

**SUBJECT: CLC Lecture Series: Salt Lake City –  
Liveability in the 21<sup>st</sup> Century**

**SPEAKERS: Dr Ralph Becker, Former Mayor of Salt  
Lake City and current Fellow with the  
American Institute of Certified Planners.  
Moderated by Mr Ong See Hai, Honorary  
Secretary of the Singapore Institute of  
Planners**

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**Note:**

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NZ	<p>Distinguished guests and colleagues, welcome to today's CLC Lecture Series, jointly organized by the Centre for Livable Cities (CLC) and the Singapore Institute for Planners (SIP). My name is Ning Zhen and I am from the CLC. The Centre for Livable Cities was jointly established by the Ministry of National Development and the Ministry of the Environment and Water Resources in 2008 to distil, share and create knowledge on livable cities. In today's session, we are honoured to have with us Dr Ralph Becker, Fellow of American Institute of Certified Planners and former mayor of Salt Lake City.</p> <p>In this lecture, Dr Becker will share with us his experiences during his term as the mayor in transforming the Salt Lake City into one of the most dynamic and desired cities in the United States. The format for today's nature will start off with a presentation by Dr Becker followed by a question and answer session with the audience, moderated by Mr Ong See Hai, honorary secretary of the Singapore Institute of planners. We would now like to hand the time to Dr Becker to deliver his lecture. Dr Becker, please.</p>
RB	<p>I'm going to share my experience as someone who has lived the last 40 plus years now in Salt Lake City. I actually grew up in Washington DC and moved West for the magnificent landscapes and the communities in that area and to go to school and I've stayed ever since.</p> <p>This is just a picture of our City Hall. I am going to move quite quickly through a series of slides here, of the way that I have to look at planning in Salt Lake City and trying to achieve objectives for our city to be livable and sustainable. And then what I would like to do is to leave as much time as we have to focus on areas that are of particular interest to you, because I don't presume to know. I hope by the end of this week I know more, but I don't presume to know your community, the big, the major issues that in your community, the major aspirations that may relate to my experience and I may be able to share with you or learn from you in your work.</p> <p>So this is our city hall, it was built in the 1890s and it is a beautiful place to</p>

work and it is in the center of a ten-acre park. And so to put Salt Lake City in context, in graphical context for you, and I actually thank See 00:02:43 Hai for this. He said ‘People need to know where Salt Lake City is’.

So if you look in the map to your left, there is Utah in the United States, it is in the Rocky Mountains, the inter-mountain west as we call it. Salt Lake City is the capital city, it is also the commercial centre, it is the largest city in the state of Utah and actually it’s reach and regional importance extends beyond the state of Utah. And it extends into some of the surrounding states and is even reflected in the media market, the TV market and radio market for Salt Lake.

So it is the city of about 195,000 people and a metropolitan area of about 1.5 million. The population of Utah, 80% of the population lives in an 80-mile strip of land that is on the western edge of the Wasatch mountains, which is one of the westernmost ranges of the Rocky Mountains. So livability, sustainability, it is to me a great sign that you have a centre for livable communities, because I think it is the term really that reflects what we seek in places that we live. And the term that is most commonly used today as we think about today and looking towards our future in our country is sustainability, but in my mind the two really equate. Because if we build a city thinking about our future, if we built a city that is an attractive place to live in the whole variety of contexts, that means that we will have a city that is liveable and sustainable.

Those terms get...particularly ‘sustainability’ I think, gets overused. And when I first ran for mayor of Salt Lake City, as a planner, I was...developed this real detailed agenda. And in fact part of my campaign folks, because people liked to make fun of me for being a planner, so folks came up with this cartoon character of me called ‘Blueprint Man’ and showed me flying around the city like superman with ideas for the city. So to me though, when we think about livability and we think about sustainability, in both planning terms, but also in my mind in political terms, that part of what we need to do

is to frame it as being comprehensive—that is all of the aspects that we could make a city liveable and the connections that make a city liveable. And we need to think about it as a whole as well as its parts.

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In the case of Salt Lake City one of the ways that I like to relate to it, and I think, sounds like it may be it's true for Singapore a bit, is that there is this thread going all the way back to the time that the Salt Lake valley was settled by Mormon pioneers in the late 1840s, when it was not even part of the United States. It was part of Mexico. And Mormons were, I'm not Mormon, but Mormons were feeling persecuted, in fact they were, they were burned out of cities that they were living in because their religion was not only considered very different but quite a questionable practice and they fled West, and they ended up in the Salt Lake. The Mormons ended up in the Salt Lake valley. From 1847 when they settled till 1869 when the Transcontinental Railroad came through Northern Utah, the entire goal of the community was to figure out how to be self-sufficient, because they were largely cut off, in quite literal geographic terms, from the rest of the world.

But that same philosophy goes into sustainability, right? It really is how do we provide as much as we can from where we live? And I know you have special challenges in Singapore, as we do everywhere and they take on different dimensions. By the time I ran for my second term, the four-year term as mayor, I put almost all of the work we did as a city under something what I called the 'Livability Agenda' [*sic* he uses the American spelling in his slide] and it was quite detailed, there were over 100 specific objectives we were trying to accomplish under it and we've been working on it for four years but it became much more focused for my last four years. And we divided it up into the major areas we thought that made sense for our city. So one was to have a resilient economy; we were still in the midst of, just starting to get out of the great recession in 2008 that really affected everyone across the world. But then how do we have a sustainable economy? Long term, to try to weather the ups and downs of the economy that just naturally

booms and crashes.

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‘Salt Lake City in Motion’ was really our transportation focus. It’s looking at transportation but how do we get around most efficiently? Looking at our energy use, from my vantage point, everything that we do stems from how we use energy. And in terms of fuels, in terms on impact on air quality, you could look at it from a climate change point of view, or quality of the environment. We rely so heavily on energy and in Salt Lake City’s case, because of our unique physical geography, the environment is absolutely very closely tied to that.

Looking at the social side of our world, so providing a quality education system—both in public school systems and then higher education institutions. And then a commitment to equality and opportunity because our city has become increasingly diverse. There are people, and we see this reflected in the politics of our time, certainly in the United States and in Utah, but we see it increasingly around the world, who are not feeling that they have equal opportunity and more often than not, do not, for a whole variety of reasons. And then focusing on artistic and cultural life, which really means largely focusing on downtown, I think we originally called this “Downtown as the Gathering Place.” So it involves all kinds of elements, and this is the part I’m going to move through pretty quickly and can come back to any of these in any amount of detail that you would like or you may want to discuss.

So one of the real boring parts of government are that all of the laws and ordinances that get developed. We decided that we needed to look at our entire set of laws through the lens of sustainability and we spent a year and a half just analyzing where we had our codes that interfered with moving forward or where we had a need to change the incentives or standards or guidelines. And that resulted in, literally, I think we identified 300 places for changes. We prioritized a hundred and got those hundred done over a number of years. And it included a whole variety of things that the planners, we love to talk about, but maybe aren’t as meaningful to everybody else. And you see this nice picture of our city with that backdrop of the Wasatch mountains

there.

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It also means that we focus on mobility and transportation and while you have a much larger city and a much denser population as a whole, we needed to look at how we overhauled our city ordinances, because we have private development and private land development whereas for you it is much more of public lands in development. But how do we overhaul our ordinances in order to get the kind of development we want around transit and some of our newly developing transit systems. We developed a rail line from downtown to the airport, it was a light rail line. We developed the first street car system to come back to Salt Lake City in decades that went to other parts of our city. And both of those have grown at a very rapid rate.

We also looked and food production. Again, this goes back to the self-sufficiency part of a community. For decades, Utah was largely self-sufficient. We are the second driest state, second most arid state in the United States, so that meant a lot of water system infrastructure development, irrigation development and food production to support, really, people living in the area. But we looked at everything—from how to support local agriculture to changing our ordinances to provide for hoop houses and greenhouses that may not have been provided for. And our ordinances to supporting intensive community gardening and a lot the non-profit agencies that work in that area, and providing public land for that as well, to changing our ordinances to provide for the raising of chickens and bees, which had been prohibited for a long time. But if we are going to provide for food, those are actually very easily compatible even in a very intense urban environment.

We looked at how to support local food production itself—farmers markets, which have grown up in really one of the most popular and fast developing part of our urban areas, not just in Salt Lake but around the United States. And how do we handle our food in a way that we don't waste food, whether it is coming out of restaurants or when it is coming out of people's gardens and then a whole culture around that.

I mentioned community gardens and this is a picture of something that I will talk about in a bit, of a graph of how we are measuring how we are doing, so in a few years while I was mayor, we greatly expanded the number and locations of community gardens. And I know this is an issue here, I noticed it talking with the cabdriver who gave me a ride in, in the middle of the night last night. He...I said ‘So how do you like living in Singapore?’ He’s been a lifetime resident, and he said ‘Well I love Singapore, but I don’t like all the changes.’ And I was saying, ‘So well, so tell me what about the changes that are difficult?’ and it was the pace of growth, it was how expensive living had become in Singapore and he was feeling, obviously, an enormous pinch from that.

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That is a huge issue in a place like Salt Lake, which is growing at an incredible rate, as is true for many of the, particularly the more attractive urban areas in the United States. There is a reverse migration, so from World War II up until probably 2000, [in] the United States, people migrated out of dense urban areas. We are now seeing people coming into the city at a rate where we have a 2% vacancy rate in our housing and housing is growing at a pace that is unheard of in the whole history of not just Salt Lake City but in Utah. It is a popular place to live. We were anticipating some of that, so from a planners perspective, we were expecting some of that from what we call empty-nesters, people who are retiring and tired of mowing their lawns and dealing with sort of a suburban lifestyle, coming into the city. But where the major growth is coming from, is young people, the millennial generation moving back into cities and you are probably experiencing the same thing.

It is a wonderful phenomenon but it creates a whole series of challenges around affordable housing, providing for the mixed kind of developments and housing types that people want and then converting some of the housing stock we have to provide for denser living. We call that accessory dwelling units, or someone might take a second structure on their property or garage and build a housing unit on top of it as part of it. That latter one, the accessory dwelling unit is very controversial. In a place like Salt Lake City



where there has been such an active preservation around traditional housing and would we provide for more density when for decades people were trying to preserve historic neighborhoods by stopping the increase in density.

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Looking at our trees, a place like Salt Lake City which has been kind of a haven, an oasis in the desert, ‘the desert blooms’ is sort of a common phrase of folks who settled in places like Utah and Salt Lake City. We have a very healthy urban forest system, but maintaining that is both expensive and takes a lot of water and if the trees are not provided for as we change our landscaping requirements to reflect more of a desert environment and our watering requirements to reflect the desert environment, it means taking extra care around protecting our trees and also the added benefits that come around that.

So water systems, I know you have your own water challenges here but ours may be a bit different because of the aridity of our climate, but in Salt Lake we have had a major effort around water conservation. We have found, and some of it, it always helps when you have a drought, but we found it really just educating people or providing people with different information, changing our standards has resolved, has resulted in a pretty significant reduction. The heaviest use of water in Salt Lake City and in most of the United States is for outside watering, not inside use. That may be very different in Singapore but a big issue for us is our water system’s sustainability.

Water quality—so Salt Lake City is at the base of spectacular mountains that is also the major source of our water. Those mountains rise 7,000 feet above our valley floor in literally less than a mile. So it is a very steep escarpment and it makes for very spectacular mountains that are literally in our backyards and makes for beautiful places. But protecting that water supply, protecting changing conditions that are coming from climate change, to protect our watersheds is of great importance.

And then working with businesses, and supporting businesses that often want to support sustainable practices through programmes to inform them and reward them in their work. I mentioned that

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I think energy use is at the key of everything we do, the picture on your right is a public safety building that we built while I was mayor. It was the first net zero public safety building in the United States. We didn't budget for a net zero building, but interestingly when we made the commitment to achieve net zero, we were able to achieve it within the same budget as our original budget for the building. So to us, energy use, we do see the energy changing into renewable energy sources, it's really a key, and the city can lead the way by example, by the investments we make. We don't build buildings for 10 years or 20 years like the private sector does sometimes; we build them for 50 years or 100 years. So the payback for us, which really, turns out in the case of that public safety building for us was about eight years, and then from then on it's a net benefit, whereas really an important element of trying to achieve livability and sustainability, to have government lead the way.

Salt Lake City has really serious air quality problems; we are a basin surrounded by mountains and it means that in the winter, we get what are called 'winter air inversions', and the cold air gets trapped under the warm air and becomes really stagnant so all the pollutants get trapped at the bottom of the valley where everybody lives. It is both ugly and can often be unhealthy, so a whole series of things that we can do to reduce our footprint around air pollution, were really valuable and important elements.

We did all kinds of things to support renewable energy – it turns out that solar energy is our most achievable and easiest energy resource to be able to tap into, as you might imagine, given the number of sunny days we have in a place like Utah. And we did a whole series of things, and the city continues to, around supporting energy and energy conversion. And the easiest thing to do is to start with your own governmental entity. So we converted all our fleets, we went away from two-cycle engines, even for small things like our leaf blowers and our lawn cutting and all of our garbage trucks, we switched

to renewable energy sources and then did a lot of things to support renewable energy in the private sector. It's an incredibly fast-growing, fortunately an incredibly fast-growing business, and we achieved some things around being recognized for the work we did.

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Around mobility and transportation, I mentioned the transit, and you can see a number of different kinds of things that we did around transit, but while I was mayor, we also focused very heavily on making biking, cycling safe and accessible for everyone in our city. So we added literally tens of miles of bike lanes, put in our first protected bikeways, separated bikeway, cycle tracks is what they call them in a good part of the world, in Salt Lake City. And we started a bike share program, which I know you are getting close to here. We are in our 5<sup>th</sup> year. It has been so popular in Salt Lake City, the bike share usage has been growing at 100% a year every single year.

And our biggest challenge, it was originally 70% privately funded because folks wanted to have their advertising on the bike share stations and the bikes. Healthcare companies, those types of folks that want to be associated with green activity and sustainable activity. And our biggest challenge now is actually just to keep up the investment around the bike share program to keep it growing. But we've tried to do a whole series of things around improving trails and bikes and transit service to make it more accessible.

Utah, like most parts of the United States, particularly the newer areas of the American West, have really been very slow to come to an adequate investment in transit to make it accessible for people. In Salt Lake, in the Salt Lake area we have had the fastest growing urban rail system in the United States, we've developed in the last 15 years a 150 miles of urban rail, so its been a pretty remarkable achievement and of course while it was first being developed people said people would never ride it, it going to be a waste of money but when it got in people just wanted to know how fast they could become part of the system. So we still have an incredibly long way to go but they backbone is in now, with a really strong rail system, and most of it is surface rail in Utah.

And then this was another thing we did in Salt Lake, so this is our main street actually and we have a light rail line going down the middle of it and then we have a shared lane that we actually kind of pioneered in the United States where for some of our slower vehicular streets we actually, the cyclists can take up as much of a road as a car and it actually works pretty well. So its just a sign for cars that this is a lane that is shared between cars and cyclists.

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This was at the opening of our new street car system and I mentioned the light rail lines as well, and then adapting our zoning for mixed used development, for a mix of uses—commercial, residential uses around our stations and increasing the density around where our stations are, as well as the lines, and it has been exploding in terms of use. So a lot of this is obviously what you put in the ground but some of it is also how you provide for greater accessibility in transit so one of the things we pioneered in Salt Lake is we gave a 50% discount for transit passes to every residents and we subsidized that through the city. So any resident of Salt Lake City could access our transit system, we called it the “Hive Pass,” the symbol of Utah is the beehive, so that’s where that comes from.

The other thing that’s really important in this era has to do with being accountable, being transparent and accountable about what we do and so we developed a dashboard that is online, it is accessible to everyone that sets out something that is like 85 of our very specific objectives that serve as indexes or measurement tools for how we are doing around every initiative that we took up and then showing where we were. So this is one of bike line miles and how they have grown compared to what our goals were over years and it was a great way to keep us, our feet to the fire, so to speak, about the things that we said we were going to do as a city. We also developed a feature that one of our planners came up with that is interactive, so with our sustainability dashboard not only did we sort of it available, but we put it online as part of our online City Hall. We put a chat system up where people could communicate about any of these items, and could be seen by anyone and

shared by anyone and conversations take place, not just among... between government and the citizens but also among residents who comment on various aspects of what we are doing and offer their ideas and criticisms—that is always number one of course, but offer their ideas about what we're doing and how we are doing it.

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You know, safety is always kind of first, and so we feel like that was important. This new public safety building not only was net zero but we had not had a full emergency operation centre which is important for any larger city. I'm sure you have one for Singapore. So that became part of that building as well. That is a picture, it actually looks like a depiction of the building but that is what it looks like.

Dealing with waste is obviously an important part of the city and how to be sustainable and liveable and we set goals there as well—50% reduction of a waste by 2015, zero waste by 2040. We are well ahead of schedule on that and it came from just expanding our recycling programs and our waste reduction programs. So we went, when I came into office, from 80% to about 60% in those eight years and we did it by providing for pick up of glass recycling which is a difficult material to recycle, and then the biggest area where we saw an improvement was in all of the organics—we started recycling and bringing into our landfill and creating... most of it we would just reuse and create as composting materials that our residents could pick up, and one of the communities, not Salt Lake, but one of the communities in our region actually would deliver it back to people as well. So that obviously is important in terms of making an impact on the environment and making efficient use of resources.

Salt Lake City is almost all...the majority of it is owned privately but we are unique in the sense that we have a very high percentage of public lands in Salt Lake City. It turns out that when Utah was formed and this is kind of a unique aspect of the United States, but when states get formed as part of the United States, one of the first things that happens is the states need to decide where all of the major public institutions are going to be located. So for

example if you look at the state of New York, the capital is Albany and people would go ‘Why would the capital be in Albany and not in New York City, the largest city?’ Well that was a 00:28:34 political decision that was made. They spread out the universities and the prisons, the capital and the major functions all around the state.

When Utah was formed it was still largely lead by religious leaders and they decided all of the major institutions, state institutions, were going to be in Salt Lake City. So we have the university, we had the prison—it left, now it’s coming back much to our chagrin, really, but we had the state penitentiary and all of state government is located in Salt Lake City, all of the major institutions. So we have a very large public property base that is not taxable in the case of Utah, and unfortunately the city does not control most of it. So unlike like Singapore, we are unable to tap the revenues that come from that.

We also have an enormous amount of public land as it turns out, outside of the city because Salt Lake City is the oldest city and largest city, we own almost all the water rights in this part of the area of the Wasatch mountains to the east and we have the ability to protect these watersheds, and we actually provide other communities with surplus water that we don't use coming out of the mountains. But that gives us, in a way, a special opportunity as well to acquire and protect our mountains both for water but also for other recreational uses. There are more people visiting the mountains just east of Salt Lake City than Yellowstone National Park, Yosemite National Park, all five of the national parks in Utah combined. It is everyone's backyard and we all love our mountains.

A picture of...that looks like Devil’s Castle, that is sort of a typical mountain scene. We have also worked, because the mountains are so important to us and are so intensively used, we have developed in the last few years when I was mayor something we call “Mountain Accord”, where we have tried to get all the varying interest together, whether it is the ski resorts, or the environmental community or the all governmental institutions—local, state and federal—together to come up with a plan to make sure our mountains

were protected both for the watershed and for the variety of intensively competing now, recreational users. How we provide for transportation systems as well. going forward.

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A big part of anything we do for sustainability in a place like Salt Lake City Utah but it is true across the United States, really has to do with supporting local businesses and the stronger our local businesses are, the more that they are self-supporting and provide a lot of the character and the community benefits. So we have a whole series of efforts surrounding support of local businesses.

And then I mentioned the dashboard system that we set up, that is available if anyone wants to take a look at it on the Salt Lake City website. And then partners are key when we don't have governmental institutions, a lot of the times in the lead or having the resources in an seems like increasingly constrained environment, in terms of revenues coming into government, to partner with others and we can tend to walk hand-in-hand on many, many matters with our...both our businesses and but also with our non-profit institutions. In the case of a place like Salt Lake City the LDS [Latter Day Saints] church is the largest property owner and the biggest institution.

Finally, how we make decisions, and I was told that this is an area of great interest here. I come from a background really where I was involved in policy and planning work for a long time and I didn't really always fully understand why or what I was doing, but it turns out that for us in a society and a community like Salt Lake and in Utah, that the way we get to our best decisions and have the best results is in a true collaborative process. There is great exposure, I can tell you, to politicians and maybe sometimes to planners and others, when you open up your whole process to public scrutiny and public comment and public review and all of the media attention that can come with those controversies. But I have always believed that it is borne out, and I think, and certainly throughout my career that as difficult as it is, and as painful as it is sometimes when you are going through the process, that we always end up with far superior results and solutions.

People—there is a great wisdom among the hundreds and thousands of people that may get involved in our process, depending on its size and scope. And there are always...if people think when they start on one of these processes, if they think they know what the end result is going to be, I have never seen that happen when you do a decent job of involving the public. And so instead of having winners and losers it's more a matter of listening to what people are saying they want, listening to what people are concerned about, with whatever it is that is being pursued and by addressing those concerns as part of whatever solutions or approaches we arrive at. So that is something that certainly I took to heart and we did our best to institutionalize that in Salt Lake City government while I was mayor.

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Finally I've just got something in here about words that are used and how we frame what we talk about, and nowhere is that more prevalent in the United States than when people talk about climate change these days, and there are people who have done some terrific work around how we talk about climate change because even though it shouldn't be, it has become a...and created intense political differences, and so I've found in my work around it that when I have been very outspoken about climate change in my time in public service and in that arena, that there are ways to talk about the issues that bypass a lot of the ideological fights that go on in our country, that fortunately don't go on as much of the parts of the world. But a lot of it has to do about it in terms of local impact.

So where water supply is of critical importance and we are seeing less snowpack which we rely on for our water supply, not to mention the impacts on the ski industry in our higher peaks and in our mountains, and where it has broad-scale impacts on costs to government in providing infrastructure, and ultimately services, we know enough now to be able...not only are we responding to it and addressing it through adaptation and mitigation, but we are, we know, we have a better and better idea of what the impacts are and what the costs are, because the investments are enormous around providing for some of the impacts from climate change. So that becomes an important



	<p>part of what we do.</p> <p style="text-align: right; border: 1px solid black; padding: 2px;">00:36:14</p> <p>With that, there is a picture of my home, almost from my home, on a day like today when the snow is fresh in the mountains and we have a downtown with that backdrop. So thank you so much for including me, I would love to hear your comments, questions, whatever it is I might be able to do to help.</p>
AUD1	<p>Can you tell us more about the population in terms of the youth and elderly, so that we know how we can solve some of these social problems?</p>
RB	<p>The demographics in Utah and in Salt Lake have changed dramatically in the last 20 years—it used to be a pretty homogenous Anglo, white, Caucasian population. Now in Salt Lake City, the majority of the schoolchildren are minorities. The largest portion of that are Hispanics, and then after that it is spread among Asians, South Pacific, there are a lot of South Pacific Tongans and Samoans who come to Utah because for whatever reason, it has been an active place for Mormon proselytizing, but it is pretty much across the board after that. And Salt Lake City is one of more than a handful, but a small number of US cities, that is a refugee resettlement city. We are receiving more than 1,200 families a year of refugees from around the world. So that is also expanding greatly our population. Is that helping answer your question? So Utah also has the youngest population and the highest fertility rate of any state in the country.</p>
Razi	<p>Hello my name is Razi and I am from the Saudi Shura Council. I just happen to be a visitor today, I am really honoured to hear your speech. You spoke about how as an elected mayor, you have a responsibility to represent the people who elected you. You also shared the dilemma of how you can bring conflicting needs together by dialogue, so that you could have better decisions. But what if the conflict is between experience that the average citizen wants based on the horizons that they see things, and between the professionalism that perhaps aspires for a better city, for new concepts that they are not aware of. How do you bring that dilemma together for better</p>

	decision making in planning?	
RB	<p>That’s a great question in my mind, about how leadership works in a democracy and one of my very favorite past times is I am a kayaker on rivers, a whitewater kayaker. And for whatever reason, this analogy always seems to work for me in trying to think about how far—I think this is the question you’re getting for—how far do you push things that you know or believe strongly represents the best interests of the public but is maybe out in front of where the public is at that time, at any point in time. And walking that line is the key to success in a democratic system of government, because if you get too far in front, you lose an election and then you can’t perform the way you might like to.</p> <p>The easiest thing, the safest thing for a politician to do is nothing. By nothing I mean that just react to the things that come in the door and make the best decisions you can and keep moving along. Its when you are pushing the edge and being proactive that it gets to be a major challenge, so I think of that in terms of kayaking or a surfer would think of it maybe kind of the same way. When you’re kayaking down a river, a whitewater section, you are trying to find a course as comfortable that you will be able to get down. A nd sometimes you’ll be on a wave, a big wave, sometimes and you’re trying to be on a spot on that wave where you are far enough back on the wave that you’re on the front edge of it, but it’s a spot, it’s a sweet spot on the wave and if you get out too far out in front, the wave crashes down on you and you suffer, from being what’s called a washing machine effect.</p> <p>But if you sit back on it and are too cautious, then you don’t have much fun on the river, right? From my vantage point. Well, I think of politics and leadership kind of the same way, that trying to find that spot where you are on the front edge is the key to helping a community and people move forward, but if you get too far in front of people, they get angry and they don’t understand the change and they get rid of you.</p>	00:38:49
OSH	Well thank you, that was very enlightening. We never realize, you know, how	

	<p>hard politicians work. So many things to consider.</p> <div style="text-align: right; border: 1px solid black; padding: 2px;">00:41:18</div>
Nicole	<p>Thank you. Hello, I'm Nicole Radnik[?], I recently had the pleasure of relocating to Singapore from the US. Thank you mayor, that was a very helpful presentation and thank you for your service on a great city. I was wondering if kind of building on the last question, if you could talk more specifically on the bicycle infrastructure and those conversations, and how they played out within the city, knowing back in the US the tough issue in our urban environments with the car-dominated culture that we have, and how you were able to get that through, to get a bike share programme going and get bike lanes put in on the main street of Salt Lake City, that is a big achievement.</p>
RB	<p>It's a big issue and it turns out it's a very big and tough political issue for, I think, the reasons you mentioned. So, I've bicycled my whole life but in Salt Lake City, I commuted by bicycle before I became mayor because almost everyone I knew who did suffered. And usually in accidents, cyclists don't usually do very well when they get hit by cars and I didn't like that equation very well. But when I was first ran for Mayor [of] Salt Lake City and I was knocking on doors, which is the way that I campaigned, the number of people, when I said 'What do you want to see in Salt Lake City that we don't have today,' the number of people that said that 'I'd like to be able to get out and bike in my city, in Salt Lake City, but I am scared to get out on the streets.' and I related to that so well myself! Well, that's the reason I don't bicycle in Salt Lake City very much.</p> <p>So when I became mayor, I decided I wanted to try to change that. I became mayor in 2008, so it's right when the recession was hitting us hard and because of the way revenues occur in Salt Lake City, we were hit really badly so our revenues for the city were going down. But one of the first things I was doing was developing a budget for the next year and as we were going through the capital side of our budget, the infrastructure and building part of our budget, and I was looking at different parts of our budget, I would look at</p>

money either wasn't spent in the prior year, or I wondered if we could delay it for a while, and I'd set it aside.

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The year I came into office, we had \$50,000 budgeted for cycling. That first year, it went up to \$500,000. So it was enough to do a lot of striping of roads because that's the cheapest thing to do. So we started striping roads. By the time I left office, we were budgeting five million dollars a year for cycling.

We started developing protected segregated bikeways, and we more than doubled the number of bike lanes in the city. As you referenced, some of that was extremely controversial. Salt Lake City has its enormous benefits. See Hai and I and Brian were talking about this earlier this afternoon. We have very wide streets. The street system that was laid out in Salt Lake City followed a plat that had a 120-foot wide streets. Now that is a dream for a planner. And you would think that it's like no big deal then, right, to take out six or eight feet to put in bike lanes on each side. But what I discovered was that anytime you started changing roads that people drive on, even if there is capacity on the roads, they do it relatively easy compared to most places, there's...it disturbs people enormously.

So while the cycling improvements, conceptually, were some of the most popular things I did as mayor, and still today, people come up and just say, "God, I love what you did by providing for cycling in the city" and our usage went up commensurate with the investment, I can tell you, because people were safer, and felt safer and more comfortable getting out on the roads. And then there's all kinds of other benefits, right? Lower energy use, improved air pollution effect, all those things...fewer people on the roads. It was also for some people who don't bike, often for good reason right? They physically can't do it, or...but often it's just because they don't consider that as a viable means in order for them to be able to get around. For a lot of those people who weren't cyclists or supportive for other reasons of cycling, it was a huge negative for me.

So it was both one of the most popular things that we did and one

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	<p>of the most offensive things that I did when I served as mayor. But it's made a big difference in our city.</p> <p>The bike-share programme, I started seeing it because I'd go back and forth to Washington D.C. regularly as part of my job. And they had, I think, about the first bike-share programme in the US and the first round of it actually failed, and then they redeveloped it while I was in office and it's been a success. And I'd come back and see what's going on with bike-share programmes around the world, particularly in Europe and said, "We've got to do this." And I was very aggressive about it and in fact our transportation folks got really frustrated with me because it took us two years and I wanted it done in a year. But it takes a lot of time to do that.</p> <p>Our first bike-share programme was 70% privately funded, the opening of it. And the rest of it was city-funded. It has been growing by a hundred percent a year, every year. In terms of usage, we have a hard time keeping up with the demand for the bike-share programme. It is without a doubt, for those of us who use it, the easiest and fastest way to get around downtown Salt Lake today.</p> <p>So...and we have winters you know, it's not like we don't have winters in Salt Lake, so sometimes you know on snowy days, it obviously isn't used very much or when the roads are a mess. But it's been one of the greatest successes I think, in terms of popularity and effecting the quality of mobility in our city, in particular, downtown.</p>
Bruno Wildermuth	<p>I am Bruno Wildermuth, a retired transport planner. I actually have a question to follow up upon what you just talked about it, but then also want to go back to the first question that was raised. How did you actually manage to educate drivers to be more careful about cyclists? That is one of the big problems in Singapore. Drivers...motorists simply don't know how to handle bicyclists because they are just not used to it.</p>

RB

Yeah, not only do people like me have a hard time, because people drive on the other side of the road but you've got this huge...it's a huge issue. Safety is probably our biggest issue with cyclists on the road. I'll just give you both my sense of it and what our statistics and all the information we have show us. Part of the problem with the conflict between the cyclist and the motorist is there's so few cyclists on the road. And motorists aren't used to looking for cyclists and by the way, motorcyclists also have some of the same issues, because people don't always see motorcycles even though they are probably more common in more places than cyclists.

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So part of the problem is just getting more people out there, to get more people out there, it needs to be safer, so there's kind of a set of things that need to happen to create safety. The best way to provide safety is to have separated bike lanes: protected bike ways or cycle tracks as they call them in most of the world. And those are expensive. That's the reason for us, the cycle track which we've started now in Salt Lake City, the cycle tracks and protected bikeway were one of the last things we did because it costs us millions of dollars to get a protected bikeway and...but as soon as you do that, the amount of usage goes up because of safety factor.

I mean it's not very often on a regular street, you see someone riding down the street carrying a kid in a trailer on the back, or people without helmets or things that give them better security on the road. And as soon as we put in protected bikeways, the usage goes up, and then the number of people.... 60% of the people who said they would bike don't because they're concerned about their safety. The other part of it is that cyclists are notorious for not following the rules of the road in the US and in Utah and in Salt Lake, you are required to follow the rules of the road, and so we actually started to have to enforce much more heavily against cyclists who wouldn't stay stopped at the red light for example when nobody was coming, and just didn't think that the regular rules of the road applied. It both angers drivers of cars, but it also creates safety issues.

	<p>And so we started actually enforcing the rules of the road against cyclists. You know you...and then education is the biggest part <span style="float: right; border: 1px solid black; padding: 2px;">00:50:50</span></p> <p>of it I think. And there's a programme in the US, a non-profit, that reviews and provides grading for everybody that is developing cycling in the US and they will come out and do a very extensive review and I know for us, in probably because we are just building so fast, our cycling infrastructure, they said our biggest issue was education. So we shifted actually some of our funding towards education in the city. And I think it's helping some, but the biggest factor in my mind...because if you go to European cities today, you don't see that many accidents. And my own view is that there's so many cyclists on the road that everyone is used to looking out for them.</p>
BW	<p>By the way, on cycling, Japan actually is also a great cycling country, surprisingly. Very interesting.</p>
RB	<p>Yeah, they've got a whole structured parking just for bicycles in Japan, I've noticed!</p>
BW	<p>Yes, my other thing was really to follow up on the very first question by the lady, which I believe is more to do with...Singapore has an ageing population and what can you advise us on how to handle this whole new set of problem with a rapidly ageing population.</p>
RB	<p>So the fastest growing population, even in Utah, is the ageing population, those over 65. And it takes special attention to everything that we do, whether it's how we provide accessibility in buildings, to how we provide for transportation, to the kind of housing we provide, and where. And I'd say in the US, and that includes Salt Lake City, we're a little bit late to the game. We did some really intensive work with folks who focus on that area and we are looking to kind of, like what we did around sustainability to revise our ordinances and our standards to provide for a larger and larger ageing population.</p> <p>But it's across the board, it's like sustainability in that way. We <span style="float: right; border: 1px solid black; padding: 2px;">00:53:16</span></p>

	<p>have to look at every part of our community and how do we provide for our ageing population and it's a matter of adapting, really, in my mind, all those elements of both how we get around and where people live and how they like to live, and making sure we have the housing types and the mobility options for a larger and larger ageing population. I don't know, you may have other ideas, I'd welcome them.</p>
Unknown	<p>I have a question. On one of your slides, I saw a building that called Bicycle Transit Centre. Looks quite interesting, maybe you can tell us what's inside this building?</p>
RB	<p>So in Salt Lake City, in downtown Salt Lake City, it's...we call Utah and Salt Lake the crossroads to the west, because if you were to put your finger down on the middle of the American West, you will end up at Salt Lake City. And so, the trans-continental system, north and south, comes through a lot...through the middle part of the western United States comes through Salt Lake. It's also in the middle of their metropolitan region which is a long strip along the Wasatch Mountains and the western side of the...we call it the Wasatch Front. And one of the things that our transit agency got smart about was how they plan for all of our transportation systems to meet together, all of the various modes, particularly around transit and cycling. So they were our...trans-continental passenger railroad comes through where our bus system for bus service all around comes through, where all of our rail lines end up as a hub. And where we have provided for the last mile, as we call it in the transportation system, right, which is about the most challenging and important mile to provide for in many ways...we established, by we, it's really led by a transit agency, a surface transportation hub. And we call it Central Station although nobody really calls it that. It's also called technically the inter-modal hub, and it's where we try to provide for all of those surface modes of transportation in downtown Salt Lake.</p> <p>It was difficult in a way to get it in because siting decisions for all of you who get to make those kinds of decisions are often the most controversial but it's</p>



	<p>been successful. It's also been a challenge just because of its unique location in downtown Salt Lake City but it's serving its purpose and there's enough land and development opportunities around it that it's growing quite fast.</p>
OSH	No Ralph, I was talking about the building, that's called the Bicycle Transit Station. So that's part of the...
RB	That's part of the inter-modal hub.
OSH	So you get off a train and then you will be cycling the next moment.
RB	Right, we've got...it's actually our most active bike-share station as well. But all of those modes—bus, trains, private bus system, and cycling centre all co-located there.
OSH	Okay, thanks. Yes please.
Keng Liang	<p>My name is Keng Liang. I'd just like to know that is it for cities that are 50 years, and Singapore has prided ourselves as one of the most liveable cities in this part of the world, we have one of the best transport systems and good airports and we manage our water resources well and things like that. Perhaps during these days, professor probably can give us an insight at how we could further improve, or maybe an overview, as what you see on the roads, as what...you take our transport, and anything that some how can further improve our cities as compared to Utah. Thank you.</p>
RD	So I'm not sure I got all of your question, but it relates particularly transportation and transit?
OSH	Based on what you see, how we can improve.
RD	<p>I'm looking forward to seeing your system. My guess is you are years and years, if not decades ahead of a place like Salt Lake City. But I've been, I guess, as most of you, looking at cities and what's working and not working in cities and I see transit as the biggest key for a whole variety of</p>

reasons to our cities being successful going forward.

For just our circulation patterns and I guess one of the things that I have learned been working around transportation, and with transportation systems with years as a planner, as a consultant sometimes, and then in the governmental arena is that.... it's just one of those areas referring to an earlier question where it's clear to most of us what we need to do around transit improvements and it's hard for the public to be willing to make the investments, particularly given the lag time between decisions and when something is developed on the ground, to be able to move forward at the pace we need to.

It seems to me that in Singapore, you've got, from what I understand and I'm hoping to see a lot more of, you have a great public transit system. And having convenient, accessible fast transit is what makes it successful I think. It needs to be as...in a place like the United States and western United States, it needs to be as easy to use transit as it is to drive a car. And where we don't have the densities you have here, we don't build so much with that in mind and so it's more of a challenge in the United States and particularly the newer cities in the United States and some of them, I go to a place like Los Angeles and Phoenix and I just shake my head at the challenges they have in front of them to now retrofit their cities which they are spending billions and billions and billions of dollars almost every year to try to do.

We were lucky in Utah, I think, for one primary reason. We had the managers of our transit system, which is a state-wide system, that locally people opt into with the local option sales tax, it's voted on by the public. We had a referendum but failed to build our first line of our light-rail system. The management of the transit system decided they could do it with the existing revenues and that they were going to, and so they put in the first line after a public vote that said they didn't want to spend additional money on transit, on rail particularly. As soon as it opened, the floodgates of support opened and a 30-year plan was developed in seven years by the public-supported referendum for it. Sometimes I think it just takes some strong leadership.

	<p>That General Manager, by the way, lost his job over it. But the system got built and it's created a tremendous backbone for rail <span style="border: 1px solid black; padding: 2px;">1:00:54</span> in our region. I think we've got so much catching up to do in the United States compared to what I read about, mostly, and heard about here and in much of Asia and certainly all around Europe.</p>
OSH	Yes please.
UNKNOWN	<p>Hi Doctor Becker. Okay, my question is how would you describe the community spirit in Salt Lake City? As I understand that you mentioned several times that many of the initiatives were privately financed, privately supported, about 70%. So in this aspect, I'm also quite curious in terms of how do you cultivate a group of advocates or volunteers on the ground to drive the green efforts or the self-cycling efforts? In this aspect, we are quite interested to find out. Thank you.</p>
RB	<p>So private sector investment varies depending on the kind of projects, specific project you are working on. So something like bike-share programme, we just believed there was an opportunity and we had seen it in some other places where a company would step forward and sponsor the programme and then they'd get their name on the bikes, right? Or on the bike stations. So you know one of the things that happens when you either own your own business or you have to campaign for office, is you learn how to ask for money. And you learn who has the money.</p> <p>And when we were looking at the bike-share programme and we had reluctance on the part of elected public officials to spend the money, I just went, "God, this is only a matter of coming up with a million dollars" so...which is a lot of money for me, but not necessarily so for someone that's looking for a marketing opportunity for something like bike-share. I just started calling around the healthcare companies and some of the other folks who wanted to be viewed as being green, like our Rio Tinto, which has a huge a copper mine in Salt Lake, but always wants to be perceived as being environmentally-friendly. And they came forward with the largest chunk of</p>

	<p>the money.</p> <p style="text-align: right;">01:03:26</p> <p>For something like public transit systems that are both so much more expensive and where it takes...you know there are some opportunities to leverage private dollars. You have it here with your public lands because if you build a light rail or a heavy rail station, there's going to be development around it and you can capture that additional revenue and put it back into the system if you choose to do it that way. We don't usually have those kinds of opportunities as much, and so it needs to be a matter of going to the public.</p> <p>I'll say that in Salt Lake City and I think it is for some reason particularly true in Salt Lake City and in Utah, our biggest advocate for transit improvements come from our Chamber of Commerce, come from our business organisations. Because they know that if it is hard to get around in our region, both in terms of people going to jobs and in terms of commercial transport of goods, then it hurts business development. And they led the way on the marketing efforts to help our public understand and help them, helped gain support when we went to the public for public funding, by vote of the people.</p>
OSH	Yes please. (Long pause) Two questions? Okay.
UNKNOWN	<p>Hello Doctor Becker, thank you so much for that insightful talk. And my question also goes back to some of the previous questions regarding cycling and I think the cycling infrastructure and the bike-share that you provided in Salt Lake is very impressive, given that US is a so car-dependent country. But Utah has a very hot summer and cold winter, if I am correct. So do you really think that climate, weather, can play like an obstacle when it comes to cycling, because in Singapore, we are trying to go car-lite and often we hear that people say it's very hot here, it's not suitable for cycling. But when I went to Netherlands, it was snowing and people were still cycling. And same goes for Japan, people actually prefer to cycle.</p> <p>So in your opinion, do you really think that weather, like extreme hot or extreme cold weather, like if...you also mentioned that</p> <p style="text-align: right;">1:06:24</p>

	<p>when it's snowing, people are still cycling to downtown. So do you really think that weather is actually an obstacle if people really want to go for cycling? Thank you.</p>
<p>RB</p>	<p>You know you would think that weather would be a huge factor whether or not people cycle, but the second most successful city in terms of cycling use in the United States is Minneapolis. Minneapolis is below zero for half their winters, it seems like. It is frigid and there's snow and ice on their streets the whole time and yet people go out in the middle of winter and cycle all the time. I used to cycle to work in the summer and in the winter with my suit on. It's surprising how much you can adapt once you start cycling.</p> <p>I layer up in the winter and I strip down in the summer, much more than I would otherwise. And I did not think we would have success in Salt Lake, the level of success we've had because we do get snow in the winter and our summers do get really hot. Average summer days are in the 90s in the middle of summer, going over a hundred sometimes. We don't have the humidity you do here, but it's still really hot. It does not seem to materially effect how much people are willing to cycle more. Certainly when it's the hottest and it's the coldest, there are fewer people cycling but it is surprising the number of people who still cycle through all kinds of weather.</p> <p>And some of it is because the technology around bikes has changed so much. So in the winter now, one of the really popular things in Salt Lake is we have what are called snow-bikes and they are like mountain bikes, those of you know what it's like, but they are much bigger, fatter tires, and they go really well on snow and you can even put studs on them and they have the same kind of gear ratios of the same kind you get with mountain bikes and so they are really easy to ride on regardless of the conditions.</p> <p>So anyway, I'm surprised...I've got to tell you that I'm surprised, but you go to a place.... My wife does a lot of international travelling</p> <div data-bbox="1209 1845 1369 1895" style="border: 1px solid black; padding: 2px; display: inline-block;">1:08:58</div> <p>You know what that has the heaviest percentage of cycling use of any city in the world? Copenhagen. Sixty percent of the people in Copenhagen get</p>

	<p>around by bike. Well, it's not because of the weather being so good. They've built the infrastructure and it's sort of part of the culture of Copenhagen. And my wife goes to Amsterdam quite a bit and was visiting friends there who moved from Salt Lake.... She gets there and it's raining. She's got two little kids, she puts one of them in the basket and the other one on her back and it's pouring rain and they ride three miles to her husband's place of work. So it's surprising to me, I mean I think it's a really good point, but while I'm sure it inhibits people, it's not nearly as much as certainly I would have expected.</p>
<p>UNKNOWN MALE</p>	<p>Hi, actually I had a very similar question so I won't repeat that. I was actually in Copenhagen for six months very recently and it was very easy to cycle there, but at the same time, I would say that for me, cycling there was better off for the fact that there were no better alternatives for a similar price, I would say, because I would say taking public transit there is very expensive. So I think.... But at the same time, I recognize that it's not as convenient as driving and I think earlier on in the presentation, you made a point about how when you want to offer alternatives for the transport, it has to be as good as the existing. But I'm not sure, maybe that's not true. Maybe people are willing to cycle to anywhere even if you recognise it's not as good, not as convenient as driving, for example.</p> <p>But my question is about you talking about how cycling is particularly common in the downtown and I'm wondering is that kind of like a limitation of cycling. Like is cycling really only effective in very downtown areas and not let's say linking suburban towns into a downtown and I would assume that for a lot of people, to get to work, they have to transit from their houses which are kind of far from the downtown into the downtown areas, so can cycling be a solution for that? Thank you.</p>
<p>RB</p>	<p>Yeah, I don't want to kind of oversell, personally I don't want to oversell cycling. You know, for a lot of people, cycling isn't going to work. Public transit may work better, or just riding their vehicles may ride better. I was struck in Vienna which is again not exactly a particularly favourable weather</p>

for cycling, when I was there a number of years ago. Their surface transport system is one third cars, one third public transit and one third cycling and walking. We've got a long way to go in places like in Salt Lake City to achieve that, what I would call a balanced transportation system.

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For downtown, in a place like...our downtown is in the bottom of a valley and so is pretty flat and really easy to get around and the bike-share bikes for example are pretty heavy and clunky and only have three gears, but they are really stable and they are really easy to use. So it makes it easier for people to use. And the vast majority of our cyclists are younger people. There's no question about that. That's also the fastest growing part of our city in downtown, far and away. So all of those things sort of come together.

And then having safe cycling paths makes a huge difference for people feeling comfortable getting out and cycling around. But there is no question, I have timed it over and over again, the fastest way for me to get around downtown Salt Lake City is on a bicycle, and that's following all the rules of the road. Because think about it, when you get into the car, what are you doing? You are leaving your office or your place where you live, you are walking to a parking lot or a parking space, you are getting out of that place, you're going the whatever number of blocks: three blocks, 10 blocks, 15 blocks, to where you are going and then you are going through that same procedure on the other end, that may be or may not be in close proximity to the door you are trying to get to.

With a bike-share programme, if you've got a sufficient density of them, you walk out your door, you push a button, you pull out a bike, you ride it close to the door of where you are going and you push it back into the rack and you're done. And people are realising, I think that's the reason we've seen such a fast-paced growth in Salt Lake City around the bike-share programme, is people will commute to work whatever way they get there, but instead of waiting for a train to come or trying to jump in their car to go somewhere, it's just easier to use a bike. It's really a matter of just convenience.

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	<p>So for a lot of people, it becomes a good option in the downtown.</p> <p>[End of video]</p>	1:13:37
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