating costs because of the new boilers.[116]

In 2010, Hopkins used state-level opportunities to advance its efforts. The Minnesota Department of Natural Resources awarded the Depot Coffee House, a partially city-managed coffee house and youth community engagement project which is located at the confluence of three bike trails, a $37,500 Solar Energy Legacy Grant to install solar panels which will also be used as a public outreach tool.[117] Hopkins registered for GreenStep Cities on November 18, 2010 and reached Step 2 status by June 13, 2011.[118] Hopkins also installed Dark-Sky compliant lighting in Cottageville Park in 2010.[119]

Hopkins currently has several mixed-use redevelopment projects near its historic pedestrian-oriented downtown area, and plans to encourage more such redevelopment in conjunction with an adjacent proposed light rail station.[120] In July 2011, the city adopted a mixed-use zoning ordinance that establishes three mixed-use areas coinciding with proposed light rail stops and development standards for them.[121]

Hopkins also has a number of initiatives to reduce motor vehicle emissions. Many of the city's traffic signals are on fully actualized systems triggered by cameras or sensors to minimize idling whenever possible.[122] The city is also converting traffic signals to LED and hopes to have that process 90% complete by 2012.[123] Its downtown Municipal Parking Ramp has two designated electric car stalls available for rent.[124]

---

115 *See City of Hopkins*, *supra* note 112.

116 *Hopkins Goes Green: City Hall Boiler Replacement*, CITY OF HOPKINS, http://www.hopkinsmn.com/green/boiler-replacement.php (last visited Oct. 26, 2011).

117 THE DEPOT COFFEE HOUSE, DEPOT PARTNERS ANNUAL REPORT 2010 3 (2010), *available at* http://www.thedepotcoffeehouse.com/pdf/depot-annual-report-2010.pdf; *Directions to the Depot*, THE DEPOT COFFEE HOUSE, http://www.thedepotcoffeehouse.com/about/directions.html (last visited Oct. 26, 2011); *Frequently Asked Questions*, THE DEPOT COFFEE HOUSE, http://www.thedepotcoffeehouse.com/about/faq.html (follow "How is the Depot Funded? (The Short Version)" hyperlink) (last visited Oct. 26, 2011); Minn. Dep't of Natural Res., Solar Energy Legacy Grants FY2010 Funded Grants, http://files.dnr.state.mn.us/assistance/grants/recreation/pt_legacy/fy10solar_grants.pdf (revised Feb. 17, 2010).

118 *City of Hopkins*, *supra* note 112.

119 *Id.*

120 *See Current Development*, CITY OF HOPKINS, http://www.hopkinsmn.com/development/current/index.php (noting redevelopment of Fifth Avenue Flats and Marketplace & Main projects as mixed-use); *Downtown Overlay District*, CITY OF HOPKINS, http://www.hopkinsmn.com/development/downtown.php (last visited Oct. 27, 2011); SOUTHWEST TRANSITWAY, DOWNTOWN HOPKINS 8–13 (2009), *available at* http://www.hopkinsmn.com/transportation/pdf/lrt-downtown.pdf.

121 HOPKINS, MINN., Ordinance No. 2011-1031 (2011), *available at* http://www.hopkinsmn.com/WebLink8/DocView.aspx?id=75283&dbid=1.

122 *City of Hopkins*, *supra* note 112.

123 *Id.*

124 *Downtown Public Parking*, CITY OF HOPKINS, http://www.hopkinsmn.com/transportation/parking.php (last visited Oct. 27, 2011).

With respect to the city vehicles, Hopkins monitors fleet fuel usage and cost and keeps a monthly maintenance schedule on each vehicle.[125] The city has bicycle-based police patrols and building inspectors.[126]

3. St. Anthony

St. Anthony is a small first ring suburb—population of 8,226—located just north of Minneapolis that faces significant economic stresses.[127] It has the lowest tax capacity and population growth rate of all the suburbs studied.[128] It leans Democratic, but less strongly than the other two stressed suburbs described in this section.[129] Like Hopkins, some of its earlier sustainability efforts involved mixed-use redevelopment. In 2005, St. Anthony redeveloped the site of the blighted Apache Plaza Mall into a mixed-use area named Silver Lake Village that includes retail, restaurants, parks, sidewalks, and several types of housing.[130] It also created an additional mixed-use area in the Kenzie Terrace area of the city.[131]

Like Falcon Heights, St. Anthony relied upon outside expertise in shaping its approach to clean energy. In 2008, the consulting firm Sebasta Blomberg prepared a facility assessment report on energy use in all city buildings, which the city is using to guide energy efficiency improvements.[132] St. Anthony also receives rebates from Xcel Energy for running its city wells off of a generator during peak electricity usage times.[133] The city has plans to work with Xcel to convert streetlights to LED when economically feasible, which the city anticipates will occur within two years.[134] In addition, the city enters energy use data into the Minnesota B3 Benchmarking database.[135]

---

125 *City of Hopkins*, *supra* note 112.

126 *Id.*

127 *See supra* Table 1.

128 *Id.*

129 *See id.*

130 *City of Saint Anthony*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2396471 (last visited Oct. 28, 2011); Tom Moran, *Silver Lake Village Achieving a Collective Subconscious*, LASERFICHE WEBLINK (Apr. 4, 2008), http://weblink.ci.elk-river.mn.us/weblink8/1/doc/84882/Page1.aspx (describing the history of the development); Edward Tombari, *From Obsolete to Vibrant: Partnerships Help Create Vital Urban Living in Minnesota Suburb*, LAND DEVELOPMENT (Nat'l Assoc. Home Builders, D.C.), Winter 2010, at 22.

131 *See Zoning & Street Address Map*, CITY OF SAINT ANTHONY (2010), http://www.ci.saint-anthony.mn.us/vertical/Sites/%7B5ED4AFB9-D450-4F68-BA29-2600D3C2A620%7D/uploads/%7B72C78191-F238-42E0-B4AF-BBD31E6E6579%7D.PDF.

132 CITY OF SAINT ANTHONY, CITY COUNCIL REGULAR MEETING MINUTES 3 (June 24, 2008), http://www.ci.saint-anthony.mn.us/vertical/Sites/%7B5ED4AFB9-D450-4F68-BA29-2600D3C2A620%7D/uploads/%7B59D6125F-60FC-484E-99B0-3223E0E1B68E%7D.PDF.

133 *City of Saint Anthony*, *supra* note 130.

134 *Id.*

135 *Id.*

St. Anthony has numerous initiatives to reduce vehicle emissions. As part of its efforts to be a walkable, bikeable community, the city provides a bike trail map and recently received a grant to install bike racks at all city buildings.[136] The city coordinates with Metro Transit to improve transit options in the city and includes transit access as a major element of its Silver Lake Village development.[137] St. Anthony has converted all of its traffic signals to LED bulbs and synchronized the signals on Silver Lake Road to reduce idling.[138] The city uses solar powered LED technology for warning lights at school bus and fire truck approach sites.[139] With respect to its own fleet, St. Anthony monitors fuel usage in vehicles, trains staff on efficient driving, uses bicycle police patrols in high-density areas, and relies upon video conferencing to minimize vehicle trips.[140] St. Anthony registered for GreenStep Cities on February 22, 2011 and reached Step 3 by June 10, 2012.[141]

C. Developed Job Centers

Developed job centers are not simply relatively affluent bedroom communities within commuting distance of central cities, but rather have become important players in their regional economies.[142] They have comparatively large tax bases but support less of the social costs of poverty than their central cities. As a result, they suffer fewer of the stresses of the central cities and inner suburbs described above.[143]

The four developed job centers participating in Greenstep Cities—Eagan, Eden Prairie, Edina, and Maplewood—fit this profile. They all have an above average tax base, with Eden Prairie and Edina having the highest tax base of the sample. They vary in their growth rate, however, with the first-ring developed job centers growing more slowly than their second ring counterparts. They are much more politically diverse and volatile than the inner stressed suburbs studied, with two tending Democratic and two tending Republican. This diversity suggests some hope

---

136 CITY OF SAINT ANTHONY, CITY COUNCIL REGULAR MEETING MINUTES 3 (May 24, 2011), http://www.ci.saint-anthony.mn.us/vertical/Sites/%7B5ED4AFB9-D450-4F68-BA29-2600D3C2A620%7D/uploads/MinutesCC052411.pdf; *City of Saint Anthony*, *supra* note 130; SAINT ANTHONY VILLAGE, http://www.ci.saint-anthony.mn.us/ (last visited Nov. 3, 2011) ("Our mission statement is to be a progressive and livable community, a walkable village, which is sustainable, safe and secure."); *Saint Anthony Village Bike Route*, SAINT ANTHONY VILLAGE, http://www.ci.saint-anthony.mn.us/vertical/Sites/%7B5ED4AFB9-D450-4F68-BA29-2600D3C2A620%7D/uploads/%7B8DEE93AE-024A-4ED1-94E6-C52DF829A630%7D.PDF (last visited Nov. 3, 2011).

137 *City of Saint Anthony*, *supra* note 130.

138 *Id.*

139 *Id.*

140 *Id.*

141 *Id.*

142 *See* ORFIELD & LUCE JR., supra note 61, at 46.

143 *See id.*; *see also* ORFIELD, *supra* note 2, at 44–46.

for the bipartisan character of potential mitigation measures in this critical group of established and affluent suburbs despite the general political divisiveness in the United States and Minnesota currently.[144]

As detailed in depth below, these cities collectively have the most extensive programs in the sample. Each of these developed job centers has made significant steps in the major areas in which cities can take action. They all participate in the Mayors Agreement and have made commitments in the Copenhagen City Climate Catalogue. Eden Prairie has even received national recognition from the Mayor's Agreement in the small city category.[145] In their assessment and implementation, these cities have been skillful at taking advantage of university and governmental resources, but also have the fiscal capacity to make up-front investments that will pay off over time.

1. Eagan

Eagan, with a population of 65,800, is the largest suburb in this study (only Eden Prairie, discussed next, is of similar size).[146] It is a second-ring suburb south of the Twin Cities that leans slightly Democratic and that has above average growth and tax capacity, but is not at the high end of either.[147] Despite its very different size and positionality, it shares with Falcon Heights a story in which a few motivated individuals were able to catalyze rapid action.[148] This description illustrates that phenomenon by focusing on the period from the Eagan City Council's February 2010 creation of the Energy and Environment Commission to the present. That Commission, which consists of seven residents that the City Council appoints, makes recommendations on energy sustainability and conservation strategies.[149] The Commission has played an important role in fostering Eagan's mitigation efforts, including its GreenStep accomplishments; Eagan registered as a GreenStep city on November 10, 2010, and reached Step Three on June 10, 2012.[150]

Like Falcon Heights, Eagan took advantage of the local major university and its often-free resources, as well as governmental funding op-

144 *See supra* Table 1.

145 *See* MAYORS CLIMATE PROT. CTR., TAKING LOCAL ACTION: MAYORS AND CLIMATE PROTECTION BEST PRACTICES 13 (2011), *available at* http://usmayors.org/79thAnnualMeeting/documents/BestPractices2011ClimateAwardWinners.pdf.

146 *See supra* Table 1.

147 *See id.*

148 *See* Amir Nadav, Member, Eagan Energy and Env't Comm'n, Presentation at the University of Minnesota Climate Change and Clean Energy Capstone (Sept. 20, 2011) (notes on file with author).

149 *Advisory Energy & Environment Commission*, CITY OF EAGAN, http://www.cityofeagan.com/live/article.aspx?id=41643 (last visited Oct. 5, 2011).

150 *City of Eagan*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394586) (last visited Sept. 25, 2012).

portunities, to reduce the costs of its mitigation efforts. The city had students in the University of Minnesota Sustainable Communities course compile an inventory of the city's GreenStep Cities Best Practices.[151] In addition, Eagan used federal funding in the form of a DOE grant to install a geothermal heating system at the Eagan Ice Arena, which is projected during its first year to save the city $135,000 in energy and operational costs and reduce emissions equivalent to 124 passenger cars.[152] Eagan also received $657,000 in funds from the Energy Efficiency and Conservation Block Grant program (EECBG) (which it supplemented with other leveraged funds and utility rebates totaling $1.2 million) to perform energy audits and upgrade several city buildings to increase energy efficiency.[153]

Soon after creating the Commission, Eagan used its planning authority to reduce emissions. In April 2010, Eagan adopted a Comprehensive Plan, which includes a revised Special Area Plan for the redevelopment of the area surrounding Cedar Avenue and Highway 13 to reflect the city's goal to create a "viable mixed-use area that utilizes its highway visibility and accessibility, while maintaining compatible land use relationships with surrounding uses."[154] By January 2011, Eagan had complemented this effort with a traffic signal synchronization program on major roads; it installed two round-abouts and two flashing yellow left turn arrows to decrease idling time.[155] All of the traffic signals in the city use LED lights.[156] In January 2011, the city adopted a Trail Connection Policy through which private commercial property owners create trail linkages from city trails and sidewalks to commercial facilities in order to encourage non-vehicular travel.[157]

These efforts continued throughout 2011. In February, the city council adopted 2011-12 goals, which include "[m]aintain[ing] a broad-based and comprehensive commitment to energy efficiency and environmental sustainability by adopting conservation and alternative energy strategies pursuing the use of local, non-polluting, renewable, and re-

---

151 Mary Jo Koplos, *Eagan Achieves GreenStep City Status*, EAGANPATCH (June 2, 2011), http://eagan.patch.com/articles/eagan-achieves-greenstep-city-status.

152 *December 11 Eagan Civic Arena Grand Re-Opening*, CITY OF EAGAN, http://www.cityofeagan.com/live/news.aspx?cid=38588&id=41514 (last visited Sept. 25, 2012).

153 *City of Eagan*, *supra* note 150.

154 *Cedar Grove Special Area Plan*, CITY OF EAGAN, http://www.cityofeagan.com/live/article.aspx?id=40846 (last visited Sept. 27, 2011); *Comprehensive Plan: Land Use Plan*, CITY OF EAGAN, http://www.cityofeagan.com/upload/images/CommunityDevelopment/Planning/CompPlan2030/3%20-%20Land%20Use_low.pdf (last visited Sept. 25, 2011); *Comprehensive Plan Update 2030*, CITY OF EAGAN, http://www.cityofeagan.com/live/article.aspx?id=41050 (last visited Sept 25, 2012).

155 *City of Eagan*, *supra* note 150.

156 *Id.*

157 *See City of Eagan Community Trail System Connections to Commercial Areas Policy* (Jan. 18, 2011), http://greenstep.pca.state.mn.us/viewFile.cfm?id=248.

cycled resources, while encouraging residents and businesses to do likewise."[158] In May, Eagan began entering information into the Minnesota B3 database to track energy usage.[159] In September, Eagan enacted "Environmentally Preferable Purchasing Guidelines" to conserve natural resources and energy and lower overall costs to the city.[160] The City Council also passed a resolution committing to support Complete Streets principles of providing multi-modal transportation options in future transportation projects.[161] It also approved the Energy and Environment Advisory Committee's 2011–2012 goals, which included achieving Step 3 in the Greenstep Cities program and more outreach and education to the residential and business communities.[162]

Eagan took numerous steps in 2011 to update its facilities and fleet. It replaced lighting fixtures, upgraded HVAC, and installed low-flow plumbing fixtures to improve energy efficiency.[163] In April 2011, Eagan opened the nation's first Green Globe-certified fire station, which includes geothermal heating, natural and LED lighting, a solar-reflective roof, several storm water runoff management features, and ash-wood planking that was removed from the site.[164] Eagan's South Water Treatment Facility's $4.5 million renovation included the installation of more energy efficient water treatment technology.[165] The city also replaced several fleet vehicles with more efficient models, tracks fuel usage, imposes a "no idling policy," and uses bicycles for seasonal boulevard maintenance.[166] In addition, Eagan documented five LEED Certified non-city-owned buildings: Eagan Place Professional Building, Lebanon Hills Visitor Center, Lockheed Martin, the Allan L. Schuman Corpora-

---

158 *City Council Goals 2011–2012*, CITY OF EAGAN (Feb. 15, 2011), http://www.cityofeagan.com/live/article.aspx?id=47164.

159 *City of Eagan*, *supra* note 150.

160 *City of Eagan Environmentally Preferable Purchasing Guidelines*, CITY OF EAGAN (Sept. 6, 2011), *available at* http://greenstep.pca.state.mn.us/viewFile.cfm?id=618; *Eagan Praised for Energy Best Practices*, CITY OF EAGAN, http://www.cityofeagan.com/live/%28S%28iyll42j2qefqoc55rbuvqm45%29%29/news.aspx?cid=38588&id=51458&AspxAutoDetectCookieSupport=1 (last visited Sept. 25, 2012).

161 EAGAN, MINN., Resolution No. 2011-11-43 (2011), *available at* http://www.mncompletestreets.org/gfx/Eagan%20Complete%20Streets%20Resolution.pdf.

162 *Council Action Report 9-6-11*, CITY OF EAGAN (Sept. 6, 2011), http://www.cityofeagan.com/live/event.aspx?id=47136; Mary Jo Koplos, *Eagan Energy and Environment Commission Sets Goals for 2012*, EAGANPATCH (Sept. 25, 2011), http://eagan.patch.com/articles/eagan-energy-and-environment-commission-sets-goals-for-2012.

163 CITY OF EAGAN, CITY OF EAGAN 2010 ANNUAL REPORT 2, *available at* http://www.cityofeagan.com/upload/images/Newsletters/ExperienceEagan/ExperienceEaganmarchapril2011fnl+%202010annual%20Rpt.pdf [hereinafter CITY OF EAGAN 2010 ANNUAL REPORT].

164 *Id.*; *see also "Code Green" Event Celebrates Progress Toward Green Globes-Certified Fire Station*, CITY OF EAGAN, http://www.cityofeagan.com/live/news.aspx?cid=38588&id=41492 (last visited Sept. 27, 2011) (outlining the features of the fire station).

165 CITY OF EAGAN 2010 ANNUAL REPORT, *supra* note 163, at 2.

166 *City of Eagan*, *supra* note 150.

tion Ecolab Campus, and the United States Postal Service Bulk Mail Facility.[167]

2. Eden Prairie

Eden Prairie, a developed job center in the Twin Cities' Western second ring which has grown rapidly over the last twenty years to a population of just over 60,000, has among the highest tax capacity in the sample and leans Republican.[168] It also has received national recognition for its efforts on climate change. Mayor Nancy Tyra-Lukens was awarded an honorable mention at the 2011 U.S. Mayors Climate Protection Awards in the "small city" category for the city's work on the 20-40-15 initiative.[169] Eden Prairie's successes exemplify what a more conservative, affluent suburb can achieve through commitment and concentrated efforts.

The 20-40-15 initiative, which Eden Prairie began in 2006, calls for a 20% increase in city facility energy efficiency and a 40% increase in city vehicle fleet fuel efficiency by the year 2015.[170] To meet the first goal, the city's efforts include installing motion sensor lighting, indoor and outdoor LED lighting (most outdoor lights have been upgraded), LED stoplights (one-third of them have been upgraded thus far), and a City Center energy management system.[171] To meet the second goal, the city's actions have included adding several fuel-efficient vehicles to its fleet.[172] The city also participates in programs by which it receives rebates from Centerpoint and Xcel Energy.[173] Eden Prairie has made significant strides in its first five years of 20-40-15, reporting in June 2011 that it had reduced city facility energy consumption by over 8% and increased city fleet fuel efficiency by 10%.[174]

Eden Prairie joined GreenStep Cities on June 17, 2011[175] after the city's Conservation Commission recommended participation. It uses its 20-40-15 program to achieve progress on those goals and reached Step 2

---

167 *Id.*

168 *See supra* Table 1.

169 MAYORS CLIMATE PROT. CTR., *supra* note 145; *see also 20-40-15 Initiative*, EDEN PRAIRIE, http://www.edenprairie.org/index.aspx?page=334 (last visited Oct. 6, 2011) (discussing implementation of the plan).

170 *20-40-15 Initiative*, *supra* note 169.

171 *City of Eden Prairie*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394614 (last visited Oct. 6, 2011).

172 *See id.*; *Life in the Prairie*, CITY OF EDEN PRAIRIE (July 2010), http://www.edenprairie.org/modules/showdocument.aspx?documentid=816.

173 *City of Eden Prairie*, *supra* note 171.

174 Press Release, Eden Prairie, Minn., Mayor Receives Honorable Mention for Eden Prairie Climate Protection Efforts (June 17, 2011), http://www.edenprairie.org/modules/showdocument.aspx?documentid=1022.

175 *City of Eden Prairie*, *supra* note 171.

on June 10, 2012.[176] In addition, Eden Prarie worked with SRF Consulting Group to create a 2007 *Active Community Planning: Site Planning Guide*, which assists its local government, property owners and developers with preparing development plans that incorporate density, walking/biking, quality physical design, and air and water quality concerns.[177]

3. Edina

Edina is a first ring Western suburb of 47,941 that has among the highest tax capacity in the sample and leans Republican.[178] Like the other first ring suburbs, it has been growing much more slowly than the second and third ring suburbs in the sample.[179] However, its socioeconomic status places it in this developed job center group.[180] Edina's mitigation efforts also began in 2007, before the launch of Greenstep Cities, when it established an Energy and Environment Commission and became one of only two cities in the sample to join ICLEI, an international association of local governments working on sustainability.[181] Edina's Commission focuses on energy, recycling, solid waste, and air and water quality issues, and works in partnership with Xcel and CenterPoint Energy to promote residential energy efficiency programs.[182] Edina registered for GreenStep Cities on March 1, 2011 and achieved Step Three status on June 10, 2012.[183]

Edina has been a leader among the cities in this sample in data collection, beginning its compilation of benchmark data in 2007 with the ICLEI CACP software.[184] It also was one of eighteen cities to join the Carbon Disclosure Project in 2008, which is a global platform for cities to disclose and compare GHG emissions data established in collaboration with ICLEI.[185] In 2011, Edina followed Falcon Heights in partnering

---

176 *See* Rick Getschow, *GreenStep Cities*, CITY OF EDEN PRAIRIE BLOGS (June 21, 2011, 12:12 PM), http://edenprairieweblogs.org/rickgetschow/posts/152/.

177 *See City of Eden Prairie*, DESIGN FOR HEALTH, http://designforhealth.net/cases/eden-prairie/; Email from Philipp Muesig, Minn. GreenStep Cities Coordinator, to Hari Osofsky, Assoc. Professor of Law, Univ. of Minn. Law School (Feb. 28, 2012) (on file with author).

178 *See supra* Table 1.

179 *See id.*

180 *Id.*

181 *Current Press Releases: City of Edina Joins ICLEI*, CITY OF EDINA (Nov. 9, 2007), legacy.ci.edina.mn.us/PressReleases/L6-42_PressRelease_200711_6.htm.

182 *Energy & Environment Commission*, CITY OF EDINA, http://legacy.ci.edina.mn.us/citycouncil/EnergyEnvironmentCommission.htm (last visited Oct. 11, 2011).

183 *City of Edina*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394621 (last visited Oct. 12, 2011).

184 *Id.*

185 *See* CARBON DISCLOSURE PROJECT, CDP CITIES 2011: REPORT ON C40 CITIES (2011), *available at* https://www.cdproject.net/Documents/CDP-Cities-2011-Report.pdf; *see also CDP Cities*, CARBON DISCLOSURE PROJECT, https://www.cdproject.net/cities (last visited Oct. 12, 2011) (discussing the objectives of the program); CARBON SENSE, CARBON DISCLOSURE PRO-

with the Urban Land Institute's Regional Indicator Project to create benchmarking data for energy consumption in the city.[186] Edina also has entered energy benchmark data into the B3 database and is having city buildings audited for energy use.[187]

In addition, Edina has been a leader in helping create incentives for private buildings to invest in renewable energy and energy efficiency upgrades. After the state passed enabling legislation in 2010, Edina became the first city in Minnesota to create a Property Assessed Clean Energy (PACE) program, which helps provide financing for these upgrades.[188] Through collaboration with the national PACE program, the city's Energy Commission, the Minnesota Pollution Control Agency, the Minnesota Solar Energy Industries Association, and the Minnesota Department of Commerce, Edina created its Emerald Energy Program at an implementation cost of only $11,400, which today can fund any qualifying commercial or industrial property in the City.[189] On August 21, 2012, its City Council approved the state's first energy efficiency PACE project, which supports a restaurant's LED lighting replacement and exhaust control installations.[190]

Edina, like many of the other cities, has focused on shifting people away from car use. Edina's transportation committee passed a resolution recommending that the city create a "Living Streets" plan based on complete streets concepts that would, among other aims, calm traffic and improve bicycle and pedestrian connectivity.[191] The city's Comprehensive Bicycle Transportation Plan includes a goal of making bicycling a "useful transportation option in Edina."[192]

Edina has engaged in substantial community education and outreach. In Fall 2011, Edina Community Education Services began hold-

---

JECT: CITIES PILOT PROJECT 2008 (2008), *available at* https://www.cdproject.net/CDPResults/65_329_216_CDP-CitiesReport.pdf.

186 SCOTT HEAL, OFFICE OF THE CITY MANAGER: FRIDAY REPORT (2011), *available at* http://legacy.ci.edina.mn.us/PDFs/Friday_Report/2011/April%2022.pdf; *see also Council Minutes*, CITY OF FALCON HEIGHTS (Apr. 28, 2010), http://www.falconheights.org/index.asp?Type=B_BASIC&SEC={BD4063DB-2F67-4C85-A936-EE69AF241ADC}&DE={C97D7810-8AB5-4C85-B778-CBBBC4170A71} (approving Carbon Footprint Baseline Analysis Phase II).

187 *City of Edina*, *supra* note 183.

188 *Commercial Pace in Edina Minnesota*, PACENOW, http://pacenow.org/about-pace/feature-c-pace-in-edina/.

189 *See id*; *About Pace*, PACENOW, http://pacenow.org/about-pace/.

190 *See* Email from Philipp Muesig, Minn. GreenStep Cities Coordinator, to Hari Osofsky, Assoc. Professor of Law, Univ. of Minn. Law School (Aug 21, 2012) (on file with author).

191 *See Minutes of the Edina Transportation Commission*, CITY OF EDINA (Apr. 21, 2011), http://legacy.ci.edina.mn.us/Pages/TransportationCommissionMeetingMinutes/20110421.htm; *City of Edina*, *supra* note 183.

192 CITY OF EDINA, COMPREHENSIVE BICYCLE TRANSPORTATION PLAN 9 (2007), *available at* http://www.edinamn.gov/PlanningBikePlanReport.pdf.

ing classes on energy efficiency for residents taught by staff from the Center for Energy and the Environment; participants receive a discount on a Home Energy Squad visit.[193] Edina also has created a marketing campaign to promote residential energy efficiency programs in conjunction with Xcel and CenterPoint Energy.[194]

4. Maplewood

Maplewood, a first ring suburb just to the North and East of Saint Paul with a population of 38,018, has slightly above average tax capacity, average growth, and votes Democratic.[195] It is the earliest of this group to implement significant measures relevant to climate change mitigation, taking steps in 1994 to build the Maplewood Community Center in an energy efficient fashion.[196] The city also made several energy efficiency upgrades to its facilities between 1998 and 2007.[197] Like many of the other cities in the sample, Maplewood has established an institutional framework to support its efforts. Maplewood's Environmental and Natural Resources Commission establishes environmental priorities for the city and advises the City Council and other commissions on environmental issues.[198] Maplewood also has a Natural Resources Department with both an Environmental Planner and a Natural Resources Coordinator on staff, which also publishes a newsletter on sustainability.[199] In 2008, the city established a Green Team of employees, focused on sustainability projects, to help it meet its Mayors Agreement commitments.[200] In 2009, Maplewood adopted an Energy Efficiency and Conservation Strategy which lays out goals and policies to decrease energy use within the

---

193 *Archived Press Releases: Home Energy Awareness Class Offered Through Edina Community Education Services*, CITY OF EDINA (Sept. 14, 2011), http://legacy.ci.edina.mn.us/PressReleases/L6-42_PressRelease_20110914.htm.

194 *City of Edina*, *supra* note 183.

195 *See supra* Table 1.

196 *See Energy*, CITY OF MAPLEWOOD, http://www.ci.maplewood.mn.us/index.aspx?nid=819 (last visited Oct. 28, 2011).

197 *See* CITY OF MAPLEWOOD, MAPLEWOOD ENERGY EFFICIENCY AND CONSERVATION STRATEGY PLAN (2009), *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1411 (listing energy efficiency upgrades) [hereinafter MAPLEWOOD ENERGY STRATEGY].

198 *Environmental & Natural Resource Commission*, CITY OF MAPLEWOOD, http://www.ci.maplewood.mn.us/index.aspx?nid=256 (last visited Oct. 28, 2011).

199 *See Community Development*, CITY OF MAPLEWOOD, http://www.ci.maplewood.mn.us/Directory.aspx?did=32 (last visited Oct. 28, 2011); *Engaging Attitudes*, MAPLEWOOD SEASONS (Maplewood Minn.), Summer 2008, at 1, 1, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1645.

200 Shann Finwall, *Take the Energy Challenge*, MAPLEWOOD SEASONS (City of Maplewood Minn.), Fall 2009, at 1, 3, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1257.

city.[201] Maplewood registered for the GreenStep Cities program on January 24, 2011 and reached Step Two by June 13, 2011.[202]

Like other leader suburbs, Maplewood has accessed university and government resources to forward its goals. In 2008, students at the University of Minnesota prepared a series of reports for the city addressing sustainability issues, which included analysis of energy use in city facilities and a recommendation that Maplewood join the Minnesota GreenStar Cities Initiative, a precursor to the GreenStep program.[203] In 2009, Maplewood used EECBG funding to replace boilers and upgrade HVAC at City Hall, install energy efficient lighting at the Community Center and Goodrich Park, and contribute to lighting upgrades at Maplewood Mall.[204] In 2011, the city installed a 2,150 kWh solar panel system at the Maplewood Nature Center that was partially funded by a Solar Energy Legacy Grant from the Minnesota Department of Natural Resources.[205]

A number of Maplewood's efforts, such as some of those described above, have centered around reducing energy use in buildings, including the adoption of a model sustainable building renovation policy based on the International Green Construction Code.[206] In 2007, Maplewood began entering energy use data into the Minnesota B3 database and in 2008 completed energy audits of city buildings.[207] To advance energy efficiency in private buildings, Maplewood collaborated with Xcel Energy on Community Energy Efficiency Sweep, which promotes energy-efficiency programs available to city residents and businesses.[208] The city also encourages residents to participate in the Minnesota Energy Challenge and provides energy saving tips for residents in the *Maplewood Seasons* newsletter.[209]

As part of its efforts to reduce energy use, Maplewood has actively promoted renewables. In October 2011, Maplewood's City Council

---

201 MAPLEWOOD ENERGY STRATEGY, *supra* note 197.

202 *City of Maplewood*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2395846 (last visited Oct. 28, 2011).

203 DARIAN MOTAMED ET AL., SUSTAINABLE MAPLEWOOD 2050: GREEN WORKPLACE: ENERGY 22 (2008), *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=911; *City of Maplewood*, *supra* note 202.

204 MAPLEWOOD ENERGY STRATEGY, *supra* note 197, at 15.

205 Ann Hutchinson, *Nature Center Solar Photovoltaic Project*, MAPLEWOOD SEASONS (City of Maplewood Minn.), Fall 2011, at 3, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=2079.

206 *City of Maplewood*, *supra* note 202.

207 *Id.*; MAPLEWOOD ENERGY STRATEGY, *supra* note 197.

208 Yvonne Pfeifer, *Energy Sweep*, MAPLEWOOD SEASONS (City of Maplewood Minn.), Winter 2010/2011, at 1, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1795.

209 *See, e.g.*, Finwall, *supra* note 200; Dave Fischer, *Easy Tips For Saving Energy in Your Home*, MAPLEWOOD SEASONS (Maplewood, Minn.), Fall 2009, at 3, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1257.

adopted the Renewable Energy Ordinance, which creates permitting, installation, and operation standards for solar, wind, and geothermal energy installations in the city.[210] The city has also extended its efforts on energy efficiency and renewables to purchasing. In April 2011, Maplewood adopted an environmentally-friendly purchasing policy that addresses energy efficiency in new equipment purchases[211] and states that "[w]hen energy is purchased, renewable or green sources are preferred. These include solar power or photovoltaic, wind power, geothermal, and hydroelectric energy sources and do not include fossil fuels (coal, oil or natural gas)."[212]

Finally, Maplewood has made numerous efforts to reduce vehicle emissions. The city synchronized traffic signals to minimize idling along White Bear Avenue in the Maplewood Mall area.[213] It has begun to develop a Living Streets policy to calm traffic, make streets more pedestrian and bicycle-friendly, and control runoff.[214] It has worked with MetroTransit to expand the Maplewood Mall park-and-ride lot to expand transit use.[215] Maplewood also has taken several steps to make its own vehicle fleet more efficient. It performed an audit on the fleet to discern where efficiency improvements could be made, implemented a vehicle sharing policy, downsized the city fleet, and established bicycle police patrols.[216] The city has monitored and continues to monitor fuel usage, has instituted a no-idling policy, and has transitioned from bio-diesel B2 to B5.[217]

D. Developing Job Centers and Bedroom Developing Communities

Developing job centers and bedroom developing communities are rapidly growing cities toward the edge of the metropolitan region that have roughly average tax capacity.[218] The main difference between these two groups is that bedroom developing communities lack the job concentrations of developing job centers and are farther from the center

---

210 MAPLEWOOD, MINN., *Ordinance No. 914* (2011), *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=2219.

211 *Environmental Purchasing Policy*, CITY OF MAPLEWOOD, § 4.4 (April 20, 2011), *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=2192.

212 *Id.* at § 4.4.3.

213 *City of Maplewood*, *supra* note 202.

214 Michael Thompson, *Living Streets—A Vision for the Future*, MAPLEWOOD SEASONS (City of Maplewood, Minn.) Spring 2011, at 2, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1886.

215 *City of Maplewood*, *supra* note 202.

216 Scott Schultz, *Sustainable Fleet Operations*, MAPLEWOOD SEASONS (City of Maplewood, Minn.) Spring 2011, at 3, *available at* http://www.ci.maplewood.mn.us/DocumentView.aspx?DID=1886.

217 *Id.*; *City of Maplewood*, *supra* note 202.

218 *See supra* Table 1.

cities.[219] In both groups, tax capacity does not easily match the new costs resulting from high growth rates.[220] From a climate change perspective, their growth rates present both a challenge and an opportunity. They are evolving more rapidly than other categories of suburban cities and are consequently making choices that impact their carbon footprint. As a result, their land use and emissions patterns are often more malleable than those of more developed suburbs closer to the center cities.[221] However, these edge cities also tend to sprawl and have limited resources to address these patterns.[222]

The five Twin Cities metropolitan region developing job center and bedroom developing communities participating in Greenstep Cities—Apple Valley, Cottage Grove, Farmington, Mahtomedi, and Oakdale—fit this profile. These cities' populations all grew by over 40% between 1990 and 2004.[223] With the exception of Oakdale, which has a lower tax capacity more similar to the stressed inner suburbs, they all have close to average tax capacity for the metropolitan region.[224] Like the developed job center group, they are politically diverse and contested; three of the five lean Republican, one leans Democratic, and one is safely Democratic.[225]

The extent of their mitigation efforts varies dramatically. Some of the cities in this grouping located closer to the region's core were comparatively early adopters of mitigating activities identified in the cities and climate change literature even, in the case of Oakdale, with comparatively limited resources. However, one of the outer group, Farmington, has included efforts at land use concentration among its initiatives, a constructive way of addressing sprawl within a city that could be compatible with regional sprawl control efforts. Although in some cases these cities accessed university and governmental resources to support their efforts, they did so less than cities in the other two categories discussed, despite the fact that these cities need such economic support more than the developed job centers. This gap indicates a possible avenue for encouraging more action in these communities.

1. Apple Valley

Apple Valley is a third-ring, southern suburb that has been growing rapidly, has above average tax capacity, and leans Republican.[226] Like

219 *See* ORFIELD & LUCE JR., *supra* note 61, at 45–49.
220 *See id.*
221 *See id.*
222 *See id.*
223 *See supra* Table 1.
224 *Id.*
225 *Id.*
226 *Id.*

many of the other cities, it began addressing energy and sustainability issues relevant to mitigation well before joining the Greenstep Cities program and accesses federal government funding programs to help support its work. The city's "Better Energy and Sustainability Program" assists local homeowners and businesses in reducing energy use.[227] In 2007, the city began collaborating with Dakota Electric and Center Point Energy to help businesses reduce energy use.[228] Apple Valley also established a revolving loan fund, supported in part by the EECBG program, to help residents in decrease their energy use, and works on energy efficiency intiatives.[229]

Apple Valley joined GreenStep Cities on June 10, 2011 and achieved Step 2 on June 10, 2012.[230] By August 5, 2011, the city had completed energy efficiency audits and improvements on several city buildings with the support of EECBG funding.[231] The city also reported that Liquor Store #3 and the Hayes Community Center are Green Globes certified and started entering energy usage of city buildings in the Minnesota B3 database.[232]

2. Cottage Grove

Cottage Grove is a second-ring, southeastern suburb of 34,502 that has average household tax capacity, above-average growth, and leans Democratic.[233] Cottage Grove registered for GreenStep Cities on March 1, 2011, and achieved Step 1 on June 13, 2012, but does not participate in any of the other multi-level climate-change networks studied.[234] Its initiatives relevant to mitigation are among the least extensive in the sample group, mostly centering around its new city hall building which will also house its public safety department. In April 2011, Xcel Energy's Energy Design Assistance Program provided the city with an energy assessment for this building which outlines several options for energy efficiency measures.[235] The City Council approved a package of

---

227 *See Better Energy and Sustainability*, CITY OF APPLE VALLEY, http://www.ci.apple-valley.mn.us/index.aspx?NID=335 (last visited Sept. 8, 2012).

228 *Better Energy for Business*, CITY OF APPLE VALLEY, http://www.ci.apple-valley.mn.us/index.aspx?NID=339 (last visited Sept. 8, 2012).

229 *Better Energy Grant Projects*, CITY OF APPLE VALLEY, http://www.ci.apple-valley.mn.us/index.aspx?NID=340 (last visited Sept. 8, 2012).

230 *City of Apple Valley*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2393967 (last visited Sept. 8, 2012).

231 *Id.*

232 *Id.*

233 *See supra* Table 1.

234 *City of Cottage Grove*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2393644 (last visited Sept. 8, 2012).

235 THE WEIDT GROUP, ENERGY ANALYSIS FOR THE COTTAGE GROVE PUBLIC SAFETY/CITY HALL (2011), *available at* http://docs.cottage-grove.org/WebLink8/DocView.aspx?id=179955&dbid=0.

$99,000 in energy efficiency improvements and expects them to save the city up to $35,000 annually in energy costs.[236]

3. Farmington

Farmington is a third-ring, southern suburb that has had the most rapid growth rate of the suburbs studied and that leans Republican. It began its climate change efforts in 2006.[237] Farmington registered as a GreenStep City on May 23, 2011 and reached Step 2 status by June 10, 2012.[238] Its six years of efforts illustrate some of the possibilities for progress by cities at the rapidly growing edge of metropolitan regions.

In 2006, Farmington established a "Green Team" of city employees tasked with implementing practices and programs that conserve energy and reduce waste.[239] The team's recent projects include adding recycling bins at city facilities and conducting outreach on CFL and LED light bulb use and disposal.[240] The city also promotes the Minnesota Energy Challenge as an energy efficiency resource for its residents[241] and has fuel monitoring and maintenance programs to optimize the city vehicle fleet's fuel efficiency.[242] In addition to its efforts on energy, Farmington has taken steps to encourage efficient city growth and infill development in its downtown area. It located its city hall downtown, a location that provides walking and biking access to the facility for many residents, and implemented bike police patrols in the downtown area.[243]

4. Mahtomedi

Mahtomedi is a small, rapidly growing, second-ring, northeastern suburb, that has an above average tax capacity, a population of 7,563 residents, and leans Republican.[244] Like those of a number of the other suburbs, Mahtomedi's efforts have been supported by an environmental

---

236 Jon Avise, *'Green' Elements in Cottage Grove City Hall Project Could Trim Energy Costs*, S. WASH. CNTY. BULL. (May 11, 2011), http://www.swcbulletin.com/event/article/id/18207.

237 *See supra* Table 1.

238 *City of Farmington*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2394747 (last visited Sept. 8, 2012).

239 *See The Green Team*, CITY OF FARMINGTON, http://www.ci.farmington.mn.us/About-Farmington/Green/GreenTeam.html (follow "How the Green Team Began" hyperlink) (last visited Sept. 8, 2012).

240 *See id.*

241 *See Save Money, Stay Comfortable This Winter*, THE BRIDGE (City of Farmington, Minn.), Jan./Feb. 2011, at 8, *available at* http://www.ci.farmington.mn.us/Communications/TheBridge/The%20BridgeJanFeb2011.pdf.

242 *City of Farmington*, *supra* note 238.

243 *See id.*

244 *See supra* Table 1.

commission and outside support from the university.[245] Mahtomedi created the Environmental Commission in 2008, which with its focus on sustainability, waste, energy, and natural resource issues in the city has helped to guide many of its actions relevant to climate change mitigation.[246] For example, the Commission successfully recommended that the City Council pass a Wind Energy Ordinance, advised the city on its recently constructed public-works building's inclusion of energy efficiency mechanisms, and publishes a "Green Talk" newsletter which discusses community environmental issues and gives energy saving tips.[247] Complementing the Commission's efforts, the Mahtomedi Area Green Initiative—a community organization that promotes renewable energy, energy efficiency, and sustainability—installed a wind turbine at the Mahtomedi Athletic Fields, which helps the Mahtomedi Public Schools' energy profile.[248] Mahtomedi registered as a GreenStep City on November 16, 2010 and was awarded Step 1 recognition on June 13, 2011.[249]

Benchmarking and assessment, often with outside help, play an important role in Mahtomedi's efforts. In 2009, the city had an energy audit performed on the city hall and fire station buildings.[250] It also monitors those two buildings and its public works building by entering benchmarking data into the Minnesota B3 database.[251] Like several of the other cities in the sample, Mahtomedi received assistance from University of Minnesota students in 2010 in developing its Sustainability Plan based on the GreenStep Cities model.[252] Between September 2010 and August 2011, the city received additional cost-effective assistance by hosting a Minnesota GreenCorps member who helped the city with its

---

245 *City of Mahtomedi*, MINN. GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2395818 (last visited Sept. 8, 2012).

246 *Mahtomedi Environmental Commission*, MAHTOMEDI, http://mahtomedi.govoffice.com/index.asp?Type=B_BASIC&SEC={6B53F51C-C6B3-45DB-85B4-7B0AFC91C072} (last visited Nov. 27, 2011); *What is the Environmental Commission and What Do They Do?*, GREEN TALK (Mahtomedi, Minn.), Spring 2011, at 1, *available at* http://mahtomedi.govoffice.com/vertical/Sites/%7BB983F313-8CF2-4BB7-8CFD-8AC05AAF37F6%7D/uploads/%7B7E4E9BC1-0DED-446A-AC94-AC208EACABE6%7D.PDF.

247 Marnie McInnis, City of Mahtomedi Sustainability Plan 7–8 (2011) (on file with author).

248 *About*, MAHTOMEDI AREA GREEN INITIATIVE, http://mahtomedigreen.org/?page_id=33 (last visited Sept. 1, 2012); *The Zephyr Wind Turbine*, GREEN TALK (City of Mahtomedi, Minn.), Fall 2011, at 1, *available at* http://mahtomedi.govoffice.com/vertical/Sites/%7BB983F313-8CF2-4BB7-8CFD-8AC05AAF37F6%7D/uploads/Green_Talk_Fall_2011.pdf.

249 *City of Mahtomedi*, *supra* note 245.

250 XCEL ENERGY, MAHTOMEDI ENERGY ASSESSMENT 1 (2009), *available at* http://greenstep.pca.state.mn.us/viewFile.cfm?id=32.

251 McInnis, *supra* note 247, at 7.

252 *Sustainability Plan*, GREEN TALK (City of Mahtomedi, Minn.), Spring 2010, at 1, *available at* http://mahtomedi.govoffice.com/vertical/Sites/%7BB983F313-8CF2-4BB7-8CFD-8AC05AAF37F6%7D/uploads/%7B1D7957F3-AA7F-469F-A6EC-D14E7FDDC964%7D.PDF; JOE BARTEN ET AL., CITY OF MAHTOMEDI SUSTAINABILITY PLAN, *available at* http://www.susteducation.umn.edu/wp-content/uploads/2012/02/Mahtomedi-Sustainability.pdf.

GreenStep Cities program, a spring environmental fair, implementation of energy saving measures in response to a May 2009 ICLEI carbon footprint analysis,[253] and the drafting (with the city's Environmental Commission) of the city's Sustainability Plan.[254] The city has a goal of reducing its carbon emissions 10% by 2012 and 20% by 2020 from 2001 levels.[255] Mahtomedi also adopted an environmentally friendly purchasing policy.[256]

5. Oakdale

Oakdale is a rapidly growing second ring, eastern suburb of 27,378, that has below average tax capacity (similar to the much slower-growing stressed suburbs), and votes Democratic.[257] Although it has limited resources, Oakdale was one of the earliest cities in the sample to take significant steps relevant to climate change mitigation and one of two cities in the sample to join ICLEI. In 2001, Oakdale launched the Generation Green project, which began its energy efficiency and environmental efforts with a voluntary Commercial Building Program and has since expanded to support all of the city's sustainability initiatives.[258] The program has made substantial steps on its initial mission of reducing building energy consumption. The city provides a 15% reduction in building permit costs to new or renovated building projects that exceed the Minnesota Energy Code by 20%, participate in Xcel Energy's Energy Design Assistance program, and utilize other high performance strategies.[259] It also reduces permit fees by 20% to 25% for LEED certified buildings, depending on the level of certification.[260] Oakdale additionally established a Residential Home Energy Loan Program, which has evolved over time to provide increasingly beneficial terms for homeowners; its current iteration includes three-year loans of up to $10,000 at 0%

253 MINN. POLLUTION CONTROL AGENCY, MINNESOTA GREENCORPS PROJECT SUMMARIES: PROGRAM YEAR 2010–2011, at 15 (2011), *available at* http://www.pca.state.mn.us/index.php/download-document.html?gid=17595; *City of Mahtomedi Host Site for Greencorps Member*, GREEN TALK (City of Mahtomedi, Minn.), Winter 2011, at 1, *available at* http://mahtomedi.govoffice.com/vertical/Sites/%7BB983F313-8CF2-4BB7-8CFD-8AC05AAF37F6%7D/uploads/%7B9FCF599E-813A-4135-9AAC-91B21BBF384C%7D.PDF; McInnis, *supra* note 247.

254 McInnis, *supra* note 247, at 8.

255 *Id.* at 12.

256 *Id.* at 7.

257 *See supra* Table 1.

258 CITY OF OAKDALE, GENERATION GREEN PROGRAM, *available at* http://www.ci.oakdale.mn.us/vertical/Sites/{9D2ABE6F-4847-480E-9780-B9885C59543F}/uploads/{E0DB8AA0-0066-4602-B706-D3819F62689D}.PDF (last visited Nov. 12, 2012).

259 *Generation Green Program*, (City of Oakdale, Minn.), http://www.ci.oakdale.mn.us/vertical/Sites/%7B9D2ABE6F-4847-480E-9780-B9885C59543F%7D/uploads/%7BE0DB8AA0-0066-4602-B706-D3819F62689D%7D.PDF (last visited Oct. 28, 2011).

260 *Id.*

interest and an additional three years at 4.99% interest to residents for energy efficiency improvement projects.[261]

Oakdale's efforts extend to its own buildings.[262] In 2008, Oakdale installed a white roof on City Hall estimated to provide $32,000 in energy savings over the life of the roof[263] and plans to install photovoltaic solar panels to provide 12% of the building's energy needs.[264] It also added new energy-efficient HVAC equipment at City Hall for which it received $13,900 in XCEL rebates.[265] In 2010, Oakdale installed a heat pump system at the Public Works facility that uses water from a nearby water treatment facility for heating and cooling.[266]

In 2008, Oakdale joined ICLEI and committed to the ICLEI Cities for Climate protection milestones.[267] Pursuant to those commitments, the city created a greenhouse gas emissions inventory and converted all nineteen streetlights to LED bulbs.[268] The city's Generation Green Sustainability Plan describes the city's efforts to reduce its own greenhouse gas emissions as part of its ICLEI Cities for Climate Protection commitments.[269] Its efforts include a strategy to achieve emissions reductions of 15% from city buildings, 25% from the city's vehicle fleet, 2% from streetlights, and 10% from the city's water distribution and treatment system from 2007 levels by 2015.[270] Oakdale entered 2009 and 2010 energy use data into the Minnesota B3 benchmarking database.[271] Between 2007 and 2010, Oakdale's energy use decreased by 2.11%.[272]

---

261 CITY OF OAKDALE, RESIDENTIAL HOME ENERGY LOAN PROGRAM, http://www.ci.oakdale.mn.us/vertical/sites/%7B9D2ABE6F-4847-480E-9780-B9885C59543F%7D/uploads/Flyer-RHELPenergyloan.pdf (last visited Nov. 12, 2012).

262 *See* CITY OF OAKDALE, GENERATION GREEN SUSTAINABILITY PLAN, http://www.ci.oakdale.mn.us/vertical/Sites/%7B9D2ABE6F-4847-480E-9780-B9885C59543F%7D/uploads/Recycling-generationgreen.pdf (last visited Nov. 12, 2012) [hereinafter OAKDALE GENERATION GREEN SUSTAINABILITY PLAN].

263 *Id.* at 6.

264 *Id.* at 7–8; Patty Busse, *Oakdale City Council Opts for Solar Panels at City Hall, but not Fire Stations,* OAKDALE PATCH (Oct. 26, 2011), http://oakdale.patch.com/articles/oakdale-city-council-opts-for-solar-panels-at-city-hall-but-not-fire-stations.

265 *City of Oakdale,* MINNESOTA GREENSTEP CITIES, http://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2395287 (last visited Sept. 28, 2011).

266 Press Release, Congresswoman Betty McCollum, City Officials Tout Oakdale's Energy Efficiency Improvements (Aug. 20, 2010), http://mccollum.house.gov/press-release/congresswoman-mccollum-city-officials-tout-oakdale%E2%80%99s-energy-efficiency-improvements.

267 OAKDALE GENERATION GREEN SUSTAINABILITY PLAN, *supra* note 262, at 5.

268 *Id.* at 5–6, 9.

269 *Id.* at 5–6.

270 *Id.*

271 *Id.* at 15.

272 Patty Busse, *Oakdale Cuts Energy Bill by $61,000,* OAKDALE PATCH (Apr. 19, 2011), http://oakdale.patch.com/articles/oakdale-cuts-energy-bill-by-61000.

Oakdale registered for GreenStep Cities on April 6, 2011, and reached Step 1 by June 13, 2011.[273]

Finally, Oakdale also pursued initiatives focused on reducing vehicle emissions. In 2008, the city collaborated with Metro Transit and Guardian Angels Church to expand an existing park-and-ride lot from a 200-vehicle capacity to a 435-vehicle capacity and to add a crosswalk and bus shelter.[274] With respect to its own fleet, the city performed a 2007 inventory of fleet emissions that resulted in its replacing the city's building inspector and code enforcement officer's existing 12 MPG vehicles with 44 MPG hybrid vehicles. Oakdale estimated these changes would save $2,200 in fuel costs per year at 2007 dollars.[275] The police department is similarly phasing in Dodge Chargers to replace Chevy Tahoes to increase efficiency.[276]

E. Accomplishments and Limitations of These Suburban Efforts

These twelve suburbs' efforts have a great deal in common with one another. Because they are all cities with the types of power granted to such units of government, they have similar areas in which they can impact mitigation. Almost all of the cities studied made steps with respect to energy use in buildings and vehicle emissions. The more ambitious of the group also used their zoning and land use powers, and created more comprehensive schemes for energy, environment, and sustainability. Institutional structure seemed to make a difference in this respect. Many of the cities that made the greatest strides had some sort of designated body helping to guide their efforts. Cities that made the effort to obtain university and governmental resources also tended to perform more assessments, create overarching strategies, and engage in more projects.

However, despite these commonalities, there were trends within each of the three groups that could assist targeted efforts to encourage participation by more cities and more action by participating cities. The differences did not seem to follow political affiliation in this group, contrary to what the divided discourse in the United States and Minnesota might suggest. Nor did resource constraints seem to dictate what was possible; although the richest group for the most part had the most extensive plans, many of the cities with the least tax capacity had more developed programs than some of the cities with average tax capacity. Rather, to the extent that these suburbs are representative (which is difficult to

---

273 *City of Oakdale*, *supra* note 265.

274 *Id.* (Scroll to "Transportation" section; then scroll to "Action 6: Add/expand transit service, or promote car/bike sharing." section; then follow "Click her for self-reported city details" hyperlink).

275 *Id.* (Scroll to "Efficient City Fleets," section; then scroll to Action 2; then follow "Click her for self-reported city details" hyperlink).

276 *Id.*

know with certainty in a small sample size—I plan to complement this Article's qualitative analysis of particular cities with a future broader study), their approaches suggest potential leverage points.

For each type of city, climate change mitigation efforts should be tied to other core needs whenever possible. So, for stressed inner suburbs, measures which help them address poverty, aging infrastructure, and redevelopment needs and assist their accessing university and governmental resources may be particularly appropriate and well-received. Developed job centers have the capacity to access external resources and provide up-front costs. The challenge there may be having them look to models, such as the ones described in Section III.C, and recognize them as in the local interest if they are not already doing so. In this group, as in the prior one, the diversity of politics among the sample cities could be helpful; in this time of political divergence, having cities that lean towards the same political party reach out to each other and share their experiences might support more extensive future mitigation efforts. Developing job centers and bedroom communities need more encouragement than the others to build upon their current efforts, use locally available free resources, and expand beyond building and vehicles initiatives to land use and planning measures that can help shape their development in economically beneficial but less carbon intensive ways.

III. SUBURBS' ROLE IN PLURALIST, POLYCENTERIC CLIMATE CHANGE GOVERNANCE

The sample cities described in Part II provide promising examples of what is possible for different types of suburbs and how differentiated analysis might help to shape strategies for including them as part of a pluralist, polycentric approach to addressing climate change. But a core challenge remains: operationalizing the suburban capacity for mitigation at a time when international and national efforts at a comprehensive solution are stymied and few state governments are requiring their cities to take steps on climate change.[277]

This Part focuses on that challenge and considers the role which multi-level voluntary networks—paired with other existing regional, state, national, and international institutions—might play in broadening and deepening suburban participation and connecting suburban activity with larger-scale climate change negotiations. The Part begins by examining the participation of the sample cities in state, regional, national, and international networks; the ways in which those networks are interacting; and how they might be used to encourage greater participation. It then considers the extent to which these voluntary networks are integrated

277 *See supra* note 3 and accompanying text.

with formal governance approaches and opportunities for creating additional synergies. It concludes by making proposals for next steps in both research and action.

This analytical approach highlights two important aspects of developing effective pluralist, polycentric approaches. First, simply having more efforts in different settings, especially if modeled for similarly situated suburbs, is itself a part of these strategies. The emissions reductions, to the extent that they are meaningful and not simply a shifting of emissions, help achieve mitigation.[278] Second, increasing linkages between this multiplicity of efforts provides opportunities for additional mitigation gains. Not only can coordination (and perhaps even interaction) improve efficiency and eliminate redundancy, but it also provides opportunities for mutual pressure and learning.[279] This Part explores both of these aspects in the context of these suburbs' involvement in multi-level networks and bases its proposals on them.

A. *Possibilities for Encouraging Greater Suburban Participation Through Multi-Level Networks*

An important part of what helps the Twin Cities suburbs learn, and makes their successes replicable, is their participation in metropolitan, state, regional, national, and transnational networks of cities. As detailed in Table 2 below, many of the studied GreenStep Cities participants have joined other state, regional, national, and international networks, with over half of them members of the Mayors Agreement. The suburbs studied which participated in the Mayor's Agreement recorded targets in the Copenhagen City Climate Reduction Catalogue of 7% below 1990 levels of carbon dioxide by 1990 in order to meet their commitment to meet or beat the reduction target that the United States would have had under the Kyoto Protocol. Three of the cities studied—Edina, Mahtomedi, and Oakdale—are also members of ICLEI, a transnational network of cities working on climate change.

Although all of these networks are voluntary, they provide these cities and others with opportunities to create community, see what is possible, and receive both support and pressure. Overall, as explored in more depth in this Section and the Appendix, the group studied had higher levels of participation in these multi-level networks than the metropolitan region overall. These patterns suggest a clustering of network participation in cities committed to taking action on sustainability or climate change and the need to explore how these networks are and could be effective vehicles for enhancing participation. This Section examines

---

278 *See infra* Part III.A.

279 *See infra* Part III.B.

these cities' participation in each of these networks, how the networks interact, and where possibilities for further action through them may lie.

TABLE 2: PARTICIPATION IN MULTI-LEVEL NETWORKS BY TWIN CITIES METROPOLITAN REGION GREENSTEP CITIES

	Date Joined Greenstep Cities	MN Energy Challenge Team (# Team Mems.)[280]	EPA Region 5 Community Climate Change Initiative Partner[281]	Mayors Agreement on Climate Change[282]	Copenhagen City Climate Catalogue (CO2 Reduction Target)	ICLEI[283]
Apple Valley	6/10/2011	367	As of July 2009	Mary Hamann-Roland	7% by 2012 (1990 baseline)[284]	
Cottage Grove	3/1/2011	118				
Eagan	11/10/2010	405		Mike Maguire	7% by 2012 (1990 baseline)[285]	
Eden Prairie	6/17/2011	224		Nancy Tyra-Lukens	7% by 2012 (1990 baseline)[286]	
Edina	3/1/2011	503		James Hovland	7% by 2012 (1990 baseline)[287]	2007
Falcon Heights	1/13/2011	79	As of July 2009	Peter Lindstrom	7% by 2012 (1990 baseline)[288]	
Farmington	5/23/2011	125				

280 *City Teams*, MINN. ENERGY CHALLENGE, http://www.mnenergychallenge.org/Teams/City-Teams.aspx (last visited Nov. 6, 2012).

281 *Region 5 Climate Change: Municipalities*, supra note 108.

282 *List of Participating Mayors*, *supra* note 8.

283 *Member List*, ICLEI LOCAL GOVERNMENTS FOR SUSTAINABILITY USA, http://www.icleiusa.org/about-iclei/members/member-list (last visited Sept. 27, 2011); *List of Members (page 2 of 3)*, ICLEI LOCAL GOVERNMENTS FOR SUSTAINABILITY USA, http://www.icleiusa.org/about-iclei/members/members-2-3 (last visited Oct. 28, 2011).

284 *Community Summaries: Apple Valley, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2454 (last visited Oct. 20, 2011).

285 *Community Summaries: Eagan, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2462 (last visited Oct. 20, 2011).

286 *Community Summaries: Eden Prairie, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2463 (last visited Oct. 20, 2011).

287 *Community Summaries: Edina, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2464 (last visited Oct. 20, 2011).

288 *Community Summaries: Falcon Heights, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2465 (last visited Oct. 20, 2011).

Hopkins	11/18/2010	118				
Mahtomedi	11/16/2010	58		Judson Marshall	7% by 2012 (1990 baseline)[289]	2008
Maplewood	1/24/2011	134	Prior to July 2009	Diana Longrie	7% by 2012 (1990 baseline)[290]	
Oakdale	4/6/2011	188	As of July 2009			2008
St. Anthony	2/22/2011	27				

As Table 2 reflects, cities in all three categories of suburbs studied are active in statewide networks. In addition to participating in Greenstep Cities, all of them have teams in the Minnesota Energy Challenge, in which cities (and other organizations) form teams of people that track energy savings; for cities, the teams are comprised of residents.[291] Although the cities have significant variation in the number of residents participating, in every case, it is a low percentage of the overall population in that city.[292] These patterns of participation are higher than those of the overall region, but the region as a whole also has a pattern of greater participation in the statewide Minnesota Energy Challenge than other types of networks; 93 of the Met Council's 183 communities have teams with at least ten members.[293] In contrast, beyond the twelve cities studied in this Article, only five other cities from the metropolitan region—all suburbs—were members of Greenstep Cities as of January 2012, in part because some leader cities, including the center cities, appear to regard the program as too basic for them.[294] However, these low numbers may be deceptive, since those additional five joined over a two-month period in late 2011 and early 2012, suggesting that this newer program has substantial growth potential.[295]

Participation levels of these suburbs decline for the larger-scale networks that focus more explicitly on climate change. Only four of the twelve cities studied are involved in the EPA Region 5 Community Climate Change Initiative partnership programs. The EPA provides six free

---

289 *Community Summaries: Mahtomedi, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2472 (last visited Oct. 20, 2011).

290 *Community Summaries: Maplewood, Minnesota*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org//index.php?id=6917&cmd=shortlist&org_id=2474 (last visited Oct. 20, 2011).

291 *About the Challenge*, MINN. ENERGY CHALLENGE, http://www.mnenergychallenge.org/About-the-Challenge.aspx (last visited Oct. 11, 2011).

292 *See supra* Table 1; *see supra* Table 2.

293 *See infra* Appendix; *City Teams*, *supra* note 280.

294 *See Greenstep Cities List*, *supra* note 84; confidential interviews with people involved in cities active in other multi-level climate change and sustainability networks but not participating in GreenStep Cities (Fall 2011).

295 *See Greenstep Cities List*, *supra* note 84; confidential interviews with people involved in cities active in other multi-level climate change and sustainability networks but not participating in GreenStep Cities (Fall 2011).

programs for cities involved in this initiative: Energy Star, WasteWise, Combined Heat and Power, Green Power Partnership, WaterSense, and Landfill Methane Outreach Program.[296] The EPA website explains that "partnership programs help communities address climate change while protecting human health and the environment, enhancing local economies, and reducing energy costs. These programs also help meet commitments in the Mayors Agreement and other climate change programs."[297] The low participation levels across all three groups of cities suggests that even though the EPA explicitly connects these programs with accomplishing the goals of the Mayors Agreement, which many more of the cities have joined, these cities either find this program less valuable or are unaware of it. This pattern persists across the metropolitan region with only two cities beyond the group studied participating in this program.[298]

The biggest differentiation among the categories of suburbs studied comes with the national-level network, the Mayors Agreement. This agreement, and its accompanying U.S. Conference of Mayors Climate Protection Center, emerged from a 2005 initiative by Seattle Mayor Greg Nickels, which was unanimously supported by the U.S. Conference of Mayors.[299] Participating cities not only commit to what the U.S. Kyoto Protocol emissions reductions would have been, but also have the opportunity to learn from the best practices models and receive national recognition (as Eden Prairie has).[300] While over half of the studied suburbs (seven of the twelve) are members of this agreement—a much higher level of participation than in the metro as a whole, which only has twenty-one total participants including the studied suburbs—all of the developed job centers studied are members of this agreement but a much lower percentage of the other two groups are (one stressed city and two developing job centers).[301]

This pattern of greater developed job center participation does not carry over, however, to the other fourteen metropolitan-area cities which have joined the Mayors Agreement; two are center cities (Minneapolis and Saint Paul), four are stressed cities (Brooklyn Center, Burnsville, Crystal, White Bear Lake), four are developed job centers (Golden Valley, Minnetonka, Oak Park Heights, Roseville), one is an affluent residential community (Sunfish Lake), and three are developing job centers

---

296 *Region 5 Climate Change: Municipalities*, *supra* note 108.

297 *Id.*

298 *See id.*

299 *About the Mayors Climate Protection Center*, *supra* note 8.

300 *Id.*

301 *See supra* Table 2.

(Inver Grove Heights, Rosemount, and Woodbury).[302] When the metropolitan region is viewed as a whole, combining the studied cities with the other cities, there are more developed job centers participating than any other group, but the difference is less marked than in the group discussed in depth in this Article.[303] On a percentage basis, though, the differences still look significant because there are far fewer developed job centers than developing job centers in the metropolitan region; a much higher percentage of developed job centers are participating than any other type of Twin Cities suburb.[304]

The greater participation of developed job centers in the Mayors Agreement among the studied group and, to some extent, among metropolitan region suburbs as a whole indicates that outreach to cities in the other two groupings potentially would be valuable to determine if there are barriers to joining, such as political concerns about framing efforts as climate change mitigation, or if these cities could be encouraged to take the additional step. The developed job center participation might serve as a model for those cities with political concerns, as they are equally divided between leaning Democratic or Republican.[305]

Numerous international networks exist among local governments on climate change, including ICLEI-Local Governments for Sustainability (ICLEI);[306] agreements made in conjunction with the annual UNFCCC Conference of the Parties (COP), such as pledges entered in the Copenhagen City Climate Catalogue,[307] the Mexico City Pact,[308] and the Durban Adaptation Charter for Local Government;[309] the World Mayors Council on Climate Change;[310] and the carbon*n* Cities Climate Registry.[311] However, the suburbs in this sample and the metropolitan region as a whole have only significantly participated in ICLEI and the Copenhagen City Climate Catalogue. The main exception is Burnsville, whose

---

302 *See List of Participating Mayors*, *supra* note 8; ORFIELD & LUCE JR., *supra* note 61, at 44 map 1.17.

303 *See* ORFIELD & LUCE JR., *supra* note 61, at 44 map 1.17

304 *See id.*; *List of Participating Mayors*, *supra* note 8.

305 *See supra* Table 1.

306 *About ICLEI*, ICLEI GLOBAL, http://www.iclei.org/index.php?id=about (last visited Jan. 16, 2012).

307 *List of Commitments*, THE CITY CLIMATE CATALOGUE, http://www.climate-catalogue.org/ (last visited Jan. 28, 2012).

308 *Signatories*, THE MEXICO CITY PACT, http://www.mexicocitypact.org/en/the-mexico-city-pact-2/list-of-cities/ (last visited Jan. 16, 2012).

309 *Durban Adaptation Charter for Local Governments*, http://www.iclei.org/fileadmin/user_upload/documents/Global/initiatives/LG_roadmap___COP_17_files/Durban_Adaptation_Charter_5Dec.pdf (last visited Jan. 15, 2012).

310 *Membership*, WORLD MAYORS COUNCIL ON CLIMATE CHANGE, http://www.worldmayorscouncil.org/members/members-list.html (last visited Jan. 16, 2012).

311 *Reporting Cities*, CARBONn Cities Climate Registry, http://citiesclimateregistry.org/cities/reporting-cities/ (last visited Jan. 15, 2012).

Mayor was President of the U.S. Conference of Mayors at the time of the Mexico City Pact, and signed on behalf of both Burnsville and the U.S. Conference of Mayors.[312]

ICLEI, like Greenstep Cities, focuses on sustainability. Since its founding in 1990, the association has grown to include participation from 1220 local government members from 70 different countries representing 569,885,000 people.[313] ICLEI has several different programs to achieve its sustainability goals, one of which is addressing climate change. Its climate program has played a leading role in developing the agreements made during the COPs by fostering networks among local governments and supporting individual governments in their climate change efforts.[314] Fifteen Minnesota cities are members of ICLEI, including Minneapolis, Saint Paul, and several Twin Cities suburbs. Only one suburb from each of the three groupings studied has joined.[315] In the metropolitan region as a whole, five more cities are members: the two center cities, two developed job centers (Roseville and Golden Valley), and one developing job center (Woodbury).[316] Thus, overall, developed job centers are slightly overrepresented, but the sample size is very small.

The Copenhagen City Climate Catalogue was created in conjunction with the 2009 COP. Participating cities record their targets and actions to share information with one another and to demonstrate the importance of local governments to the negotiating nation-states. Unlike the Mexico City Pact and Durban Adaptation Charter, which require signatories to make particular commitments, the Catalogue just serves as a clearinghouse for local governments to record their voluntary activities. As Table 2 illustrates, the studied suburbs that participated in the Catalogue are Mayors Agreement signatories; their only commitments under the Catalogue are those that they are already making under the Mayors Agreement.[317] The other Twin Cities suburbs participating in the Mayors Agreement, with the exception of Crystal, follow an identical pattern.[318] The Catalogue helps translate these suburbs' national-level commitments into international-level commitments, but those suburbs have not made additional international-level commitments at the COPs that followed.[319]

---

312 *List of Cities that have signed the Global Cities Covenant on Climate (The Mexico City Pact)*, WORLD MAYORS SUMMIT ON CLIMATE MEX. CITY, http://www.wmsc2010.org/list-of-cities/ (last visited Jan. 30, 2012).

313 *About ICLEI*, *supra* note 306.

314 *ICLEI Climate Program*, ICLEI GLOBAL, http://www.iclei.org/index.php?id=800 (last visited Jan. 16, 2012).

315 *See supra* Table 2 and accompanying notes 280–90.

316 *See Member List*, *supra* note 283; *supra* Table 2.

317 *See supra* Table 2 and accompanying notes 280–90.

318 *See List of Commitments*, *supra* note 307; *supra* Table 2.

319 *See Signatories*, *supra* note 308; *Durban Adaptation Charter for Local Governments*, *supra* note 309.

Interestingly, while participation in the Mayors Agreement correlates perfectly with those making Copenhagen City Climate Catalogue commitments, it varies substantially from those participating in either the regional-level EPA partnership or the international-level ICLEI network, both among the studied group and the broader metropolitan region.[320] This difference suggests that suburbs willing to make commitments on climate change (as opposed to just sustainability) are participating unevenly in the possible networks that might support them, and that an opportunity might exist to introduce suburbs actively working on climate change to additional networks.

Overall, these patterns of network participation indicate that state-level networks focused on sustainability and energy savings may serve as an important starting point for suburban mitigation and that climate change networks may not be politically unpalatable to moderately conservative suburbs. However, participation in one network does not necessarily translate into participation in other networks and networks vary in the extent to which they result in new action rather than just a re-reporting of current action. Suburbs already interested in taking action are more likely to join these networks,[321] making it sometimes difficult to discern the extent to which network participation resulted in new or more effective activities.

Most promisingly, networks with specific action steps seem to motivate particular action. For example, Falcon Heights joined numerous networks in a short period of time when it committed to sustainability and climate change goals.[322] Although the networks did not cause it to commit to these goals, the frameworks provided by the networks, such as the steps of Greensteps Cities, helped organize its efforts and encouraged it to take particular actions.[323] Other cities have reported similar experiences.[324] This anecdotal evidence based on this small sample of cities suggests the need for further empirical work into how to motivate different types of suburbs to join additional networks and what makes networks most effective in spurring new or more effective mitigation steps in order to maximize cumulative suburban action.[325] Future studies

---

320 *See List of Participating Mayors*, *supra* note 8; *Region 5 Climate Change: Municipalities*, *supra* note 108; *List of Members (page 2 of 3)*, *supra* note 283; *List of Commitments*, *supra* note 307.

321 *See* Confidential Presentation to Hari Osofsky's Climate Change and Clean Energy Capstone (Fall 2011) (notes on file with author).

322 *See infra* Part III.B.1.

323 *See* Mercer-Taylor, *supra* note 98.

324 *See* Confidential Presentation *supra* note 321.

325 I plan to pursue this work in a future project. There are currently a number of efforts by researchers to assess the Greenstep Cities program and what it has achieved, but those are not focused primarily on climate change mitigation but rather on the program's sustainability goals.

might also consider how the motivations of different types of suburbs and center cities compare as they join networks, and how these varying motivations should impact the strategies of these networks.

B. Possibilities for Integrating Multi-Level Networks with Formal Governance

Viewing suburban action as part of a polycentric, pluralist approach to addressing climate change does not necessarily have significant implications for formal international legal efforts to address climate change through international treaties. The suburbs could simply serve as an important source of mitigation in the aggregate and through participation in networks that function wholly separately from the COP negotiations. However, in reality, cities (including suburban ones) and the networks that they form interact with the treaty negotiations in a variety of ways. This Section examines these interactions and considers how a governance model for climate change might incorporate them.

The primary ways for smaller-scale governments to have a direct voice in UNFCCC negotiations are: (1) through their nation-state, by serving on their national negotiating team and influencing its positions and (2) as one of many civil society groups that observe the meetings (when not shut out as they were in Copenhagen in 2009) and provide input into negotiating texts. Local representatives, particularly from major center cities, are at times directly involved in national negotiating teams,[326] but these teams are size-limited. Small suburban cities could never be fully included on them except through designated representatives and would have to compete with larger cities for a place in that group.

However, cities have effectively had a voice in negotiations through this second avenue paired with efforts by multi-level networks—in which many of these suburbs participate—to influence national positions and international agreements through the commitments that local governments publicly make among themselves. Transnational networks of localities have been working to change the substance of the agreements among nation-states at the COPs to have them include more recognition of the local role.[327] Since the 2007 COP in Bali established climate roadmap for nation-states, localities under the leadership of ICLEI and United Cities and Local Governments (UCLG) have attempted to ad-

---

326 *See* Osofsky, *Climate Change*, *supra* note 27, at 648 N.247 (2009) (citing Gavin Newsom, Mayor of San Francisco, Remarks following Keynote Address at the University of California Hastings College of the Law Conference: Surviving Climate Change: Adaptation and Innovation (Apr. 4, 2008)).

327 Press Release, ICLEI, Durban Outcomes: Nations Invest in Time, World Must Invest in Cities (Dec. 12, 2011), http://www.iclei.org/fileadmin/user_upload/documents/Global/initiatives/LG_roadmap___COP_17_files/COP17_post_event_press_release_final_20111212.pdf.

vance a Local Government Climate Roadmap. This effort, which was originally designed to conclude by the Copenhagen COP, continued through the 2011 COP in Durban and beyond. It aims to have references to local governments and subnational governments more broadly included in the texts of the agreements concluded under the UNFCCC.[328]

The agreements made at the 2011 COP in Durban reflect how far these efforts have come. As ICLEI highlighted in its preliminary assessment, key agreements referenced local governments directly or made room for their participation as stakeholders. The Durban outcome of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, for example, maintained the recognition of local governments that came out of Cancun COP and added several new references to them in the context of nationally appropriate mitigation actions, adaptation, and technology development and transfer.[329] The Durban Platform did not explicitly reference local governments, but included a mechanism for observer organizations to provide input on both options and increase the level of ambition.[330] The Green Climate Fund launch similarly made reference to stakeholders and active observers at various points, and specifically includes subnational entities as among those which can be accredited as implementing entities receiving funding.[331] The Technology Executive Committee's modalities and procedures include the subnational level explicitly in their reference to engaging stakeholders.[332] Agreements regarding national adaptation plans and loss and damage all specifically reference multiple levels, at times using the terms "subnational" and "local."[333] Finally, the Clean Development Mechanism Executive Board made decisions that continued efforts from the 2010 Cancun COP to make it easier for city-wide programs to participate.[334] While ICLEI indicates a number of places where clarification that stakeholders include localities would be helpful, the nation-state agreements increasingly recognize the plurality of relevant actors in addressing climate change within the limited participatory framework that international law treaties provide.[335]

---

328 *See Local Government Climate Roadmap: From Copenhagen to Cancún to South Africa: COP15 - COP16 - COP17*, UNITED CITIES AND LOCAL GOV'TS (UCLG) AND ICLEI (July 2010), http://www.iclei.org/fileadmin/template/project_templates/climate-roadmap/files/Communication_Material/Towards_COP16/Concept_towards_COP16_Final_8September2010.pdf. [hereinafter *Local Government Climate Roadmap*].

329 *See id.*

330 *See id.*

331 *See id.*

332 *See id.*

333 *See id.*

334 *See id.*

335 *See* ICLEI-Local gov't for sustainability, *Durban must Urbanize Climate Agenda* (Dec. 12, 2011), http://www.iclei.org/fileadmin/user_upload/documents/Global/initiatives/LG_

While ICLEI and UCLG use their status as observers to influence the text, these efforts are augmented by the side meetings among localities (and other subnational governments) at the COPs. As described above, these meetings have resulted in parallel agreements among localities at each of the last several COPs that were intended both to promote local action on mitigation and adaptation and to pressure nation-states to take more aggressive steps. The Twin Cities suburbs participating in the Mayors Agreement and Copenhagen Catalogue exemplify this type of effort by the ways in which they publicly exceed U.S. commitments and use the Kyoto Protocol as a frame of reference in doing so.[336] At the Copenhagen Conference of the Parties, the Twin Cities suburbs making commitments were part of a much larger effort; mayors from around the world registered 3,251 climate targets in the Copenhagen City Climate Catalogue.[337] While the Twin Cities suburbs reduction targets pale in comparison to a leader center city like Portland, Oregon—10% by 2010, 80% by 2050—they are equivalent to those of one of its local center cities, St. Paul.[338]

Moreover, when viewed in the context of the limited nation-state commitments made during the formal negotiations at Copenhagen and at the COPs since then, these suburban targets in the Copenhagen City Climate Catalogue appear much more impressive. The nation-states lacked consensus to pass an agreement at Copenhagen, but took note of the Co-

---

roadmap___COP_17_files/LGMA_Durban_DailyBriefing_DurbanOutcomes_LGs-Subnationals.pdf.

336 *See List of Participating Mayors*, *supra* note 8; *Region 5 Climate Change: Municipalities*, *supra* note 108; *List of Members (page 2 of 3)*, *supra* note 283; *List of Commitments*, *supra* note 307.

337 *See Cities Act: Copenhagen Climate Communiqué*, (Copenhagen Climate Summit for Mayors, Copenhagen, Den.), Dec. 16, 2009, *available at* http://www.kk.dk/Nyheder/2009/December/~/media/B5A397DC695C409983462723E31C995E.ashx (last visited May 18, 2011); *List of Commitments*, *supra* note 307; Osofsky, *Multiscalar Governance*, *supra* note 49, at 65–66.

338 *List of Commitments*, *supra* note 307. Minneapolis' commitments are harder to translate into 1990 equivalents; although it uses a 2006 baseline, its substantial efforts prior to 2006 and efforts to address accuracy issues in its baseline make that a very different choice than the United States' use of a 2005 baseline. *Id.*; CLIMATE CHANGE CORPS, MINNEAPOLIS CARBON FOOTPRINT PROJECT REPORT (2008), *available at* http://s3.amazonaws.com/zanran_storage/www.ci.minneapolis.mn.us/ContentPages/4058400.pdf; CITY OF MINNEAPOLIS, SUSTAINABILITY INITIATIVE: 2005 ANNUAL REPORT ii (2005), *available at* http://www.minneapolismn.gov/www/groups/public/@citycoordinator/documents/webcontent/convert_270332.pdf; JOHN BAILEY, LESSONS FROM THE PIONEERS: TACKLING GLOBAL WARMING AT THE LOCAL LEVEL 7 n.5 (2007) ("Minneapolis did develop a baseline GHG inventory in 1993 for the year 1988, but a recent examination led the city to reconsider its accuracy. A new baseline analysis and current inventory are in the process of being developed."). Minneapolis has been recognized nationally for its cross-cutting efforts on climate change and sustainability, such as in the Mayors' Climate Protection Summit's 2007 Best Practices Guide. MAYORS CLIMATE PROT. CTR., *supra* note 145.

penhagen Accord.[339] Under that Accord, the United States set a 2020 emissions reductions target "[i]n the range of 17%, in conformity with anticipated U.S. energy and climate legislation," using the less ambitious base year of 2005 (rather than the suburbs' 1990 base year); translated into a 1990 base year, that would be less than a 4% reduction.[340] In addition, the United States still has not passed such legislation and none looks likely in the near term.[341] Although the 2011 Durban COP resulted in an agreement to reach a universal binding agreement by 2015 paired with the creation of an ad hoc working group on the Durban Platform to develop a new protocol or other legal approach, only the Kyoto Protocol parties currently have specific, binding commitments to mitigate climate change.[342] While some of the Kyoto Protocol parties agreed to a second commitment period at the Durban COP, the United States continues to refrain from becoming a party and making such commitments.[343]

This contrast between small suburban commitments and U.S. commitments suggests both the contributions and limitations of these treaty interventions and example-setting transnational local agreements in advancing climate change action. Leader cities, even ones less far along like the Twin Cities' suburbs highlighted in this Article, help their nation-states meet emissions reductions goals and pressure them to cooperate internationally while supporting each other's local goals. Perhaps in

---

339 *See* Conference of the Parties to the United Nations Framework Convention on Climate Change, Fifteenth Sess., Dec. 7–18, 2009, Copenhagen, Den., Draft Decision -/CP 15: Proposal by the President, Copenhagen Accord, U.N. Doc. FCCC/CP/2009/L.7 (Dec. 18, 2009) [hereinafter Copenhagen Accord], *available at* http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf; United Nations Framework Convention on Climate Change, Copenhagen Accord, http://unfccc.int/meetings/copenhagen_dec_2009/items/5262.php. *See also* Arthur Max, *Obama Brokers a Climate Deal, Doesn't Satisfy All*, DAILY RECORD (Morristown, N.J.), Dec. 19, 2009, at 1, 2009 WLNR 25562965; Andrew C. Revkin & John M. Broder, *A Grudging Accord in Climate Talks*, N.Y. TIMES, Dec. 20, 2009, *available at* http://www.nytimes.com/2009/12/20/science/earth/20accord.html.

340 U.N. Framework Convention on Climate Change, *Appendix I - Quantified economy-wide emissions targets for 2020*, Jan. 28, 2010, *available at* http://unfccc.int/meetings/cop_15/copenhagen_accord/items/5264.php (citation omitted) (last visited May 18, 2011). The U.S. commitment would constitute only about a 3.45% reduction if a 1990 baseline were used. U.S. ENVTL. PROT. AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2005, at 5 (2007), http://www.epa.gov/climatechange/Downloads/ghgemissions/07ES.pdf.

341 The American Clean Energy and Security Act of 2009, H.R. Res. 2454, 111th Cong. (2009), passed in the House but the Senate failed to pass equivalent legislation. No such legislation is currently pending.

342 *See* Draft Decision -/CP.17, Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action (Advance unedited version), Nov./Dec. 2011, http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf.

343 Draft Decision -/CMP.7, Outcome of the Work of the Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol at its Sixteenth Session (Advance unedited version), Nov./Dec. 2011, http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/awgkp_outcome.pdf.

part because they are not making legally binding commitments to one another,[344] these cities make agreements with and commitments to other cities at international, national, regional, and state scales. The increasing recognition of localities and subnational governments in treaties reinforces localities' growing role in both formal and informal visions of multi-level climate change governance.

However, these activities by a range of leader cities that include suburbs also serve to reinforce a troubling big picture. Other cities within the Twin Cities and beyond lag well behind the suburbs highlighted in this Article (which vary in their level of action).[345] The collaboration among localities has not eliminated the many barriers to nation-state agreement or to localities being given a fuller place at the negotiating table.[346] Thus, while these suburbs' efforts play an important role in responding to climate change and in encouraging other key actors to do the same, local climate change efforts remain constrained by the small percentage of cities participating and cities' limited status under international law. This mix of achievements and barriers provides the basis for the proposals advanced in the next section.

C. *Proposals for Increasing the Impact of Multi-Level Networks*

This Section proposes two ways in which, based on this case study of these Twin Cities suburbs, multi-level networks could work more effectively with suburbs to achieve mitigation and adaptation goals. First, it recommends that networks create more differentiated strategies and outreach which take into account the ways in which types of suburbs vary. Second, it suggests that networks should encourage more cross-network participation in order to achieve their policy and governance goals.

1. Differentiating Strategies Based on Type of Suburb

As described in more depth in Section III.A, the networks studied provide cities with a toolkit of options for local or larger scale activities.[347] While these toolkits vary based on the network's substantive focus (sustainability v. climate change) and on its goals, they generally do not differentiate greatly among cities. For example, GreenStep Cities

---

344 For a discussion of nation-states as the primary subjects and objects of international law, see IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 287–88 (6th ed. 2003).

345 For concerns about leakage due to unequal local commitments, see Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1962 (2007).

346 For a summary of the state of international negotiations under the UNFCCC agreement after the 2010 Cancun meeting, see Cesare Romano & Elizabeth Burleson, *The Cancún Climate Conference*, 15 ASIL INSIGHT 41, (2011).

347 *See supra* Part III.A.

lists a set of possible actions, each associated with points, and cities can choose how to accumulate points to reach a step.[348] The Minnesota Energy Challenge gives individuals participating on teams, only some of which are locally-based (schools and neighborhoods can also provide teams), a myriad of options for making energy savings that can count towards their team's total.[349] EPA Region 5 Community Climate Change Initiative partnership programs similarly give cities a choice of six programs in which they can participate.[350] The Mayors Agreement, beyond its requirement of a member commitment to specific greenhouse gas reduction goals, provides recognition of best practices differentiated by city size (large versus small) to give models to its members.[351] ICLEI's climate program includes steps that cities can take on mitigation, adaptation, and advocacy, with expectations that member cities are engaging in particular practices.[352] The Copenhagen City Climate Catalogue contains many options for participating cities to take and recognizes them with green checkmarks when they do.[353]

This toolkit approach has value because almost all cities have common characteristics that shape the categories of actions that would be appropriate. By providing cities with many options in each category, models for how to make progress, and expectations that participation translates into particular steps, these networks can help a very diverse set of cities create individualized plans. The suburbs studied in this Article reflect the appropriateness of this approach as they take steps in the major areas in which cities have authority and record their progress in these various networks.[354]

However, as this Article's examination of these cities based on the type of suburb indicates, small suburban cities appear to vary in their needs and possibilities for action based on the type of suburb that they are. While a broader empirical study is needed to provide a clearer sense of these patterns,[355] this initial qualitative examination suggests the value in differentiating further among suburbs and providing them with support and models based on their characteristics. For example, networks could emphasize the interconnection between urban redevelopment and greenhouse gas emissions reduction for stressed inner suburbs, while focusing on city layout choices for the more rapidly growing outer suburbs. They

348 *See* MINN. GREENSTEP CITIES, *supra* note 77.

349 *See About the Challenge*, *supra* note 291.

350 *Region 5 Climate Change: Municipalities*, *supra* note 108.

351 *See* MAYORS CLIMATE PROT. CTR., *supra* note 145.

352 *ICLEI Climate Program*, ICLEI GLOBAL, http://www.iclei.org/index.php?id=800 (last visited Jan. 22, 2011).

353 *See List of Commitments*, *supra* note 307.

354 *See supra* Part III; *supra* Table 2.

355 I am in the process of developing this broader study to build upon this Article.

also could target suburbs that have not connected to particular types of free resources from governments and universities, which appear in this sample to vary significantly by category, and help them make those connections.[356]

This kind of differentiation would not require massive amounts of additional work for the existing networks, all of which have well-developed websites. It simply would require adding to networks' websites and brochures more differentiated models of how different types of suburbs have taken steps and locally-specific examples of resources available and ways in which other cities have used them. In the Twin Cities context, with its rich opportunities for interconnection among the metropolitan cities due to its regional governance structure and statewide programs, adding this dimension to existing efforts would be relatively straightforward and within the powers of current networks. For example, GreenStep Cities could complement its existing web resources for participants, which currently include best practices and model ordinances,[357] case examples from its different types of participating suburbs, and lists of locally-available financial and technical (including university) assistance.

2. Greater Interconnection Among Voluntary Networks

The networks studied in this Part vary significantly in their substantive focus and scale of operations. Some of them, like GreenStep Cities, are not even explicitly engaging climate change, but rather positively impact mitigation through their broader sustainability goals; they may be able to foster action in communities where the problem of climate change is more controversial. Despite these differences, though, these networks are often trying to encourage cities to take very similar steps. At times, the networks on climate change even explicitly interlink their activities, such as when the Mayors Agreement cities make uniform Copenhagen City Climate Catalogue Commitments or when the EPA Region 5 Community Climate Change Initiative partnership programs indicate that they will help cities meet their Mayors Agreement obligations.[358]

These twelve cities' pattern of involvement in these networks and that of cities in the metropolitan region as a whole, however, suggests missed opportunities for greater synergy. While, as in the case of the first proposal, additional empirical work would be valuable, the disconnections among the networks in this sample and the region seem to go well beyond the political volatility of climate change. For example, many of the cities that have joined the Mayors Agreement are not partici-

356 *See supra* Part II.E.

357 *See* MINN. GREENSTEP CITIES, *supra* note 77.

358 *See supra* Part III.A.

pating in either the EPA Region 5 initiative or ICLEI, despite their complementary resources and commitments.[359] This gap suggests an opportunity for networks to work together to encourage cities willing to take action on climate change to take full advantage of the resources available to them and become involved in new multi-level initiatives. Like with the first suggestion, this recommendation would be relatively simple to implement: each network could advertise the other available networks to their members with explanations of the synergistic possibilities of participation in additional networks.

Creating more common participation among these networks could also advance their more effective inclusion in international and national climate change governance, in line with pluralist, polycentric models. At the international level, as ICLEI in partnership with UCLG simultaneously works to have localities and subnational governments included in treaties and make parallel commitments, it would be aided by having more small suburban members, given their critical role in addressing urban emissions. Encouragement of cross-participation by other networks could help to achieve this greater representation and more engagement of the particular issues faced by different types of suburbs. Such an approach also would comport well with the calls for greater participation by localities in UNFCCC negotiations and implementation in line with conventions like the Aarhus Convention, which some UNFCCC parties have joined.[360]

At the U.S. national level, various models have been proposed for involving localities more in the formulation of the U.S. negotiating position and federal climate change law and policy. For example, Resnik, Civin, and Frueh have suggested mechanisms for integrating these subnational coalitions into U.S. federal statutory law, such as advisory commissions and the input process under the Unfunded Mandates Reform Act of 1995.[361] In my past work, I have examined the ways in which the U.S. Environmental Protection Agency might involve subnational coalitions more in its process of distributing funds related to mitigation to state and local government, an approach that could also be used by other agencies and in the context of adaptation.[362] The citizens' councils formed in Alaska in the aftermath of the Exxon Valdez spill, which I have explored in my work on the BP *Deepwater Horizon* oil spill, also

---

359 *See id.*

360 *See* Svitlana Kravchenko, *Procedural Rights as a Crucial Tool to Combat Climate Change*, 38 GA. J. INT'L & COMP. L. 613, 620 (2010). I am exploring these participatory mechanisms in more depth in collaboration with Brad Karkkainen in a project on *Climate Change, Inequality and International Lawmaking: New Governance Approaches to Addressing Abundance and Security*, supported by a Univ. of Minn. Inst. for Advanced Study grant.

361 *See* Resnik et al., *supra* note 47, at 779.

362 *See* Osofsky, *supra* note 60, at 241.

provide a potential model for bringing smaller, city suburban voices into the process more fully. These councils involve a range of key stakeholders in developing recommendations that then have a formal channel into the core regulatory process, an approach which could be implemented through statute or by agencies in the climate change context.[363] Whether any of these models is used, or some other approach, creating more cross-cutting participation in networks would both strengthen the case for greater involvement and provide more effective representation of the diverse types of cities working on climate change.

These twin strategies of differentiated outreach and network coordination also could be used to encourage participation in suburbs that have been slower to act. As non-participating suburban cities interact with one another in a variety of contexts, such as in the Twin Cities through its regional governance structure, they can learn about the economic and social benefits leader suburbs that are similar to them have obtained through their climate change and clean energy initiatives. When a critical mass of involved citizens in those small cities become persuaded of the benefits of transitioning lightbulbs, taking energy-efficiency measures, adding renewable energy to their portfolio (the Midwest has tremendous wind capacity and the Twin Cities are very sunny), or concentrating uses, these small cities often face fewer bureaucratic barriers to action than larger cities do and can act relatively quickly. As these cities take these individual steps, they become more likely to join networks that give them support for their activities and to transition into leaders. The Twin Cities example suggests that cities do not have to be politically liberal to make that transition because many of the initial steps they take on climate change are win-wins that do not have to be framed around the politically contentious issue of climate change. Moreover, existing networks working together can reinforce the value of the

363 For a discussion of citizens' councils, see Hari M. Osofsky, *Multidimensional Governance and the BP Deepwater Horizon Oil Spill*, 63 FLA. L. REV. 1077 (2011); Zygmunt J.B. Plater, *Learning from Disasters: Twenty-One Years After the Exxon Valdez Oil Spill, Will Reactions to the Deepwater Horizon Blowout Finally Address the Systemic Flaws Revealed in Alaska?*, 40 ENVTL. L. REP. 11041 (2010); Zygmunt J.B. Plater, *Facing a Time of Counter-Revolution—The Kepone Incident and a Review of First Principles*, 29 U. RICH. L. REV. 657, 700–01 (1995); William H. Rodgers, Jr., *The Most Creative Moments in the History of Environmental Law: "The Whats"*, 2000 U. ILL. L. REV. 1, 22–23 (citing e-mail from Zygmunt Plater, Professor, Bos. Coll. Law Sch., to William H. Rodgers, Professor, Univ. of Wash. Sch. of Law (Feb. 2, 1998) (on file with the *University of Illinois Law Review*)); George J. Busenberg, Regional Citizens' Advisory Councils and Collaborative Environmental Management in the Marine Oil Trade in Alaska (unpublished manuscript), *available at* http://www.allacademic.com/meta/p41678_index.html (studying the two advisory council's impacts on policy change); *Introduction*, PRINCE WILLIAM SOUND REG'L CITIZENS' ADVISORY COUNCIL, http://www.pwsrcac.org/about/index.html (last visited July 15, 2011).

smaller-scale efforts through award programs like the one that recognized Eden Prairie.[364]

CONCLUDING REFLECTIONS ON THE BENEFITS AND LIMITATIONS OF FOSTERING SUBURBAN CLIMATE CHANGE ACTION THROUGH VOLUNTARY MULTI-LEVEL NETWORKS

In the final analysis, neither of this Article's proposals is adequate to address the massive barriers to climate action with which this Article started. Even with these strategies, it is unlikely that a sufficient number of cities, large or small, will mitigate quickly enough to prevent our crossing the 450 parts per million carbon dioxide threshold that threatens major climate change and ever-louder calls for geoengineering.[365] These networks are voluntary and participation in them cannot force action the way top-down mandates would.

But the example of these Twin Cities suburbs suggests that small, suburban cities should be an important area of focus. As more suburbs capture the low hanging fruit under their control, major metropolitan regions will come closer to reducing emissions at levels needed. Center leader cities simply do not represent enough emissions unless joined by their smaller suburbs, which are often nimble enough to act quickly if brought on board.

Continuing to reach out through networks, whether environmental or broader ones, which include small cities not yet taking similar action, and working towards better integration of those networks with formal international and national processes, contain promise for better mitigation. They also create a framework for needed action and collaboration on adaptation that becomes more and more important as we fail to mitigate.

Sprawling U.S. metropolitan regions pose daunting mitigation challenges, but their small cities also have the potential to make incremental change. The proposed approaches, which could be implemented within existing networks and their limited resources, represent ways in which—based on the example of these Twin Cities suburbs—networks might more effectively incorporate small suburban cities. Such incorporation has the potential to create action that would not have happened otherwise, both in particular cities and in multi-level governance strategies.

---

364 MAYORS CLIMATE PROT. CTR., *supra* note 145.

365 Johan Rockström et al., *A Safe Operating Space for Humanity*, 461 NATURE 472, 473 (2009).

APPENDIX: TWIN CITIES METROPOLITAN REGION COMMUNITIES' NETWORK PARTICIPATION

Community (7-County Metro Area)[366]	GreenStep Cities[367]	MN Energy Challenge Team (# Team Mems.)[368]	EPA Region 5 Community Climate Change Initiative Partner[369]	Mayors Agreement on Climate Change[370]	Copenhagen City Climate Catalogue[371]	ICLEI[372]
Afton		23				
Andover		98				
Anoka		82				
Apple Valley	6/9/2011	367	2009	Mary Hamann-Roland	7% by 2012 (1990 Baseline)	
Arden Hills		47				
Bayport		9				
Baytown						
Belle Plaine		16				
Belle Plaine Township						
Benton Township						
Bethel						
Birchwood		8				
Blaine		178				
Blakeley Township						
Bloomington		435				
Brooklyn Center		103		Tim Willson	7% by 2012 (1990 Baseline)	
Brooklyn Park		222				
Burnsville	4/17/2012	277		Elizabeth Kautz	7% by 2012 (1990 Baseline)	
Camden Township						
Carver		19				
Castle Rock Township						
Cedar Lake Township						
Centerville		8				
Champlin		100				
Chanhassen		89				
Chaska		85				

366 *List of Community Profiles*, *supra* note 72.
367 *Greenstep Cities List*, *supra* note 84.
368 *City Teams*, *supra* note 280.
369 *Region 5 Climate Change: Municipalities*, *supra* note 108.
370 *List of Participating Mayors*, *supra* note 8.
371 *List of Commitments*, *supra* note 307.
372 *Member List*, *supra* note 283.

Circle Pines		44				
Coates						
Cologne		4				
Columbia Heights		58				
Columbus		4				
Coon Rapids		188				
Corcoran		19				
Cottage Grove	12/1/2010	118				
Credit River Township						
Crystal		104		ReNae Bowman		
Dahlgren Township						
Dayton		11				
Deephaven		14				
Dellwood		1				
Denmark Township						
Douglas		1				
Eagan	8/17/2010	405		Mike Maguire	7% by 2012 (1990 Baseline)	
East Bethel		9				
Eden Prairie	6/14/2011	224		Nancy Tyra-Lukens	7% by 2012 (1990 Baseline)	
Edina	1/18/2011	503		James Hovland	7% by 2012 (1990 Baseline)	2007
Elko New Market		2				
Empire Township						
Eureka Township						
Excelsior		30				
Falcon Heights	1/12/2011	79	2009	Peter Lindstrom	7% by 2012 (1990 Baseline)	
Farmington	5/2/2011	125				
Forest Lake		89				
Fridley		199				
Gem Lake		2				
Golden Valley		167		Linda Loomis	7% by 2012 (1990 Baseline)	2009
Grant		5				
Greenfield		5				
Greenvale						
Greenvale Township						
Greenwood		3				
Grey Cloud Island Township						
Ham Lake		32				

Hamburg		3				
Hampton		4				
Hampton Township						
Hancock		2				
Hassan						
Hastings		67				
Helena Township						
Hilltop						
Hollywood Township						
Hopkins	11/1/2010	118				
Hugo		57				
Independence		12				
Inver Grove Heights		233		George Tourville	7% by 2012 (1990 Baseline)	
Jackson Township		9				
Jordan		22				
Lake Elmo	5/14/2012	38				
Lake St. Croix Beach		1				
Lakeland		30				
Lakeland Shores						
Laketown Township						
Lakeville		185				
Landfall		2				
Lauderdale		12				
Lexington		9				
Lilydale		3				
Lino Lakes		58				
Linwood Township						
Little Canada		33				
Long Lake		41				
Loretto		20				
Louisville Township						
Mahtomedi	10/5/2010	58		Judson Marshall	7% by 2012 (1990 Baseline)	2008
Maple Grove		224				
Maple Plain		45				
Maplewood	12/13/2010	134	Prior to 2009	Diana Longrie	7% by 2012 (1990 Baseline)	
Marine on St. Croix		10				
Marshan Township						

May Township						
Mayer		6				
Medicine Lake		1				
Medina		16				
Mendota		4				
Mendota Heights		80				
Miesville		1				
Minneapolis		9519		R.T. Rybak	12% by 2012; 20% by 2020; 80% by 2050 (2006 Baseline)	1992
Minnetonka		305		Janis Callison	7% by 2012 (1990 Baseline)	
Minnetonka Beach		1				
Minnetrista		8				
Mound		41				
Mounds View		64				
New Brighton		146				
New Germany						
New Hope		86				
New Market Township						
New Trier						
Newport		19				
Nininger Township						
North Oaks		29				
North St. Paul	7/3/2012	32				
Norwood Young America		3				
Nowthen						
Oak Grove		16				
Oak Park Heights		2		David Beudet	7% by 2012 (1990 Baseline)	
Oakdale	3/8/2011	188	2009			2008
Orono		34				
Osseo		26				
Pine Springs		2				
Plymouth		340				
Prior Lake		494				
Ramsey		131				
Randolph		5				
Randolph Township						
Ravenna Township						
Richfield	1/10/2012	240				
Robbinsdale		129				

Rogers	12/13/2011	27				
Rosemount	12/20/2011	1454		William Droste	7% by 2012 (1990 Baseline)	
Roseville		293	2009	Craig Klausing	7% by 2012 (1990 Baseline)	2006
San Franscisco Township						
Sand Creek Township						
Savage		148				
Scandia		9				
Sciota Township						
Shakopee		129				
Shoreview		146				
Shorewood	6/27/2011	34				
South St. Paul		65				
Spring Lake Park		14				
Spring Lake Township						
Spring Park		1				
St. Anthony	2/8/2011	27				
St. Bonifacious		9				
St. Francis		13				
St. Lawrence Township						
St. Louis Park	6/4/2012	476				
St. Marys Point						
St. Paul		2806	Prior to 2009	Chris Coleman	7% by 2012 (1990 Baseline)	1992
St. Paul Park		18				
Stillwater		225				
Stillwater Township						
Sunfish Lake		9		Molly Park	7% by 2012 (1990 Baseline)	
Tonka Bay		6				
Vadnais Heights		48				
Vermillion						
Vermillion Township						
Victoria	1/9/2012	23				
Waconia		19				
Waconia Township						
Waterford Township						
Watertown		12				
Watertown Township						
Wayzata		49				

West Lakeland Township						
West St. Paul		64				
White Bear Lake	12/13/2011	142		Paul Auger	7% by 2012 (1990 Baseline)	
White Bear Township						
Willernie		2				
Woodbury		257		William Hargis	7% by 2012 (1990 Baseline)	2011
Woodland						
Young America Township		3				
Totals: 183	**22**	**133**	**6**	**21**	**20**	**8**