



The Chicago Climate Charter:

North American Cities Taking Action on Climate

DECEMBER 2018
SUMMIT REPORT



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FOREWORD

Climate change is the defining crisis of our time. The world now regularly experiences numerous extreme, weather-related “100-year” events. Hurricanes, heat waves, floods, and droughts are devastating homes, destroying infrastructure, and taking lives in cities around the world. We know that climate change is driven by human activity and that it can be addressed by human action—but the climate crisis is facing a crisis of leadership at the national level. However, cities have the capabilities and the political will to act.

The North American Climate Summit, held in Chicago December 4–5, 2017, brought together more than 50 cities drawn from 10 countries, representing more than 60 million people, to formulate a climate action plan. In the first major climate conference since President Donald Trump announced his plan to withdraw the United States from the Paris Agreement, mayors from across North America signed the Chicago Climate Charter. We committed to carbon-reduction goals that are at least as ambitious as our nations’ commitments. The summit was not about symbolism; it was about substance. We made pledges not just to one another but also to our residents and to the world. We will make sustainable, measurable progress in the fight against climate change and stand up where our national governments have fallen down.

Chicago was ideally suited to host the climate summit. We have taken decisive action to create the future our residents demand. Just days after President Trump announced his plan to withdraw the United States from the Paris Agreement, Chicago was one of the first US cities to respond. I issued an executive order committing Chicago to the carbon-reduction goals that the federal government chose to abandon. Chicago has closed coal plants and is in the process of replacing street lighting with LED bulbs and converting all public buildings to be powered by 100 percent renewable energy. In addition, the city is diversifying sustainable transportation options. We know from experience that we can strengthen the economy while doing the right thing. Each of our steps helps the economy, creates jobs, and contributes to better health outcomes for our residents.

I want to thank all the mayors who signed the Chicago Climate Charter and committed to bold and decisive action. I also want to thank Vice Chair of the Global Covenant of Mayors for Climate and Energy Christiana Figueres for partnering on this pivotal gathering and C40 for hosting the C40 Cities Bloomberg Philanthropies Awards during the summit. Special thanks are also owed to Anne Hidalgo, mayor of Paris and chair of C40, for her support. Enormous gratitude goes to President Barack Obama for inspiring us all with his presence and perseverance.

Finally, I would like to thank the John D. and Catherine T. MacArthur Foundation, the Joyce Foundation, and Crown Family Philanthropies, whose support made this summit possible. This final report, which summarizes the summit’s highlights, was supported by the Robert R. McCormick Foundation’s grant to the Chicago Council on Global Affairs for research on global cities.

The path to achieving the objectives of the Paris Agreement runs through the Chicago Climate Charter. The path to clean air and a livable climate runs through our cities. The path to a vibrant and healthy future is in our hands. We will act.

RAHM EMANUEL
MAYOR OF CHICAGO

EXECUTIVE SUMMARY

On December 4–5, 2017, the City of Chicago hosted the North American Climate Summit in partnership with C40 and the Global Covenant of Mayors for Climate and Energy. This was the first time a US climate summit convened following President Donald Trump’s decision to withdraw the United States from the Paris Agreement. Featuring remarks from former President Barack Obama, the summit brought together mayors from around the world to define collective, city-level actions and commitments to combat climate change. At the time of this publication, upward of 70 cities have signed the Chicago Climate Charter, affirming their commitment to address climate change within their cities.

There is no greater existential risk to humanity than that posed by the ongoing and dramatic changes to our planet’s climate. Increased temperatures, extreme weather events, and rising sea levels are already affecting human health and economic vitality. It is also increasingly clear that anthropogenic causes are to blame for the damaging shifts being wrought on our environment. Unfortunately, national governments have been slow to respond to this unfolding disaster.

This report contextualizes the North American Climate Summit in the broader arc of climate action, outlines the commitments made by signatories to the Chicago Climate Charter, and provides recommendations for cities seeking to accelerate their sustainability efforts. All signatories committed to the following:

- Reduce greenhouse gas emissions by a percentage equal to or exceeding their home nation’s commitment
- Track, measure, and report the data
- Empower cities through collective action
- Engage all communities, especially nontraditional voices, in policy formation
- Integrate climate risks into infrastructure and emergency planning
- Support policies and actions that incorporate the cost of carbon and support those most affected
- Partner broadly for robust solutions

Additionally, the charter provided cities the opportunity to sign customizable commitments around renewable energy, embodied carbon, mobility, sustainable transportation, waste management, and green space to deliver results in their cities.

Turning the tide on climate change will take time. The good news is that cities continue to recognize their capacity and responsibility to lead on climate issues. The road to achieving the goals of the Paris Agreement is long, but it runs through the Chicago Climate Charter. ■

INTRODUCTION

It is in the hands of mayors, working with their residents and local leaders, to drive concrete solutions to climate change. The North American Climate Summit demonstrated the political commitment and savvy of mayors to lead.

Climate change is real. Energy consumption from fossil fuels pollutes the air and water and drives carbon emissions into the atmosphere. The effects are widespread, from unusually warm winters that alter agricultural cycles to sunny-day flooding in our streets. Most troubling, mounting emissions are the direct cause of increasingly intense storms, floods, droughts, heat waves, and hurricanes. These extreme climate events are destroying homes, towns, and lives. Electricity, water, sanitation, and all aspects of livability can be disrupted in an instant. And while it takes years—as well as significant funding—to repair the infrastructure, lost lives and dispersed communities can never be replaced.

After years of negotiations, the agreements made in Paris in 2015 at the 21st Conference of the Parties of the United Nations were historic. The Paris Agreement represents an internationally shared vision, built on commitments tailored to each participating country.¹ Specifically, the agreement aims to keep global temperatures from rising this century to 2 degrees Celsius above preindustrial levels—which scientists have identified as the threshold beyond which planetary health will be severely affected—and offers additional assistance to developing countries as they pursue this goal.² To meet the Paris Agreement goals, the world must begin to reduce emissions by 2020.

However, progress toward reducing global carbon emissions took a huge step backward in 2017, when President Trump announced his intent to withdraw the United States from the Paris Agreement.³ The United States is now the only country in the world not party to the Paris Agreement, as both Nicaragua and Syria signed in 2017.⁴ The Trump administration's decision was not isolated. In fact, the administration has been working to dismantle multiple carbon commitments made in recent years—from the Clean Power Plan, to Corporate Average Fuel Economy standards, to funding for clean energy research.

Cities are leading the battle against climate change

Even before the withdrawal, city leaders in the United States and around the world understood that the relationship between cities and climate is deeply interdependent. Cities consume nearly two-thirds of the world's energy and account for more than 70 percent of global greenhouse gas emissions.⁵ At the same time, city residents—particularly those living in coastal communities—experience the profound impact of climate change directly. With more than half of the world's population living in cities—a percentage that is expected to grow in the coming decades⁶—the devastation that occurs from severe climate events has an enormous, and sometimes fatal, impact on the lives of millions of people.

Cities are also generating innovative solutions and approaches required to combat climate change and catalyze broader societal change. Many cities have lower per capita emissions than their rural and suburban counterparts, as population density, public transit options, and city-level building and energy codes drive greater relative efficiency. Furthermore, cities are well poised to build on these advantages by using their networks, institutions, and resources to solve individual challenges while offering a collective vision for climate leadership.

The Trump administration's intent to withdraw the United States from the Paris Agreement catalyzed cities across the country to band together and affirm that they will do their part. More than 2,300 cities, counties, states, and businesses representing more than half of the US economy and population signed the declaration "We Are Still In," part of America's Pledge on climate change.⁷ (See sidebar, "America's Pledge.")

"The path to the Paris Climate Agreement runs through the Chicago Charter."

— Rahm Emanuel, mayor of Chicago

The momentum behind the "We Are Still In" declaration reflects the support seen across the United States for maintaining the commitments made under the Paris Agreement. The 2018 Chicago Council Survey of Americans' views on US foreign policy found that 68 percent of the US population continue to favor US participation in the Paris Agreement.¹⁰ The 2017 survey also found that "46 percent of Americans say that climate change is now a critical threat facing the United States; while still not a majority, this view reflects the highest point of concern recorded by the Chicago Council Survey" (see Figure 1).¹¹ An additional 32 percent of Americans saw climate as an important but not critical threat.

Canadians, for their part, are also clearly concerned about climate change; 20 percent of Canadians rate it as a top-three national issue, more than in Australia, France, Germany, Japan, the United Kingdom, or the United States.¹² Citizens of Mexico have historically demonstrated high rates of concern about climate change, with 62 percent of the population rating it as a "very serious" threat in 2012.¹³

The North American Climate Summit was the first climate-focused meeting of mayors after the withdrawal of the United States from the Paris Agreement. The summit demonstrated that North American cities are committed to climate action and to the delivery of the original US commitment to the Paris Agreement. It was a unique gathering, providing cities with the opportunity to sign the Chicago Climate Charter and make individual commitments based on their capacities and priorities. Recognizing that not every action makes sense for every city, and that different contexts, geographies, and other external factors determine the effectiveness of policies, some cities customized their commitment regarding areas such as buildings, green spaces, mobility, reducing carbon emissions, and waste management. In other words, the North American Climate Summit gave cities a pathway to make commitments to drive climate action in areas that were appropriate to them individually while also committing to ongoing collaboration with other local, regional, and federal agencies.

SIDEBAR

America's Pledge

America's Pledge was launched in 2017 with the support of Bloomberg Philanthropies as a concrete way to demonstrate and coordinate continued US leadership on climate change. The response has been staggering. In its Phase 1 Report, it is noted that if the collective set of institutions that signed the pledge "were a separate country, they would make up the third largest economy in the world, larger than Japan or Germany."⁸

Unfortunately, these efforts will not be enough to meet US commitments to reduce emissions without help from the federal government. The initiative aims to lay the foundation for future re-engagement of the federal government, underscoring the necessity of federal-level action to achieve the deep decarbonization goals the United States must undertake in the long term.

The full text of the pledge is included below.⁹

We, the undersigned mayors, county executives, governors, tribal leaders, college and university leaders, businesses, faith groups, cultural institutions, healthcare organizations, and investors are joining forces for the first time to declare that we will continue to support climate action to meet the Paris Agreement.

In December 2015 in Paris, world leaders signed the first global commitment to fight climate change. The landmark agreement succeeded where past attempts failed because it allowed each country to set its own emission reduction targets and adopt its own strategies for reaching them. In addition, nations—inspired by the actions of local and regional governments, along with businesses—came to recognize that fighting climate change brings significant economic and public health benefits.

The Trump administration's announcement undermines a key pillar in the fight against climate change and damages the world's ability to avoid the most dangerous and costly effects of climate change. Importantly, it is also out of step with what is happening in the United States.

In the United States, it is local, tribal, and state governments, along with businesses, that are primarily responsible for the dramatic decrease in greenhouse gas emissions in recent years. Actions by each group will multiply and accelerate in the years ahead, no matter what policies Washington may adopt.

In the absence of leadership from Washington, states, cities, counties, tribes, colleges and universities, healthcare organizations, businesses and investors, representing a sizeable percentage of the United States economy will pursue ambitious climate goals, working together to take forceful action and to ensure that the United States remains a global leader in reducing emissions.

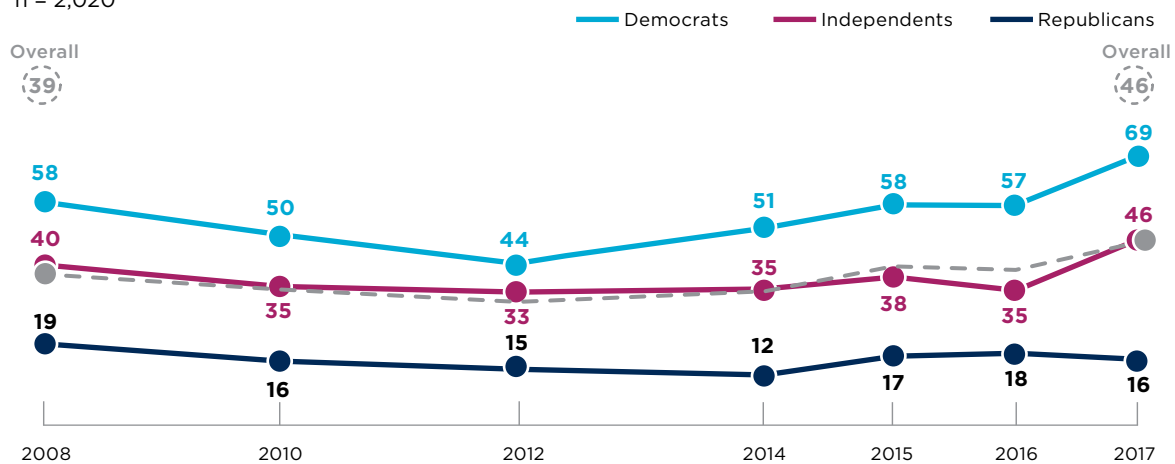
It is imperative that the world know that in the United States, the actors that will provide the leadership necessary to meet our Paris commitment are found in city halls, state capitals, colleges and universities, investors, and businesses. Together, we will remain actively engaged with the international community as part of the global effort to hold warming to well below 2 degrees Celsius and to accelerate the transition to a clean energy economy that will benefit our security, prosperity, and health.

Figure 1

Climate change as a threat

Below is a list of possible threats to the vital interest of the United States in the next 10 years. For each one, please select whether you see this as a critical threat, an important but not critical threat, or not an important threat at all: **Climate change** (% critical threat)

n = 2,020



Source: 2017 Chicago Council Survey

City leaders are responsible for ensuring community well-being, safety, and economic vitality. To do so, it is imperative that leaders prepare for, mitigate, and adapt to climate change in their cities. This report lays out the commitment areas that cities signed at the North American Climate Summit: broad principles of shared responsibility, collective action, accountability, and inclusive transitions. It also details specific areas in which cities of all sizes can make a difference, identifying projects that are accessible and relatively easy to implement as well as larger, more ambitious projects for which cities can begin to prepare. Finally, this report captures highlights and key takeaways from the conversations and strategies to keep up the momentum and ensure successful outcomes as the summit's one-year anniversary passes. ■

“We may disagree on how to solve the problem, but at least we can agree there is a problem. . . . The thing you want to make sure of is that your kids and their kids are going to be okay.”

— President Barack Obama at the North American Climate Summit

SIDEBAR

Remarks by President Barack Obama: “The Work Is Done on the Ground”

“Realizing you are a part of a broader movement can inspire a country, and that in turn can inspire the world.” —President Obama at the North American Climate Summit

President Barack Obama addressed the mayors at the North American Climate Summit, stressing that the work they are on doing on climate action transcends ideology and politics. He noted that every aspect of policy that concerns the world—national security, migration, the economy—is profoundly affected by climate change. Yet our climate is changing faster than our ability to address it. Global carbon emissions are on the rise: 2015 was the warmest year on record, he recalled, until 2016 was the warmest year.

That is why President Obama made climate action a priority during his presidency. It was a practical understanding supported by science: if the world does not get this issue right, then just about every other issue will be adversely affected. During Obama’s administration, the United States doubled its production of clean energy and changed how it uses energy. President Obama set the first national standard for the amount of carbon pollution that can be released into the air.¹⁴ He worked with dozens of countries to set ambitious climate targets, making history when he formally signed the Paris Climate Agreement with President Xi Jinping of China in August 2016.¹⁵

President Trump’s plan to withdraw the United States from the Paris Agreement has prompted new kinds of leadership. “Cities and states and businesses and universities and nonprofits have emerged as the new face of American leadership on climate change,” President Obama told the audience at the North American Climate Summit. While national governments can set the targets

and standards around which markets respond, he acknowledged that the work is ultimately done on the ground. Cities across the United States, both large and small, have adopted more sustainable building and transportation policies. The power sector is on track to meet more ambitious targets set a few years ago. He called upon everyone to do whatever possible to make an impact.

President Obama emphasized that we live in a time where everything is contested, where it is easy to feel discouraged and people are talking past each other. He too met resistance at every step of the way, being told that his actions would hurt jobs and depress economic growth. But as his administration took action, the country’s economy grew. ■



Photo credit: Patrick L. Pyszka/City of Chicago

PART I: KEY COMMITMENTS FOR ALL CITIES

As of December 2018, more than 70 cities have signed the Chicago Climate Charter and its seven crucial strategies for climate-related policies.¹⁶ These commitments make clear that while each city and mayor will have their own timelines, resources, and specific projects, they all agree that addressing climate change is critical to their duty to protect residents and enhance livability. These commitments also make clear that city actions can have a significant impact on the global challenge of climate change.

The commitments of the Chicago Climate Charter are comprehensive and inclusive. They recognize the need for cities to act; acknowledge the critical roles of other levels of government, the private sector, and residents themselves; and state plainly that climate change is real—as is the obligation to address it. Together, adhering to these commitments can create thriving, low-carbon cities that provide for their residents today and into the future.

Each commitment, expanded upon in the sections below, represents a real step that North American cities are taking to demonstrate leadership in combating climate change.

- Reduce greenhouse gas emissions by a percentage equal to or exceeding their home nation's commitment
- Track, measure, and report the data
- Empower cities through collective action
- Engage all communities, especially nontraditional voices, in policy formation
- Integrate climate risks into infrastructure and emergency planning
- Support policies and actions that incorporate the cost of carbon and support those most affected
- Partner broadly for robust solutions

The intent of the general commitments is for cities to focus their efforts in collaboration with others around common, mutually agreed-upon priorities, rather than replicating past or preexisting efforts.

Reduce greenhouse gas emissions

Chicago Climate Charter Commitment: Achieve a percent reduction in greenhouse gas emissions equal to or greater than our nations' Nationally Determined Contributions to the Paris Agreement in my city.

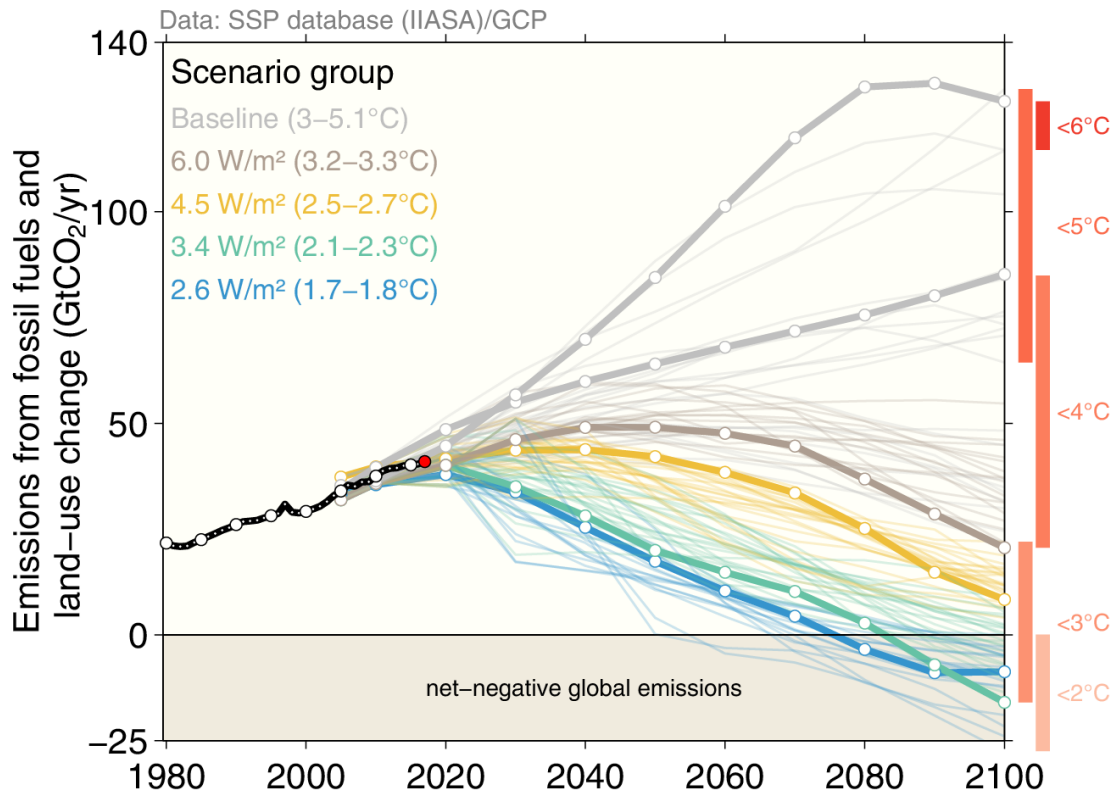
How different cities reduce greenhouse gas emissions will be determined by their contexts, geographies, and other external factors. But no matter the approach, each city recognizes that there is a health imperative, an economic imperative, and an existential imperative to reducing emissions.

The timing is critical, and the opportunity to make a real difference has never been more urgent: cities must begin reducing emissions to avoid the worst consequences of climate change. Based on historical analysis, researchers from the Potsdam Institute for Climate Impact Research have found that the planet is at risk of passing a critical tipping point “where major and largely irreversible changes to the [Earth] are triggered” if its global temperature is not lowered by 2020.¹⁷ Because carbon dioxide (CO₂) emissions contribute to the rise of the planet’s temperature, the report continues, “declining carbon emissions after 2020 is a necessity for meeting the Paris temperature limit of ‘well below 2 degrees’” (see Figure 2).

Even with all the commitments made by countries and cities worldwide, concern lingers that the world is not on track to achieve temperatures well below the 2 degrees temperature threshold.

Figure 2

Temperature rise scenarios depending on emissions reductions



Global Carbon Project
Source: Robbie Andrew (CICERO)

This chart shows potential pathways for carbon emissions and global temperature based on either baseline actions (gray) or more aggressive mitigation strategies (colors). The key insight is that delaying the peak in human emissions, even for a few years, will have a radical impact on our ability to keep global temperature rise within a safe range. We need bold strategies to transform our economy and cut emissions to hit the goals outlined in the Paris Agreement.

Encouragingly, from 2014 to 2016 worldwide carbon emissions from fossil fuels remained flat—but 2017 saw emissions rise 1.6 percent over the previous year, and 2018 is projected to see an additional rise of 2.7 percent.¹⁸ Even in the face of these rises, there is reason for optimism: while historically an increase in economic prosperity has been accompanied by an increase in carbon emissions, at least 35 countries, including the United States, have delivered the “decoupling” of carbon emissions and economic growth.¹⁹ (See Figure 3.) Unfortunately, while the United States has seen a general trend toward decoupling since 1990, the most recent years saw CO₂ emissions grow with GDP.

Cities, states, and countries have a wide variety of tools, policies, and new technologies at their disposal to achieve these and other signs of progress in reducing emissions and deliver environmental impact while maintaining economic vitality. Mayors are often asked if they will focus their city’s limited resources on mitigation, tackling the root causes of climate change and working to reduce emissions, or adaptation, making changes to withstand climate change and increase resilience. The answer is that mitigation and adaptation are interdependent—and they both should be priorities. Therefore, the portfolio of a city should include the two strategies simultaneously, focusing on where they might overlap, as not every activity delivers shared results.

Track, measure, and report the data

Chicago Climate Charter Commitment: Quantify, track, and publicly report my city’s emissions, consistent with standards and best practices of measurement and transparency.

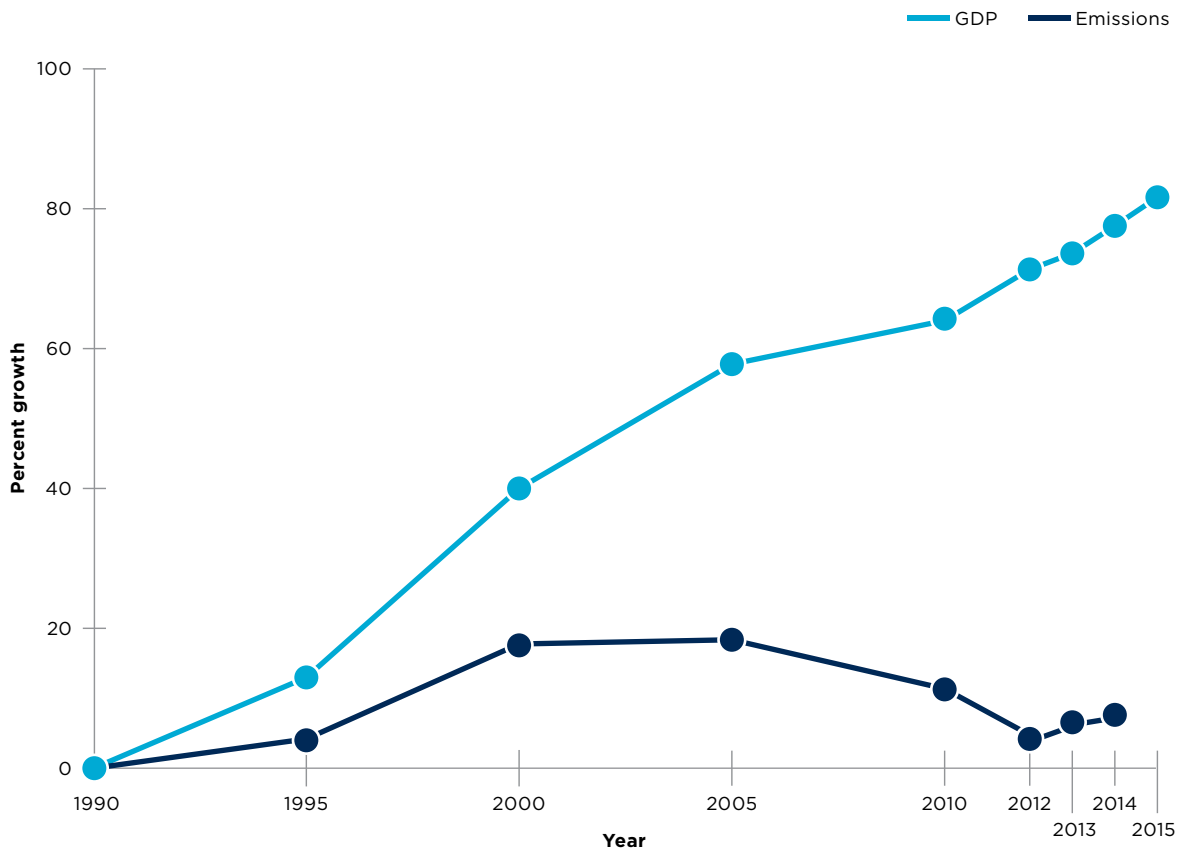
It is essential that cities agree to quantify, track, and report their emissions data through existing platforms. Data analytics can help identify the most effective policy interventions and ensure that investments yield intended outcomes. Cities need to employ the rigor of the scientific method, collecting data, altering variables, and repeating the process until desired outcomes are achieved. Without consistently quantifying and tracking data, efforts to reduce emissions become anecdotal and symbolic rather than evidence based.

Fortunately, a number of resources and tools already exist for cities to establish a baseline for tracking their emissions. The GHG Protocol for Cities, also known as the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), is a joint project by ICLEI-Local Governments for Sustainability, the World Resources Institute, and C40 Cities Climate Leadership Group. The GPC provides a global reporting standard to consistently measure and report greenhouse gas emissions and develop climate action plans.²⁰ Other examples of tracking and reporting tools include the ENERGY STAR Portfolio Manager, the CDP (formerly the Carbon Disclosure Project), and the Environmental Protection Agency’s Air Emissions Inventories. And the World Council on City Data is an open data portal that uses cutting-edge visualizations to compare, benchmark, and forecast trends.²¹

Collecting and tracking data is only one aspect of the commitment; cities must also report and publicize their data. This step is crucial, as it holds cities accountable for their actions and helps other cities and scholars learn what actually works. According to Rocky Mountain Institute, cities report that energy benchmarking and disclosure for large properties has contributed to reductions of up to 2.4 percent in building energy use per year.²²

Figure 3

Cumulative growth in US GDP and CO₂ emissions, 1990–2014



Note: Figure shows growth of GDP and emissions using baseline year 1990.

Source: World Bank.

Empower cities through collective action

Chicago Climate Charter Commitment: Advocate alongside other mayors for greater local authority and flexibility to develop policies and local laws that empower cities to take aggressive action on climate.

This commitment is particularly important in the United States because various types of policies are formed at different levels of government. For example, the federal government can reduce reliance on oil, improve the electric grid, and set uniform standards for appliances and vehicles. State governments can regulate building codes and the electricity industry, as well as offer incentives for using green technologies. And city governments have jurisdiction over zoning, planning, building permits, and localized approaches to improving efficiencies.

“It is a myth to think that there is one particular level of government that is responsible for delivering the Paris Agreement. There is a shared responsibility of every single individual on this planet. A shared responsibility, and a shared opportunity to do the right thing.”

—Christiana Figueres, vice chair of the Global Covenant of Mayors

There is much that cities can do within their jurisdictions—and all cities can learn from one another regardless of size, the scale of their ambitions, or where they are located along their journey to sustainability. That said, cities need active partnerships to aggressively create momentum and deliver on goals with or without national support. City networks such as C40, the Global Covenant of Mayors, Metropolis, and United Cities and Local Governments make facilitating this kind of collective action easier than ever. And while all carbon-reduction efforts benefit society, the impact can be amplified by aligning actions among multiple cities and with other levels of government. The desired outcomes can only be achieved by working together at scale.

Engage all communities, especially nontraditional voices, in policy formation

Chicago Climate Charter Commitment: Recognize and include in policy formation voices that have not been traditionally a part of discussions regarding climate change, including women, racial and ethnic minorities, indigenous peoples, persons with disabilities, and socially and economically marginalized communities.

Climate change has been found to disproportionately affect the world’s most vulnerable populations, in both rural and urban areas. According to the World Bank, poor people are often forced to live in environmentally unsafe areas, such as steep hillsides, flood plains, or polluted sites.²³ Such neighborhoods suffer from inadequate water and sanitation facilities. Beyond increasing these communities’ exposure to hazards, climate change also affects vulnerable groups by decreasing their ability to cope with and recover from the damage.²⁴ Climate change displaced an estimated 23.5 million people from their homes in 2016 alone, and new studies warn that climate change will have a growing impact on human displacement in coming years.²⁵

Some cities are already taking action to protect vulnerable populations and include them in the conversation. In response to increased water scarcity, Mexico City proposed the establishment of water catchment systems on the buildings and houses of those with the most limited access to water. By listening to the concerns of those made most vulnerable, the city increased its resilience to environmental stress.²⁶

As stewards of long-term success on climate action, cities have a responsibility to lead and engage all communities in policy formation. But too often the leadership on climate action has been limited to policymakers, environmental scholars and scientists, and businesses and organizations working in related fields. By proactively engaging more diverse stakeholders in the conversations and policymaking, cities will gain a better understanding of how climate policy will affect everyone. The Chicago Community Climate Forum, which was held the night before the summit, is a good example of an effort to drive community-focused dialogue and commitment to climate solutions.²⁷

Integrate climate risks into infrastructure and emergency planning

Chicago Climate Charter Commitment: Incorporate the realities of climate change and its impacts into local infrastructure and emergency planning through strategies of adaptation and resilience.

As a result of climate change, there have been more heatwaves, droughts, wildfires, intense storms, and floods than ever before. In addition, sea levels continue to rise. The devastation that these events impose on cities can be better managed if the infrastructure were designed to sustain the pressures.

A city's geographic location determines which climate events are priorities, so the Chicago Climate Charter leaves it up to each city to identify which infrastructure investments are needed rather than requiring all cities to agree to uniform projects. The key here is that cities can prevent an extreme weather event from turning into an urban catastrophe by incorporating resilience strategies into infrastructure and emergency planning. A number of cities have designed and constructed parks that can be converted into flood plains in times of emergency. For example, Washington, DC, built a flood levee in the Potomac Park in the 1930s,²⁸ and New Orleans has unveiled a new plan to use parks for stormwater processing.²⁹ Other forward-looking cities have also invested in resilient, green infrastructure to help manage stormwater and prevent or withstand flooding, increasing green space and improving urban cooling in the process.

“The lowest-income groups take the longest to recover.”

—Mark Watts, executive director of C40

Support policies and actions that incorporate the cost of carbon and support those most affected

Chicago Climate Charter Commitment: Support strong regional, state, and federal policies and partnerships, in addition to private-sector initiatives, that recognize the fiscal and social costs of carbon, incentivize all actors to take climate action, and ensure a just transition for those impacted by the transition to a new economy.

The effects of carbon emissions and climate change, from changes in the weather to rising sea levels, are found throughout the economy and in every city, yet they are not typically linked to their underlying causes. By recognizing the fiscal and social costs of carbon, policies and actions can more effectively value the reduction of emissions, driving more comprehensive and inclusive results for residents. Signatory cities have committed to building on this critical recognition of the costs of carbon, accelerating a transition to a low-carbon economy.

Through the Chicago Climate Charter, cities commit to supporting policies and partnership across all levels of government as well as across sectors that recognize and incorporate a complete picture of the effects of carbon emissions. City action can create pathways that will incentivize individuals, businesses, and governments to take clear actions to address climate change. As previously mentioned, cities have many tools at their disposal. Some of those tools, such as accelerating permits for energy-efficient construction or offering zoning changes to housing built in walkable or transit-served neighborhoods, incur no additional cost.

The shift away from coal and toward natural gas or renewables offers an example of how cities can ease the transition toward a low-carbon economy. Moving away from coal reduces carbon emissions and local air pollution—noticeable benefits that are shared by many. At the same time, however, communities with economies anchored in coal are suffering, as coal plants close and jobs permanently disappear. While jobs in the clean-energy sector have generally been growing faster than the overall economy, there is often a mismatch in the geographies that are losing jobs and those that are gaining. Cities can help ensure a just transition by supporting programs that train and employ workers in these new, growing industries, supporting families and communities alike.

Partner broadly for robust solutions

Chicago Climate Charter Commitment: Partner with scientific and academic experts, community organizations, businesses and investors, environmental justice groups, environmental advocates, and other allies to develop holistic climate mitigation, adaptation, and resilience solutions.

A comprehensive approach to climate action is an integrated strategy where everyone has a role to play. A 2016 CDP report analyzed 533 cities, reviewed their respective strategies, and disclosed how they collaborated with a wide range of stakeholders to reduce emissions.³⁰ The overall thrust of the report was that cities cannot achieve climate reductions without the help of partners and the resources at their disposal.

Businesses, for instance, can enact policies and promote new behaviors within their own operations. They can also help with project financing, new technology development, and project implementation. Universities can adopt carbon-reduction practices as well as support policy development through applied research. And hospitals, nonprofit organizations, and individual households can share the responsibility of action and be champions throughout communities and neighborhoods. ■



Photo credit: Brooke Collins/City of Chicago

PART II: SPECIFIC CITY COMMITMENT AREAS

The largest sources of carbon emissions in cities worldwide are the heating, cooling, and operating of buildings, as well as transportation. Given that all cities, large and small, face similar opportunities to reduce emissions, the Chicago Climate Charter prioritized six specific commitment areas that cities can customize to fit their needs and meet their goals. To be sure, the cities vary in size, geographic determinants, and capacity. Cities with established public transportation infrastructure, for example, face different challenges than cities without public transit options. A city that gets its electricity from coal will likely prioritize shifting to renewable energy sources.

Mayors at the North American Climate Summit were asked to sign one or more specific commitment areas and customize their own strategic plans for delivering on the goal. Those areas included accelerating renewable energy use, improving buildings and infrastructure, diversifying mobility options, providing sustainable transportation, promoting effective waste management, and expanding green space and natural ecosystems.

Commitments such as these are expected to be attainable and realistic while also ambitious and transformational. All six were drafted with the idea of being able to commence implementation within the next two years. They are meant to drive interest and impact but not be impossible or unrealistic, particularly given cities' diverse geographies, densities, economic climate, and politics. Last, cities can measure their impact using common, transparent metrics that would be regularly reported. Each of the specific commitment areas are guidelines around which each city can develop its own action plan, including collecting data on the plan's impact, the challenges the city perceives in adopting new policies, and examples of solutions other cities are implementing or could implement to achieve their goals.

Accelerate renewable energy use

Chicago Climate Charter Commitment: Accelerate municipal use of renewable energy and work to deliver affordable renewable energy access in all communities.

Most electricity in the United States comes from coal, natural gas, nuclear power, or hydropower.³¹ Efforts to help cities diversify their energy sources, such as by developing reliable and affordable mechanisms to use solar, wind, and other renewable sources of energy, are gaining momentum. Chicago has announced that by 2025, all city buildings will be powered by 100 percent renewable sources.³² Many other cities have made similar commitments—and, in fact, some have already reached the goal. Aspen, Colorado, for example, has already made the switch.³³ To keep the momentum going, the Sierra Club's Ready For 100 initiative has challenged 100 US cities to commit to 100 percent clean energy.³⁴

Cities can do many things to accelerate the use of renewable energy. Depending on their state’s utilities regulations and supplier options, they may be able to buy clean power directly from suppliers or work with companies that buy renewable-energy credits. They can also require systems to be “solar ready.” Or they can retrofit city assets to improve savings and then use those savings to invest in community solar programs.

Cities can also incentivize private-sector companies to adopt renewable policies. This initiative may entail encouraging companies to look at their entire value chain and supporting efforts to improve production practices at their local sources. Mars Wrigley, for example, was the first company to sign the RE100, a collaborative, global initiative that unites more than 100 influential businesses committed to 100 percent renewable electricity, as well as working to massively increase demand for—and delivery of—renewable energy.³⁵ Since then, Mars Wrigley has begun installing a new solar garden in San Bernardino and an enormous wind farm in Texas that is the size of Paris, France.

Transitioning to a renewable energy economy will require that employees receive additional training and skills development to fill new roles in revamped industries. Therefore, cities should invest in the curriculum and job-training programs and incubators that offer pipelines for talent and growth in the private sector. Cities should also be prepared to experiment with new models for renewable energy deployment and use. Community solar arrangements, for example, allow members of a community to subscribe to and share a local solar electric system. Subscribers in turn gain access to solar-generated power or financial credits—even if their homes or businesses are not suitable for solar panels.³⁶

Reduce carbon from buildings and infrastructure

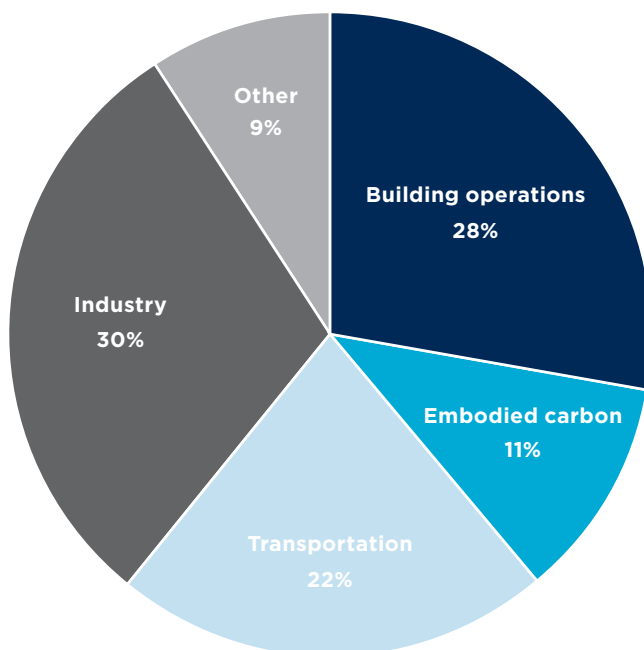
Chicago Climate Charter Commitment: Reduce the carbon footprint of new and existing public and private buildings and infrastructure.

Buildings are the physical manifestations of urban dynamism. They are where business takes place and where residents live, work, learn, and play. Yet in supporting these activities, buildings in cities account for nearly half of all greenhouse gas emissions. In some cities, the number is much higher, at 70 percent or more of all emissions. Globally, building operations and embodied carbon—that is, carbon emitted during material production, construction, and demolition—account for nearly 40 percent of CO₂ emissions (see Figure 4).³⁷ Buildings in the United States rely on a grid that is largely powered by fossil fuels to meet 24-hour, year-round demands. Similarly, oil and gas contribute approximately half of the energy mix in Mexico.³⁸

Since both the population and the economy in the United States are expected to grow, so too will the need for additional buildings.³⁹ Constructing new buildings that are energy efficient can change the trajectory of energy use, particularly in rapidly urbanizing regions. In the United States, according to the Environmental and Energy Study Institute, “If half of the new commercial buildings were built to use 50 percent less energy, it would save over 6 million metric tons of CO₂ annually for the life of the buildings—the equivalent of taking more than

Figure 4

Global CO₂ emissions by sector



Source: © 2018 2030, Inc. / Architecture 2030. All Rights Reserved. Data Sources: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017.

1 million cars off the road every year.”⁴⁰ Buildings in the United States have a life span of 50 to 100 years, sustaining the impact of energy-efficient buildings.⁴¹

However, most of the buildings in American cities have already been built.⁴² Therefore, a focus on retrofitting existing buildings is critical to delivering carbon reductions as well as lowering the operating costs of buildings and, in the process, creating local jobs. Many cities in the United States, including Milwaukee with its Better Building Challenge and Salt Lake City with Project Skyline, have begun retrofitting buildings to improve their efficiency. Notably, the Retrofit Chicago program won the 2017 C40 Cities4Energy award, recognizing excellence in building energy efficiency.⁴³ And New York City announced in September 2017 it would be the first US city to mandate that existing buildings meet fossil-fuel caps, such as “requiring deeper upgrades to boilers, water heaters, roofs and windows on an accelerated 2030 time frame— with sharp penalties for failure to comply.”⁴⁴

City leaders must urgently work toward these goals. With public buildings, they have jurisdiction and can start immediately. With private buildings, they can begin to require energy-efficiency measures and renewable installations. They can also adopt and enforce performance standards by passing legislation that requires buildings to disclose performance and create

benchmarks. (A 2018 Chicago Council report explores the importance of anchoring climate action in building codes and standards. The report provides nine principles for all cities pursuing low-carbon action in the building sector.⁴⁵)

There are a number of other opportunities to reduce the carbon footprint of urban infrastructure. Knoxville, Tennessee, for example, received a \$15 million grant for an “energy makeover.” As part of the process, the city is retrofitting houses, an effort that will generate savings of \$500 per house per year. And by retrofitting all city lights to LEDs, Knoxville is making an investment that will generate other long-term savings as well.⁴⁶

Mayors will argue that the biggest challenge in supporting such initiatives is taxpayer concern over short-term costs, even in cases where the private sector is also investing. Most people are not concerned with infrastructure-related issues until those issues affect their day-to-day lives. Raising and investing funds for infrastructure improvements is always a challenge. If mayors explain that today’s costs will save citizens money in the future, in addition to improving the environment, even climate skeptics might be open to change.

Provide every resident with mobility choices

Chicago Climate Charter Commitment: Provide every resident with safe and accessible choices to walk, bike, or use public transit as a part of my city’s transportation system and land use policies.

After buildings, transportation is the second-largest source of emissions in cities. Most cars, trucks, buses, trains, ships, boats, airplanes, and other motorized vehicles rely on petroleum-based fuels, such as gasoline and diesel, to operate. Providing diverse, safe, and reliable mobility options is essential for reducing carbon emissions from transportation while promoting healthier lifestyles.

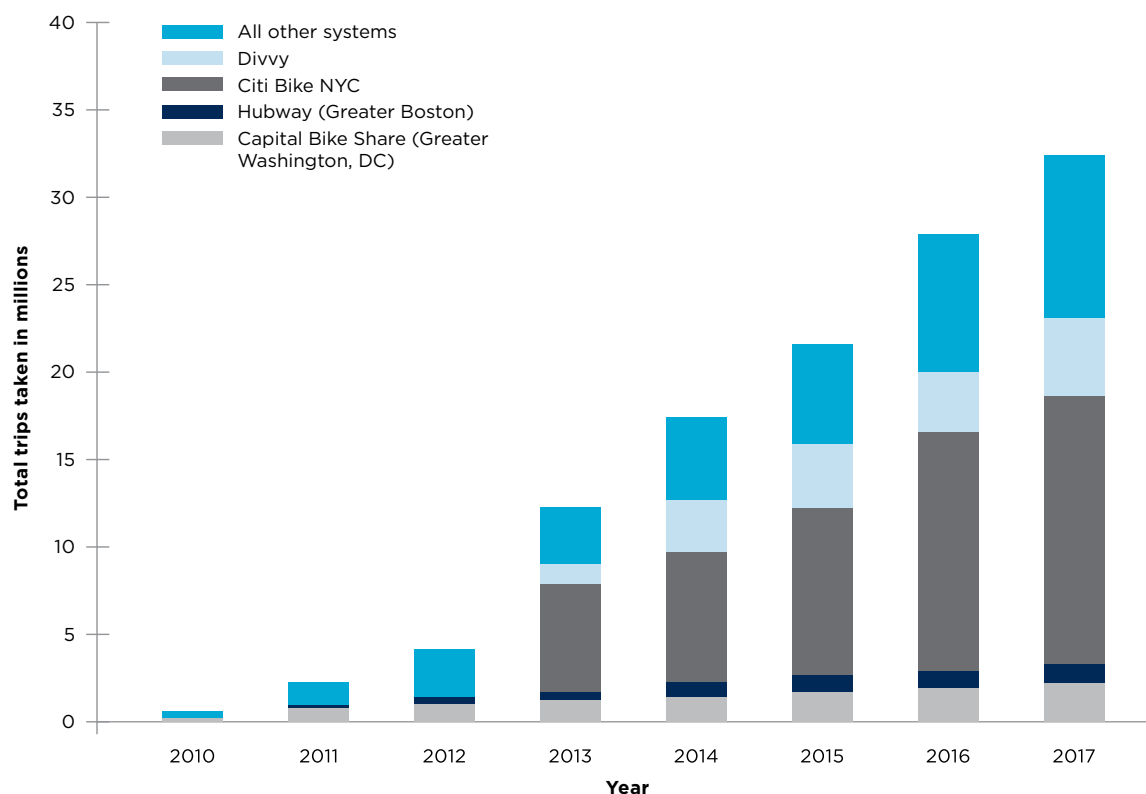
Of course, transportation systems vary by city. Dense cities tend to have more diverse mobility options than cities with urban sprawl. Many cities, in fact, were not designed with the transportation infrastructure needed today, creating a dependence on privately owned vehicles that contribute to congestion and pollution. Austin, Texas, for example, has made a lot of progress on renewable energy, but it has also grown so rapidly that the infrastructure to expand and diversify mobility options has not been able to keep pace.

To reduce carbon emissions, cities should prioritize the adoption of policies for walkability in neighborhoods. This includes continuous and maintained sidewalks, street crossings and signals, pedestrian bridges and underpasses (when necessary), safety and lighting features, and easy access to public transit options.⁴⁷ Older cities have an advantage in this respect. Princeton, New Jersey, for example, was built long before the invention of the automobile, so its narrow roads are lined with historic trees, which provide a welcoming and walkable environment.⁴⁸ Yet older cities also face challenges when updating walkways to support people with disabilities, as well as finding room to expand for bus and bike lanes.

Policies to improve access to and better accommodate bicycles in cities are on the rise. More than 100 US cities, including Austin, Chicago, Denver, and Los Angeles, have established protected bike lanes.⁴⁹ And an increasing number of cities now offer bike-share programs—that is, publicly available systems with at least 10 stations and 100 bikes. In 2010, for instance, there were four bike-share systems in the United States; in 2016, there were 55.⁵⁰ Bike-share ridership has gone up in kind; according to the National Association of City Transportation Officials, 2016 ridership totaled 28 million trips (see Figure 5), on par with the annual ridership of the entire Amtrak system.⁵¹ For its part, Vancouver, Canada, has been pushing for safer, more accessible streets by drastically increasing the number of bicycle lanes. This initiative has helped the city achieve one of its sustainability goals of ensuring 50 percent of trips within the city are taken by foot, bike, or transit.⁵²

Figure 5

Bike-share ridership in the United States since 2010



Source: nacto.org

“US cities and states have emerged as the new face of American leadership on climate change.”

—Anne Hidalgo, mayor of Paris

Diversifying mobility options also includes increasing the availability and improving the reliability of public transportation. Many larger cities already have metro systems in place that can be expanded to additional locations or run more frequently. Other cities can offer bus rapid transit or invest in tramways, which are popular in smaller European cities. To be sure, funding sources, land use, and zoning policies have a significant impact on a city’s ability to deliver new public-transit options in the next few years.

Finally, cities need to consider how to diversify mobility options for people who rely on, and will continue to use, cars. In fact, perhaps the greatest challenge for cities is changing citizens’ habits. Moving people away from their reliance on cars, especially when a significant percentage of commuters and drivers in the city travel from the metropolitan region into the urban center, needs to be a strategic priority. Big cities need to plan regionally with their suburban counterparts as metropolitan areas continue to sprawl. Regional planning should include options to offer alternative modes of transit that are faster, cheaper, and more convenient than cars. In other words, cities will not succeed in this area unless they are prepared to provide a competitive alternative.

Some cities are investing in “smart corridors” rather than increasing the lane capacity of highways. By using technology to develop and operate a traffic corridor, cities can implement dynamically priced user fees to ensure that everyone travels at a consistent (and efficient) speed. Austin, Texas, for example, found that about 30 percent of its downtown traffic is the result of people driving around and looking for parking spots.⁵³ New mobile apps can help people reserve a spot before they arrive downtown.⁵⁴ Furthermore, many city leaders are building park-and-ride stations, which allow commuters to leave privately owned vehicles in a convenient location and then use other mobility options, such as riding public transit, biking, or walking. Investing in last-mile options is critical, and cities should collect data on which routes are the most congested at peak hours to inform their decisions. Other cities have a so-called Complete Streets policy or are developing a Vision Zero strategy.

Finally, while ride-share services were originally expected to help solve congestion, many cities have found that they make gridlock worse.⁵⁵ Nevertheless, forward-looking cities can enact policies to discourage the use of privately owned vehicles in the city center while continuing to support ride-share programs. Santa Monica, California, recently eliminated parking standards in new housing projects while ensuring that there is space for car-share parking and ride-share loading zones.⁵⁶ Austin is also working with a company that is testing a microtransit model where a small bus will operate on a nonfixed route, as determined by the needs of riders it picks up along the way.⁵⁷

City leaders and planners alike are enthusiastic about the future of urban mobility. However, the ability to raise funds and secure public support is often a challenge. Cities are encouraged to explore successful adoption methods with other cities to gain insights into overcoming such hurdles. Some cities are exploring how to replace the much-needed revenue obtained through parking fees with other sources if private parking decreases. In Chicago, for example, Tax Increment Financing is an innovative financing tool to promote public and private investment in transit and infrastructure.⁵⁸

Provide sustainable transportation in public and private vehicles

Chicago Climate Charter Commitment: Adopt policies and investments that reduce or eliminate the carbon footprint of public transit systems, my city's own vehicle fleet, and privately owned vehicles.

The world is experiencing a revolution in transportation options. Vehicles are among the highest sources of pollution in cities as emitters of carbon from internal combustion engines—but also as noisemakers.⁵⁹ Fortunately, city leaders have several tools at their disposal to reduce the carbon footprint of transportation.

Through policies, city leaders can prohibit the use of high-emitting vehicles in their cities. For example, Paris, France, declared in October 2017 that it will “banish all petrol and diesel vehicles from the city center by 2030.”⁶⁰ Such actions, combined with increasing electric vehicle infrastructure and adding charging stations in the urban center, incentivize corporations and consumers to change their habits. Austin already has a stretch of road dubbed “Electric Drive” because of the number of charging stations available.⁶¹

Cities can also upgrade and shift their public transportation fleet and purchase only low- or zero-emission vehicles. San Francisco, for example, switched all of its firetrucks to renewable diesel and saw an immediate reduction in energy use of 50 percent—with no infrastructure changes at all.⁶² In addition, San Francisco transitioned its ferry fleet to renewable diesel in early 2018.⁶³

A growing concern for cities is how they should seek to address the rise of the autonomous vehicle. Managed effectively, the rise of autonomous vehicles has the potential to deliver on environmental sustainability while addressing challenges around efficient urban mobility. Alternatively, they could be a net harm for cities. Their trajectory is still unknown, and mayors are grappling with how much to invest in preparing for a technology that may take decades to reach its full potential while also considering challenges related to equity and access.

Promote effective waste management

Chicago Climate Charter Commitment: Reduce the carbon footprint of the solid waste system.

Much of the waste from North American cities ends up in landfills, which emit a significant amount of methane.⁶⁴ A 21st-century city, however, may not need a landfill. Therefore, cities need to move toward zero-waste societies.

According to the C40, “When waste actions beyond disposal are taken into account, including waste collection and transportation, recycling, carbon storage and chemical fertilizer offset from composting, and fossil fuel offsets from energy recovery, the contribution of these actions in addition to the methane reduction and avoidance from landfills can reduce 10 to 15 percent of the city’s [greenhouse gas] emissions.”⁶⁵ Small actions at every level can be the entryway to larger actions that create a ripple effect.

The city of Auckland, New Zealand—which won the C40 2017 Award for Cities4ZeroWaste—is charging residents for landfill waste, yet providing recycling and composting at no cost. The aim is to not only incent residents to decrease their landfill garbage but also better inform them of the decisions they make. Other cities are improving their recycling programs with increased capacity to pick up, process, and sort waste, as well as exploring other options for vendors that can’t handle the loads or won’t serve multiunit buildings. Citywide composting programs are gaining momentum, as are opportunities to carefully burn waste and create electricity. Also notable are the city-level bans on plastic bags, plastic bottles, and Styrofoam containers.⁶⁶ On such issues, cities need to lead by example.

Ambitious cities are planning to be zero-waste, meaning that nothing will be sent to a landfill. The city of Missoula, Montana, for example, has a Zero-by-Fifty plan, with a robust citizen-engagement process, to reduce the disposal of solid waste. Missoula’s plan includes access to reliable services, improvements to infrastructure, education for residents, and policy enforcement.⁶⁷

Cities also have a significant role to play in working with waste on major construction sites, particularly with mass urbanization in cities and the enormous amount of construction waste that is generated. Honolulu, Hawaii, encourages and incentivizes the reuse of building materials, such as wood or concrete debris, for other projects.⁶⁸ Imperial Beach, California, mandates that 65 percent of construction waste be recycled if the project costs more than \$25,000, project area is greater than 250 square feet, or the project is sponsored by the city or its redevelopment agency.⁶⁹

Finally, cities can encourage manufactures to take on a share of responsibility by developing “take-back” programs. Electronic manufacturers, for example, should support efforts to recycle electronics. Manufacturers of pharmaceuticals, paint, mattresses, furniture, and other items that are commonly dumped can also be tapped to participate in developing and promoting effective waste management programs.

Invest in green space and natural ecosystems

Chicago Climate Charter Commitment: Invest in natural climate solutions such as tree canopy, vegetation, and coastal restoration that conserve, restore, and improve natural ecosystems that increase carbon storage.

One of the greatest tragedies of the rise of cities is the destruction of green spaces that resulted from the construction of expanded roads, high-rise buildings, parking lots, and plazas. Dubbed “concrete jungles,” cities today have an environmental and public health imperative to restore green spaces—including nature, trees, parks, and clean waterways—in urban areas. Such green spaces are essential for improving air quality, providing shade and cooling cities, naturally managing stormwater, offering additional community gathering spaces, and promoting well-being. Indeed, a growing body of research is providing scientific evidence that exposure to nature improves one’s health and happiness.⁷⁰

City leaders can take on the greening of their cities in many ways. Planting more trees and vegetated areas in all communities, not just tourist corridors, is a first step. Some cities are developing extensive open space and green infrastructure investment plans for longer-term strategies. In the Chicago region, the Morton Arboretum, one of the region’s largest public gardens and research facilities, conducted a study of the local urban forest. They found that the tree canopy in the seven-county region covers about 21 percent of the land area, storing about 16.9 million tons of carbon, removing about 18,000 tons of pollution from the air each year, and reducing residential energy costs by about \$44 million per year.⁷¹ ■

PART III: MAINTAINING MOMENTUM

In December 2017, mayors from across North America and beyond met in Chicago to accelerate action on climate change. There, each mayor committed to the Chicago Climate Charter—and from that shared foundation, a collective platform for action has been built. While the range and depth of specific commitments varies by city, there are common starting points for action that all participants recognized.

Cities play a critical role in the transition from a global economy driven by fossil fuels to one that is built on an inclusive and sustainable environmental and economic foundation. Individual cities, however, will not be able to mount the scale of change necessary on their own. Therefore, cities need to draw on the best practices of others, focus on what works, and act collectively to make a meaningful and lasting impact.

Throughout the North American Climate Summit, mayors—as well as their teams and partners—dove headfirst into the challenges ahead and the opportunities that must be seized. Critical lessons emerged during the summit that can keep the momentum going. The specific recommendations, explored in detail below, can be summarized in three key principles: build expertise and knowledge, deepen the impact, and work collectively.

Build expertise and knowledge

- **Obtain technical assistance.** Many resources and organized analyses can help jump-start cities' efforts to mitigate and adapt to climate change. Learn from other cities and partners that are doing so successfully.
- **Measure the data.** Use data to identify the biggest-ticket items. Tools that help cities use that data to identify priorities to invest resources are particularly helpful. Rocky Mountain Institute's work with San Francisco offers a good model of this work.⁷²
- **Track and report impact.** Engage on existing platforms for tracking the impact of efforts and share those findings both internally and with the public. Guadalajara's efforts to strengthen air-quality monitoring, and then share the data, offers a good example of this kind of effort.⁷³
- **Involve communities most affected.** Too often policies are made without consulting the most affected populations. Minorities, people of color, low-income populations, women, and other vulnerable residents need to be involved in shaping policies. Doing so ensures that policies serve the most vulnerable populations. Recent pilots and studies of participatory policymaking around climate adaptation show that this process can be challenging but offers strong benefits when done correctly.⁷⁴

Deepen the impact

- **Double down on current actions.** First and foremost, scale the actions already underway. If there is already public support for an action, then strengthen the city's commitment to it and increase its impact.
- **Focus on priority sectors.** Push for second- and third-generation actions that build on previous steps to deepen impact in priority sectors. For example, energy benchmarking followed by added evaluation can lead to concrete action.
- **Deliver now with residents.** Ensure public engagement, transparency, and communications. Link local actions to broader trajectories to make the pathways visible and relevant, and partner with local leaders and problem solvers. Dallas, for example, has pursued several local partnerships to build the city's sustainability and limit the impact of climate change.⁷⁵
- **Communicate and build awareness.** Tell the story of the urgency for climate action—and the opportunities and impact that residents will see. Support will increase if the public understands the benefits of a city's action on climate. In the United States, record percentages of the population see climate change as a major threat, indicating the long awareness campaign may be yielding fruit.⁷⁶

Work collectively

- **Create metro-region plans.** The carbon challenge and opportunities do not begin and end at the boundaries of a city. As such, work to create metro-scale priorities and impact through metro-region plans. Addressing challenges in transportation systems and infrastructure as well as electricity, waste, and water requires going beyond city boundaries.
- **Pursue collective action.** Look for ways to collaborate with other cities in the region to achieve greater impact. Grid decarbonization, for example, is critical in most parts of the country, but electricity is largely regulated at the state level in the United States. Still, through actions such as coordinated engagement in the local electricity regulatory process and collective purchasing of renewable electricity, cities can work together to drive a transition to cleaner electricity.
- **Advocate for national reforms.** Decarbonization requires actions at all levels of government; cities cannot do it alone. Advocate for policies and funding that will create low-carbon national systems. Many cities can wield their own economic and political clout. In the United States, for example, the top 10 metropolitan areas account for more than one-third of the national GDP.⁷⁷
- **Engage in climate coalitions.** Strengthen and engage with existing resources—including America's Pledge, C40, Cities for Action, the Urban Sustainability Directors Network, the World Resources Institute, and regional and local networks of cities—for both best practices and opportunities for shared impact, such as joint procurement. ■

CONCLUSION

“We need to demonstrate that the future we are trying to create is a better pathway.”

—Mitch Landrieu, former mayor of New Orleans and president of the US Conference of Mayors

As dire climate predictions continue to pile up—including the latest Intergovernmental Panel on Climate Change report,⁷⁸ as well as the Fourth National Climate Assessment⁷⁹—it is clear that climate change will have a stark impact on the environment, economic activity, transportation, and human welfare. Beyond pulling out of the Paris Agreement, the Trump administration has signaled more broadly that climate change is not a priority at the national level. As such, cities are crucial to achieving the goals of the Paris Agreement.

The North American Climate Summit was the first step toward coordinated stakeholder action after the withdrawal of the United States from the Paris Agreement, and it has generated broad momentum for city-level action on climate. The importance of the summit, however, will be determined not by the number of signatories but rather by the extent to which stakeholders bring accountability and energy to implementing their commitments. Cities have the ability—and the responsibility—to serve as global leaders on issues related to climate.

Turning the tide on climate change will take time, but we need to start somewhere. The North American Climate Summit provides a starting point for coordinated and forceful action. We, as citizens, have a duty to strive toward a better tomorrow for cities around the world—a sentiment reinforced by the fact that cities continue to sign the principles and commitments of the Charter. The road to achieving the goals of the Paris Agreement is long, but it runs through the Chicago Climate Charter. ■

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