

NASHVILLE CIVIC DESIGN CENTER

Celebrating *The Plan of Nashville*, Fifth Year Anniversary

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[Opening remarks] What I'm hearing about what your Mayor and what all of you have done in a short period of time is really impressive. From LEED ND [Neighborhood Development] neighborhoods to bus rapid transit on their way to a lot of your vision of where you're going. And I've got to tell you that vision is often times very controversial and challenging, you're scratching your head and you're wondering if it's the direction you should go, and I can tell you, after having worked for our Mayor for the past 16 years, it's totally worth it. It's worth the controversy, it's worth the challenges, and I often times scratch my head and wondered if that was the direction we should go and every single time, our Mayor's vision really turned into a really fantastic result that really garners so much attention and engagement across many different fields.

So, I do want to recognize, I know the Mayor has now left, but I'm looking forward to talking to Jenna Smith. We just launched an urban sustainability director's conference--Oh! You are here! I could have really been brown nosing, I didn't know you were still here! [Laughter] So sorry about that. But, Jenna, being the new sustainability director, it's very exciting. We just launched a new sustainability network that's funded by the Surdna Foundation and Home Depot Foundation. We have 67 cities in the US and Canada that are partnering. We just had our first meeting about two months ago and really, the idea is, as we're pursuing sustainability, there are absolutely common issues that we can all ascribe to, be challenged by, and learn from one another. No matter how big or how small your city is, a lot of the same issues are the same. It doesn't matter if you're a suburb, you still have roads, you still have sewer infrastructure, you still have air and water pollution issues, you still have congestion, and strategic planning issues, and a whole range of things. So, all those things combined make for a very interesting and dynamic direction in which you're going. And clearly you are not afraid to take on some risks and look at some new opportunities and that's what a vibrant, growing, improving city is all about.

And I think there's a whole range of things I want to talk about with regards to what I'm hearing you're up to, but I also want to make sure I acknowledge President Mercedes Jones. President of the Civic Design Center, right? Are you not the President? Then, just let me call you that, all right? [Laughter] Get over yourself! That's your title, girl! And Susannah Schumante, who picked me up from the airport and gave me the best 10 minute primer on Nashville that I could have ever gotten. And, of course, Ed Cole is here, and I know Paul Sloan will be with us tomorrow when we meet. And I hear you two are quite a partnership, as well. And isn't that exciting?--at the state level, that you're having these kinds of conversations and they're getting along and having coffee or lunch every week. That's the kind of thing that you need and you have to forge those relationships across the different administrations. If I embarrass you, too bad. [Laughter] Right? And then of course your son, Councilman Cole and I think Councilman Jameson was pointed out, as well. So, it's just great to see your leadership here, as well, I think it's very exciting.

[Begin slide show] So what I'm going to do is tell you a little bit about the Burnham Plan. We are just completing our celebration of the 100th year anniversary of Daniel Burnham's plan and, of course, the Mayor already mentioned his most famous saying, which is "Make no small plans." And we will talk about that, as well.

So, just very quickly, here is a very, very industrial city, Chicago, at the turn of the century, right? It was dirty and it was productive and it was exciting, but to imagine setting time aside and land aside around green space and how we look at our city and our region? Imagine that somebody would even have time to think about that. But, indeed, they did and Burnham and Bennett worked with our Commercial Club of Chicago--who is now a huge partner of ours and our efforts in the city, always has been--to create this new plan, this new vision for the Chicago region. And those big dreams turned into our incredible lakefront, which is almost fully publicly-accessible. We've got, now, a plan for the last four miles. Our emerald necklace, which also includes Frederick Law Olmsted's work of the boulevard system, connected to Jens Jensen's regional parks, connected to Burnham's broader forest preserves. And then the tradition of how we think comprehensively.

How we need to link all these things together. It is not one against the other, it's not an economic versus environmental, it's something that has to be interwoven over time in order to look towards the future.

[Next slide] So, the Burnham Plan really has 6 major elements: improving the lakefront, developing a highway system, improving the freight and passenger rail stations, looking at an outer park system, systematic streets--we have a really solid grid in Chicago and anybody who has lived there for a long time can just call out names of streets, 400 or 4 blocks at a time, north, south, east, and west--and the civic center and cultural institutions and government, really coming from the World's Fair of 1893 and the beautiful construction that happened as a result of that.

So, what do we do with all of that? We have a Mayor, now, and his father before that, he was Mayor for 22 years for the city, his big vision, his big dream--Richard J. Daley--was the Dan Ryan Expressway and the McCormick Center, our big convention center, and a range bunch of infrastructural things that people thought were crazy when he did it. And this Mayor has built off of those and has other major infrastructural elements and visions, both cultural, transportation, economic development, et. cetera.

[Next slide] So, the result of the Burnham Plan were in essence a blueprint for action, around all these range of issues. And what was fun about it in addition is that they really endeavored to connect school children through what was called *The Wacker Manual*, and it became the civics lesson for 8th graders. So they took the plan, Burnham, and turned it into what children learned about, not only about American history and regional history, but about the city. And, from there, they bore new generations of people who have that pride and ownership for the city, based on this very exciting, forward-driving plan.

And so, of course, you have to let people know about the plan, and there was a massive marketing effort that was underway as a result of that because people needed to know what this plan said, and why it was important, and you had to determine how to make it compelling and important to people, all different kinds of people, from steel yards to hog butchers--how does it matter to them? How does it matter to the captains of industry? And we have those same challenges today and I'm sure you do, too. But as a result, everything from urban infrastructure, open parks, to Michigan Avenue, if you've ever seen Michigan Avenue, or Wacker Drive, upper and lower, our lakefronts, our parks, all of those things started to build from there as the city started to build, both residential, economic development, and industrial.

[Next slide] So, I always like to use Carl Sandburg's quote: "Hog butcher to the world. Tool Maker. Stacker of Wheat. City of big shoulders." Right? That's what we were proud of. We were a tough, rough and tumble group, who could be out there, slogging in the soil or in the mud, they could be throwing our cow carcasses into our river--and now we still have a section called "Bubbly Creek," and that is why. So we have a section of our Chicago River that's called Bubbly Creek. And if you've ever read Upton Sinclair's *The Jungle*, it specifically referred to that. So we still have that history coming back to us through degradation in the river and through bioremediation.

So how do we take that vision, and what have we done with that vision, from that glorious lakefront development and the regional systems, and how do we build that and connect that to where we are now and where we need to go? Well, you continue to not make little plans, you continue to go forward with bold dreams, and you imagine, now, in a much more complex world than in 1909, how these things interconnect and how we can improve quality of life while we're enhancing economic development in a way that happens to be good for the environment. I am the Commissioner of Environment, but I'm probably one of the more pro-business Commissioners of Environment that the city has had. We have only been around for 17 years, my department, I came on early on and I've had 4 predecessors. But I truly believe that the time of beating people over the head with environmental messages, it's not going anywhere. If we beat people over the head and tell them how bad they are about the environment, they are going to turn around and run the other way and they have. And now, I don't know if you've heard the latest about climate action--people are thinking, "That's kind of waning. That climate issue is kind of going away." Well, it's not going away, it's all how you talk about it, it's all about what does it mean for our city, our region, our US, the world? How does that interconnect to everything else that's important to us? And that's who we need to integrate our messages and integrate the economic, the environmental, and the cultural or social issues together. Which, of course, are those three legs of sustainability.

[Next slide] So here are some of the things that we're working on now. I know some of these images aren't brilliant, but one of the things we've really focused on in the five years or so is a regional green infrastructure plan. It goes from South-eastern Wisconsin, through Northeastern Illinois, and that includes Northwest Indiana and Southwest Michigan. A total of, I think it's about 16 counties. And it's part of our Chicago Wilderness effort. This is a regional effort that we launched 13

years ago and now that's 240 members of everything from contributational organizations to waste management to a whole range of groups. So we've got corporate council members, and we've got land owners, and we've got government agencies, et. cetera, all working on this broad vision of our regional nature reserve, which currently makes-up about 300,000 acres. And we have some big pieces to it and then some small community gardens that are all part of this. So, using this kind of green infrastructure vision, which we've done with our planning organization called Chicago Metropolitan Agency for Planning, and Northwest Indiana Regional Planning (which is called NIRPC--we've got lots of acronyms!), we have really set, in a four state effort, how these things interconnect. And we're working from that, therefore we're all saying the same thing about the importance about regional ecology and how all of it fits together, which, if you look at the federal government and things, they're looking for that. They've said they've been looking for it before. I think there's really a strong effort now about how do you bring these things together and collaborate, how do you make what you're doing go further, how do you leverage recourses necessary to get the work done?

[Next slide] So some other priority plans include the closing of gaps in our infrastructure vision. So, at the top left is the Bloomingdale Trail. This is a raised railroad corridor that's no longer used and it doesn't look like much, but it goes through a lot of fantastic communities in the Chicago region and it is a tremendous opportunity. I mean, it's the ultimate in rails-to-trails conversion, if you will, because it's truly the railroad. And the communities have come together and have worked to preserve the property. Now, we're acquiring it from the railroads and it's becoming an elevated park throughout the city.

On the right hand is the new lakeshore preserve that Openlands--open space conservation group were I came from, worked there for three years before I came to the city--they have just preserved seven miles of lakefront along what used to be our old military base along the lakefront. So seven miles that was, before, not publicly accessible, now publicly accessible. So that continuation of publicly accessible lakefront is so imperative and you have to work with every single neighbor along the way to make sure that it works for everybody.

So, when we fill these gaps in 2009 and beyond, we believe that we'll complete our entire regional trail system that goes through those four states. It will connect us further to the rivers and streams and I know the Mayor has been working and all his colleagues have been working on the Cumberland River, I believe? And there's a river plan, a redevelopment plan. So imperative to connect people to those bodies of water. Once they're connected, they're committed. They have ownership for it and they help to improve it. Our river was always industrial. We still have 220 sewer outfalls into the river and we have a combined water and sewer situation, so our goal has been to keep sewer water from flowing into the river in high water events and, in the past 5 years, we've had 1 overflow, which was last September when we had 9 inches of rain in 12 hours. So, how do you do those types of things, make your river better, make it accessible, improve the edges, make it walkable, bikable, fishable, swimmable, canoeable... Is that a word? I'm not sure. Anyway, that was supposed to get a little a bit of a thing around here. [Laughter] Thank you very much! But, so, we need to connect ourselves to these water bodes, we need to look at our neighborhood open space. It could be one vacant lot that can make a mass of difference. And, of course, we need to continue protecting our shoreline. And then really look at the regionally significant open spaces that have yet to be acquired and preserved and what that means to us.

[Next slide] So that Cal-Sag Trail is an example on the South Side of the city going into the South Suburbs and Northwest Indiana. And, again, 26 mile trail, running through 14 communities and will link 2 national parks, the I&M Canal Corridor--which was the first linear park in the United States--and the Indiana Dunes National Lakeshore. That's a project that's a key effort of us moving forward.

[Next slide] The last four miles, I think I just mentioned this, but it's the lakefront, there's only four miles left in Chicago's lakefront from the Southern Edge to the Northern Edge that aren't publicly accessible. And so we're actually announcing on Thursday, at the end of our Burnham Plan, acquisition of about a mile and a half on the South End of the city on our port district property, which we turned into a landfill for sludge. What a fun thing. And on the Northern End, that vision is so outrageously over the top, people just can't believe that we'd even consider it, but it's about two and a half miles where we have high rise condominiums all up the lakefront. So what we're actually saying is we would actually take open space and build it along there. You can imagine the condo owners saying, "But that's my lake, that's my lakefront... How can you take that away from me?" Right? But, by adding the open space, we're not taking away from them, we're expanding it. But we're also making it accessible to all Chicagoans and the Chicago region. So these are some of the key things that we're working on.

[Next slide] How does this interconnect to all that the city is doing? Our Mayor's been mayor since 1989. Celebrated 20 years this spring. Thank god for no term limits in Chicago [Laughter], I'll tell you! But, so here's your Mayor already way ahead of the game on a lot of issues that took us this long to get to. So that's very exciting to have eight years of somebody who's got that vision and the Civic Design Center and all the different players here who get the stuff and can really rock and roll on it. So, when we started all this work, when the Mayor became mayor in 1989, his first action was to take what was the Bureau of Forestry--it's actually the Division of Forestry in the Department of Streets and Sanitation--it had been dropped to the division status under Mayor Byrne, Jane Byrne, and he brought it back up to bureau status. That's important, because that's saying, immediately, "Our trees are important." And we found, early on in the years, that we were cutting down more trees than we were planting. How do we get that out of the hole? And since the Mayor's been mayor, we've now planted over 600,000 trees in the city. We've launched programs like TreeKeepers, which are about citizen stewardship in our parks and our city trees, our city parkway trees, et. cetera. But the landscaping really was his first vision I can name of what was environmental. And he understood that it was beautification, and he understood what we all learned in fourth grade about their taking-in pollution and cooling the world, et. cetera, but then he also started really understanding nature, and the importance of habitat. And really not just habitat for critters, but habitat for us. What's our habitat that we're living in? What's our quality of life? And how do vegetation and green infrastructure impact that?

So, soon thereafter, he started a median, basically a traffic calming measure. So, traffic calming, as you probably know, makes a city much more walkable. And we have found that you can reduce your miles per hour on your streets by as much as five miles per hour, you're increasing its walkability and its safety for walkability exponentially. So, how do you make those connections happen? So, we now have 90 miles of median strips throughout the city that are vegetated. It's, in essence, kind of replanting boulevards, if you will. And when they first came in, let me tell you, people hated them. And I, personally, was in a very bad accident because somebody thought they could cross all across four lanes and forgot that that wall meant that there was other cars coming this way. So, it took a while for the city, its residents and businesses, to embrace this concept. But it made it more beautiful, it cooled our city, it made it more, scale-wise, more connected to the landscape, as well. From there, we went from the landscape and started looking inside and we had several different design competitions. One, green, affordable homes. Called it Green Homes for Chicago, where we did a competition. We had about 70 applications from 3 different countries and across the US and we now have a prototype for green, affordable housing in the city. We worked very closely with our housing group.

Our city hall rooftop garden. So this is the Mayor's idea, lock, stock, and barrel. He came back from Germany, and he said, "We need green roofs!" And I was in the department then, and I remember him saying to me, "Put a roof, a green roof, on city hall." We're like, "Uuh?" "No, no, no. Put a green roof on city hall." And we're like, "Uuuh?" "[Knocks on podium] *Put a green roof on city--*" "Okay! I got it..." We didn't even know where to start and we worked with all different contractors and designers, and to make you feel a little bit better, maybe this will help you, I always get a few chuckles out of this--it took us, that project took us two and a half years to go from design to permit to construction. And it was painful. We had the historic preservationists saying, "What are you doing? We have this little facade there." We had the firemen saying, "Not safe. No no." We had the Department of General Services saying, "How the heck are we going to maintain that?" It just went on and on and on and we had to convince everybody that it was a possibility, it could be done and we built it in 2001, it was our green roof, on city hall, in the city of Chicago. We now have seven million square feet of green roofs in the city of Chicago. Our climate plan called for 7 million by 2020, and when we started our research on the climate plan, we had 4 million, and we've already hit 7 million. So now we're upping the ante and we're hoping to go for ten million by 2020. And we'll talk a little more about why that matters.

We've developed an energy plan. We now have a responsibility to buy 20% of our energy through renewable means. We're connected to the Chicago Climate Exchange, the first climate trading system in the world and now their Options Exchange is doing that. The Chicago Center for Green Technology, we built that in 2002, and I was responsible for construction of that. And that one, not including design or anything, the permitting alone took over two years. Our department said, "You want to do what? You want to install huh? Geothermal? Solar photovol--What are you guys doing?" They thought we were nuts. Let me tell you, they did, and once we finally got it passed on the departments, to let us try this, then we had to deal with all the contractors that are out there, calling the building department back. "They want to do what? They want to build it how?" It was a very hard process. But people were watching, because we were going for Municipal LEED Platinum, the first Municipal Platinum we had in the United States. And we achieved that. And we took an old building on 17 acres of brownfields. It was an old 1950s building built by Kraft. And we turned it into what was supposed to be office space for our green jobs program and a range of things. But it became a museum, because we were giving hard hat tours almost the moment we started knocking down a wall. And people were really excited about this green building thing. So what do you do with that? Where do you go from that lesson that we had? Besides the fact that we had this huge HVAC

backup system behind our building just in case geothermal doesn't work. [Laughter] Alright, how much money do we spend every year starting it up and making sure it works? Twice a year? Thank you very much. So, we don't have to do that anymore, but it's beyond belief that people would think we could really do this kind of thing.

Then we started with our green bungalows. So, our Green Bungalows Program, we have 80,000 bungalows in the city of Chicago, a really classic brick building, just sturdy as all get out. And they've had some hard times, so we developed the Green Bungalows Program, and now we have the Historic Chicago Bungalow Association, who worked with us on developing grants that we give to homeowners in order to rehab their buildings to sustain them, but also make them energy efficient and environmentally healthy, as well.

Some other things. As we move forward, we developed Green Permit Program. So, what do developers need to make a project go? What are the most two important things? Time and money. Right? If either of those are sunk, you're in trouble. And so we recognize that if we're going to build green in the city, we're going to have to come up with a program that's going to make it easier to build green. So the Green Permit Program now is an incentive-based program where, if you come in with a project and you're able to achieve a range of green aspects, you go to the front of the line for the permit process, we connect you to a team of people that work with you--three people at minimum--and we'll waive your developer's fees. So, we launched this three years ago, and now we have hundreds of projects that have gone through the Green Building Permit Program. We've had some hiccups along the way, where it was supposed to be six weeks for the permit process versus nine months, and it started reaching eight or nine weeks and people really let us have it. Because if you save on spending time and money, you better make it happen. And our Buildings Department and many others make that happen. And as a result, we now require all public buildings or all publicly-funded buildings be LEED Silver minimum. And our Public Building Commission that builds a lot of our schools and fire station and police stations, et. cetera, are pushing the envelope and think they can go LEED Gold starting next year. So, that'll be interesting to see.

[Next slide] So, how do we lead by example? Our Mayor really believes that you have to do it inside first, you have to look in the city's processes, the city's buildings, the city's infrastructure, and we need to be leading by example. We've been talking about stormwater a lot and we passed the stormwater management ordinance two years ago, after three years of pain and suffering, let me tell you. Because, again, you're up against a whole range of different perspectives about how you need to do this... Is there cost associated? Our answer is, "Not if you design it in the first place in the infrastructure." Because the savings, often times, is not only realized during construction, but can be realized in maintenance, as well. But, we still have these opportunities in the city to do better. So that the Department of Transportation built their first green alley a few years ago and now we have 100+ green alleys in the city of Chicago. We have 1,900 miles of alleys in the city, more than any other city in the world, actually. And these alleys are permeable asphalt or concrete, they're high albedo, they have bioswales, they're doing everything that you think hardscapes can't do. So they're a really great example of a whole range of people getting together and saying, "How can we solve this challenge [...] through the traditional infrastructure that we're building?" So we've really believed that leading by example and doing it from the city. We can't expect everybody to do it, and private industry and nonprofit, et. cetera, if we're not also doing it, ourselves.

[Next slide] So here's a great example, Millennium Park. I had already gotten over the "Why are we going this way again?" when the Mayor re-did Navy Pier, when we expanded McCormick Place, our big convention center. He has just pushed so many different initiatives. By the time we got to William Park, which was, at the time, right smack dab downtown, Michigan Avenue, but a railroad yard. It was really just this unvisited area. And the Mayor had a vision, and he said, "This is a waste of space, this should be our civic center." And so, designs came about and his famous words that we love to quote are, "Just do it. Make it happen." And, so, sure enough, a bunch of people made it happen and heads rolled along the way and there was controversy in all kinds of things. But all said and done, \$450 million later, of which \$200 million was city dollars and the rest was private, we built this amazing place that now is visited, I think, so far, our numbers are about five million people a year. We have a Frank Gehry concert structure, that wonderful metal structure in the middle, we have a wheelchair-accessible fountain area with videos of Chicagoans. It is the largest green roof we have in the city of Chicago, at 23 acres, and it sparked imagination and excitement in the city and it brings people from all over to see it.

[Next slide] So how do we take this excitement and this dynamic aspect, how do we continue to link it to the science, to continue to link it to the data that we know is here, and how do we make sure that our visions of both environmental, social, and economic, move forward together in a way that's doable, can be proven, that we can be held accountable for, et. cetera. And I'm liking a lot of what we've done from Millennium Park to some of the things that we have this goal year to some of the things I'm hearing about here, from the Cumberland River Plan, the Music [City] Center, the Avenue of the Arts and Avenue of the Sciences, that is such a cool idea. 20 years ago when our Mayor became mayor, our downtown

was really not a great place to hang out. It was pretty much dead after six o'clock. Now, we have a theater district, and we have all kinds of restaurants that have popped up, and open spaces, and our music scene is much more vibrant. We've always had a pretty vibrant music scene in certain patches, but it's much more throughout the city. It's a place to come, it's not a place to fear, anymore. And it sounds like your Broadway has made some changes, too, and I've heard that this hotel [The Nashville Hilton Downtown] actually kind of took a risk and built ten years ago when this area wasn't as much to look at. There have to be some risks and their has to be some jumping forward and expecting that if you build it, they will come. And if you have enough of a partnership behind that idea, it will happen and people will come.

So, this is our next generation of action in the city and it's our Climate Action Plan. This was launched with a task force that sounds a lot like Mayor Dean's Green Ribbon Committee. So we had a task force made up of corporate leaders, research institutions, nonprofits, governments, and we all came together and the Chicago Area Foundation said, "We need to really tackle climate change and know what it means for the city." So, because of those foundations we had, about \$1.8 million, and we hired scientists from the International Panel on Climate Change, that worked with Al Gore, that got the Nobel Prize, and we said, "Help us determine what we need to know about where the city is and where it's going to be, based on climate change and the different scenarios around that based on what kind of activity we take on." And what we learned was that, in the city of Chicago, 70% of our emissions are from buildings and energy uses. 70%. 21% is transportation. And 9% is waste and industrial pollution. If you go out into the Chicago region, the 70% goes to 61%. Transportation goes from 21 to 30%. Waste and industrial pollution stays at 8 and 9%. What we learned from that is if we look at, for instance, the Kyoto Protocol, which says we will reduce our emissions to 80% below 1990 levels by 2050, and 25% below 1990 levels by 2020... We came up with a number for 2020. We felt like, "Okay, Burnham had a very, very long-scale plan. But Americans aren't quite that patient anymore, if you will, so we decided to go for 2020. And our goal is 25% by 2020. 25% reduction of emissions below 1990 levels by 2020. That equals 15.1 million metric tons of carbon dioxide in an emissions reduction for the city of Chicago. And we've come up with a plan to get us there. If I can go there... Yes!

[Next slide] And so, we launched this in September of 2008, our Climate Action Plan, and just as the Mayor mentioned that, I think you have five sessions around the city and had hundreds if not thousands of people giving input. We had a similar situation where we had about 250 organizations give us 200 ideas about how we can mitigate these emissions, knowing where they came from. We took those 200 ideas and put them through this lens, a very, very research-oriented lens. It was called "political, financial, and technological." Is anybody ever going to back us up on this one? Political. Will we ever have the funding to do it? Economic. And, is the science there, or do we think it could be there? Technological. Little do we know that the Recovery Plan will come along. Recovery and a range of other sources. Little did we know that there would be such this incredible blossoming, if you will, burgeoning of a new energy economy, et. cetera, that helps do that.

But since we launched this plan, and we launched in September of '08, and count back to January of 2008, we have retrofitted 13,500 dwelling units, 252 commercial/industrial buildings, we've traded-in appliances. You probably all know that your refrigerator has a pound of CFC-11 in the door, that's 7,000 times more deleterious than carbon dioxide-equivalent emissions. That's a big deal. So if somebody takes your fridge away, what do they typically do with it? They crush it. The gas goes into the atmosphere. We've made a partnership with ComEd, our utility, and a company called Jaco, who's come up with a system where they're able to crush it in a chamber that's able to capture that CFC-11 and make it benign. Huge difference just in those simple kinds of actions.

Our new energy code that we passed and was in place for Earth Day of this year, with 200 new buildings have been passed with that code. And that's the International Energy Conservation Code 2006, so we're really proud of ourselves for getting up to 2006. Now there's a 2009 standard, and believe me, it will be probably not as challenging as passing the last one, but it will still be challenging. And we'll have to keep up to speed and bring it up to the latest permit processes we can.

We've conserved a lot of water, we've increased our ridership on CTA [Chicago Transit Authority], we have new hybrid busses and car share vehicles, alternative fuels sold, reduction of waste, all these different things. These are things that have happened just in the past year and a half as a result of an organized plan that everybody could get around, just like the Mayor's vision with the Green Ribbon Committee, and just like this five year anniversary you're celebrating today.

[Next slide] So, just quickly, those 200 ideas got widdled-down to 35. And they include energy-efficient buildings, the strategy areas, clean and renewable energy sources, improved transportation, reduced waste and industrial pollution, and adaptation, or preparation. Because there's climate change no matter what. The is some climate change. What our studies

show is that we will be Houston, Texas by the end of the century if we continue on the cliff we're on, now. And we consider ourselves a fairly big city. So if we just do what we've been doing, we will be Houston, Texas, which includes 30 100+ degree days, spiking-out at 117 degrees Fahrenheit by the end of the century. Now, we love the South, let me just be clear. We don't want to be Houston, Texas. [Laughter] We're happy being Chicago, but we've already made some changes in our climate as a result. So what we've agreed to is we're going for the low emissions scenario, which includes these plans, rather than the business as usual scenario, which is green, but not nearly aggressive enough. So all of these types of things are moved into projects. And I'm just going to highlight one area. One and a half areas, if you will.

[Next slide] So our retrofit goal is to retrofit 400,000 residential units and half of our commercial/industrial units in the city of Chicago by 2020. What retrofit means is everything from redoing the HVAC to insulation, weather sealing, lighting, a whole range of things. Those are all part of the plan. And, as you can imagine, 400,000 residential units... We have 1.1 million residential units in the city of Chicago, so it's a big chunk. And half of our commercial/industrial, 9,000 commercial and 200 industrial units in the city going through this retrofit process. Sounds daunting? It also sounds exciting! Think of the jobs, think of the opportunity, think of the economic savings that businesses can experience, the homeowners can experience, as a result of this work. So, again, we can be daunted and say, "Oh, it's impossible," or we can say, "What a great economic development tool," and that's how we've been looking at our plan. And these are our partners, so both our utilities, electric and gas, the State Department of Commerce and Economic Opportunity, Northern Illinois Energy Project, CEDA (the Cook County Economic Development Association), and the city, came together and we were dating, now we're engaged. [Laughter] We're happy to announce, and that engagement means that we will co-deliver our programs that are required, both through the Phil and Mike Connors Commission and state legislation we passed for both electric and gas utility work, as well as the result of our own Climate Action Plan, et. cetera. So our streamlined mission, where everybody has their missions with things they need to achieve, but if you bring it together, it's simple. All these organizations want to reduce greenhouse gas emissions, reduce kilowatt-hours of electricity used, reduce therms of gas energy used, we want to serve low income communities, and build green jobs. Now, we want to serve all communities, but we recognize that if we especially focus on low income communities, we're going to help lift people up a little bit more, make their home more affordable, and also potentially help those communities with the jobs that are necessary to do this work.

[Next slide] So, again, these are the goals we've had and I've already explained what our achievements are to date and on the bottom is the Chicago Center for Green Technology, which is kind of our über-project we always look to, how green can we get. This is our LEED Platinum building, which in 2002 was LEED Platinum, but if you looked at the building now, people would go, "Uhh, that's kind of interesting." So, we've built a new resource center which is LEED Platinum for 2007, we built a new office space in there that's LEED Platinum for 2009, and we're going to have to keep moving or we're going to fall behind. If we're going to be a place where, currently, about 40,000 people visit for 400, 300 programs a year, we need to be able to tell people what we're learning--the good, the bad, and the ugly--of pursuing these types of aspects in a way that's reasonable, that's economically feasible, and truly has some great benefits.

[Next slide] Something we just launched yesterday with the Mayor is our Energy Action Network. So, this is really getting to the social aspect of things. So, CEDA, that group I told you about, offers LIHEAP, the Low-Income Home Energy Assistance Program and weatherization vouchers for low-income communities across the city and we have 120 locations across the city where you can go for that. Those are all the red dots. The stars are truly our stars. These are groups that have really, over the years, proven to them--some groups can fill out and complete and achieve success at 6,500 applications in a year. But what we found was, we weren't looking at all the potential resources that could come to bear around this incredibly trusted, community-based space. And with the work of the Field Museum, doing urban ethnographic work. That sounds wacky, but we have cultural anthropologists who are working with us in the communities to determine what is that particular community saying about what's important to them. Is it quality of life? What is it? And how do we organize our message around what's important to them? Because I can come in and speak all day long about how great it is to be green. And most people, especially low-income communities, will say, "Can we afford to be green? You can afford to be green, but I'm capped." So, how do you connect that message of the importance of these environmental actions and the way that's also compelling to the social issues in a community. Based on that, we designed this network and these 21 locations across the city are now--we have funded each of those organizations to bring out a full-time position and they are going to be working with People's Gas and ComEd and ourselves and these other--my retrofit strategy partners I mentioned. And we are going to retrofit the base, the center where the people come, we're going to work to do outreach in the communities, let people know about the resources, with the number one goal of reducing disconnections in the first place. That's not good anyone, for people to be disconnected, especially during the cold of the winter or the heat of the summer. And number two, increase energy efficiency across those facilities and across all those homes. And then lastly, as a result,

increase connectivity in the community. Our Conservation Corps award will be connecting the homes that have high lead, based on children's blood levels, to this program. Our emergency housing assistance program, where low income people have a hole in their roof. While they're doing that, we're going to make the home energy efficient, as well. So, looking at all the interconnections, and so that's why we have our partnerships that I mentioned previously, as well as our department families, support services, Department of Community Development, and that includes economic development, housing, Department of Public Health, and the Department of Environment, working together.

[Next slide] So the commercial buildings are also extremely important. And while they all don't look like this, these are the big ones, the iconic ones. It's important to think about how we can impact businesses. So in the top right corner is the Merchandise Mart. So, this is the largest commercial building in the world. And they went for LEED Existing Building a few years ago and had so much fun doing that, they decided to go for a full-scale energy retrofit. And, in doing so, lighting, HVAC, and a range of things, they're finding that they're going to save 9 to 11% of their gross annual operating budget a year as a result. So you know what the payback time is, right? It's 9 to 11 years or so. But think about that savings long-term. It's huge.

On the left is Aqua, which is a residential building. The biggest building built primarily by a female architect, Jeanne Gang. She's one of the greenest architects in the US and I'd say in the world. And that has electric charging stations and that funky undulation is actually a way to cast shadows on the building and conserve energy. They also have energy efficient windows and a whole range of other things that are part of it. We just did an event there.

And then at the bottom is the Daley Center. We've got a Picasso in the front. Massive, our core building in the city that's also going to be undergoing major retrofits. It's going to save, long-term, millions of dollars, as well as millions of gallons of water, reduced energy, reduced waste, et. cetera.

[Next slide] So, just a couple more slides. And adaptation is an important thing to mention. So, you can see that the circle on the left is 1990 Chicago and the circle on the right is 2006 Chicago. And this is a hardiness zone map and my first degree was in horticulture so I always have to throw something in about trees and landscapes. But so we were, the Chicago region, was really a 4b/5a hardiness zone, which spoke to the types of species that could grow there and the types of critters that would live there. And we've gone from 1990 to 2006 to 5b/6a. We are now Champaign-Urbana, Illinois. Which is my alma matter and I'm happy about that, but we don't want to be Champaign-Urbana, Illinois, we want to be Chicago. So we've already moved a hardiness zone. And what does that mean for our species?--both invasive species and what we're planting in the long term? Adaptation means we need to prep for that. We need to think about species we shouldn't be planting, anymore, and how we alter not only our vegetation but our hard infrastructure, our bridges, our roads, et. cetera. There have been talks with our contractors and our unions that if it really went out of whack, and we really saw some massive climate change, we'll likely have termites that we don't have now. And we have a lot of wood-based buildings. So what does that mean for our infrastructure? These are the things we need to think about.

[Next slide] But, with regards to the greenness of structures and how that connects, we have just finished a study with the US Forest Service called the Tree Canopy Assessment and with that, we've built an urban forest agenda that we just launched with the Mayor on Saturday, that really looks at how do you continue this incremental increase in our urban forest. That canopy cover is so important in cooling and we've gone from a percentage since the Mayor was mayor in 1989, we had 11.2% canopy cover in the city. So again, if you're looking from the satellite image down, where the green is inter-connecting and cooling. So, we went from 11% to a 17% canopy in the past 20 years. That may not seem like a lot, but it actually equates to 9,000 acres of green. So that's huge. And were do we go from there? What do we need to do? And if we're going to continue to ameliorate the urban heat island to both an adaptation and mitigation strategy, we need to continue to advance that canopy.

And lastly, the green roofs. I mentioned this before, but I always have to mention this and do a quick quiz. So the green roof on city hall, so this is what was built in 2001. We had Arizona State do a thermal photography flyover of the city two years ago. And 24 hours they were filming and showing us. And you could see at three in the morning, the heat from the concrete buildings just emanating out. And the heat from the roads coming up. But so on a 74 degree overcast day, what temperature do you think the city hall roof was? Just, no number is dumb. Just throw it out there. 74 degree overcast day, what temperature was the green roof on city hall? 69. Anybody else? 65. It's kind of a trick question. Okay, it was actually 74 degrees. So, 74 degree overcast day, our green roof was 74 degrees. Now, on the other side, you may not know it, but our building is actually two buildings, built a couple of years after each other. The other one is the county building. They have a black tar roof. And while we love to help them get green, we love this comparison. So if that one has to stay, it's

okay with us. [Laughter] But so the black tar side on a 74 degree overcast day, any guesses on the temperature? 99. What else? 110. Anyone else? 152 degrees. 74 degree overcast day, green roof is 74, black tar is 152 degrees. Now, not every roof can be vegetated. But it can be high albedo. It could have solar panels on it. It could be a whole range of other things, which, again, can ameliorate the urban heat island effect, which raises the temperature of our city, right? And it's a wasted space if we're not doing something with it that could provide us with additional support.

[Next slide] So, lastly, having that plan allowed us to really take advantage of this windfall of the recovery effort. And while we've gotten nearly \$2 billion so far for a lot of infrastructure stuff, in the environmental realm, in the climate action realm, we've got about \$63 million. And that includes block grant funding, it includes alternative fuels deployment--that was our big one, we just got \$15 million to build 156 electric charging stations and 25 alternative fueling stations across the Chicago region. Now, we've built alternative fueling stations over the years with our Metropolitan Mayors Caucus, but they're not accessible to the public. So if Joe Citizen wants to buy a CNG [Compressed Natural Gas] vehicle, or an electric vehicle, or a biodiesel vehicle, they have no place to go to fuel up. So we made this partnership private and public companies so that we could build this infrastructure and actually have a place where people can buy an alternative fuel vehicle and actually fuel up. We're very excited about that.

We also have a green jobs program. We just got a Climate Communities grant from the US EPA to focus on health care and how we can link at the community health centers all all the way up to the safe haven hospitals around green activity, which of course, you could figure into health, as well. And a range of other things that have gone along with it.

[Next slide] And here truly are my last few slides. How do you step forward? You move forward with serious accountability. You've got your Green Ribbon Committee, we also have one. It's called the Green Ribbon Committee. Corporate, foundation, research, government leaders, saying... Literally checking on us on a quarterly basis. It puts fear in my heart and I love it at the same time because we have to. It's in essence my board of directors. Of course, I have a Mayor and 50 State Council people, but these people are my board of directors, too, asking very hard questions about what's working, what's not, and why, and really sticking us to the goal of our implementation strategies. But as we've put this together, we had a company called AT Kearney do a bunch of pro-bono work for us and we went and we interviewed all of our city departments and sister agencies and found, while we had these nice 35 actions, there were 456 actions that were being taken by all of our partner organizations that were going to take us even further than the Climate Action Plan. And so, for those actions, we now all have quarterly milestones and we have an annual report to the Mayor and I coordinate quarterly meeting with our Chief of Staff for each of our departments to say where we're at, basically performance measures.

[Next slide] But it's all the partnerships to make this happen. Our subtitle for the Climate Action Plan is *Our city. Our future*. That's "city," small "c." Not "City," big "C." It's not just the city of Chicago, it's everybody. Because you couldn't do it just as government, you couldn't just do it as a nonprofit, you need all the different players together. And that's what has helped us move forward, everything from green museums to green restaurants that are now Green Seal certified to our downtown office buildings and philanthropic leaders. All working together, all having a combined purpose, a real strategy, and a real sense of ownership for where we're going as a city.

[Next slide] Our implementation strategy has been brought about as a result of \$10.8 million in pro-bono efforts. Organized by the Civic Consulting Alliance, so that's our civic committee and commercial club of Chicago, and that group has brought about donations of pro-bono effort from all out of these organizations to help us get to strategies that are doable, that make sense, or that have good milestones.

[Next slide] And then our foundation support, both local and national thus far, that have come to the table and now we actually have a CCAP funders group that meets every two months to talk about where we're at, where we need funding, who needs help, et. cetera.

[Next slide] So, that's kind of where we think we're going. It's taking the lessons and the vision of our Mayor.

We have the theater/arts, the Avenue of the Theater, you have the Avenue of Arts and Science. We have a revitalized river, you're working on revitalization of the Cumberland River, which also brings economic development to the edge. We have a Green Ribbon Committee, you have a Green Ribbon Committee. There's a lot of comparisons that are very, very similar and I think there's a lot that we can learn from each other as we move forward.

It's important to note, and this is just a close, your Mayor talked about the built and natural environment and that interconnectedness. The more people are connected to the environment, whether it be their block, their school, or downtown, or what have you, the more they are going to be engaged and buyers, if you will, of the work. Because we need residents, we need businesses, we need universities, we need everybody to be working on this together. The best way to make that happen is to make your message loud and clear, make it compelling, and connect it to what matters most to people. And we look forward to continuing to work with all of you on this in years to come. Thank you very much. [Applause]