
This is a raw transcript of the Plenary 2 of the World Cities Summit, held at Marina Bay Sands, Singapore, on 3 June 2014. The panel comprised:

Plenary Chairperson

- **Burhan GAFOOR**
Chief Negotiator for Climate Change, Singapore

Speakers:

- **Bertrand BADRE**
Managing Director and CFO, World Bank
- **Clover MOORE**
Lord Mayor, Sydney, Australia
- **Roland BUSCH**
CEO Infrastructure and Cities, Siemens
- **Wim THOMAS**
Chief Energy Advisor, Shell
- **Michael DIXON**
General Manager, Smarter Cities, IBM

Featured Speaker for WCS Grand Summary

- **LIU Thai Ker**
Chairman of Centre for Liveable Cities, Singapore

Guest of Honour for Closing Remarks:

- **LEE Yi-Shyan**
Senior Minister of State of National Development, Singapore

[Start of Transcript]

Amb Burhan: “Thank you very for that introduction and good afternoon to everyone. Welcome to the second Plenary Session of the World Cities Summit. This morning we had the first plenary session. We looked at the critical challenges and opportunities facing cities and I thought that this morning we had a very good discussion and a very good start. After that first plenary discussion, we had a series of thematic group discussions both in the morning and in the afternoon. I’m sure some of you would have

attended the various thematic discussions relating to the role of mayors on urban planning, resilient cities, future ready cities and the future of mobility.

Now already after almost two days of discussions, I think there are many common messages that are coming from this summit. There are many key messages and what has struck me is how some of these key messages are not only common but how they are inter-connected. Just to name a few, what has been quite clear is that sustainability is not an option. It is a necessity. One other thing that I heard at this conference which struck me very much is that a sustainable city is a smart city and a smart city is a sustainable city. This is was something that was mentioned by a speaker and I wanted to share that with you. So the whole question of sustainability has been a very big theme.

But of course the question of sustainability is related to so many things – to the question of liveability, which is about putting people at the centre of cities, about making cities happy places for families, for children, for talented people from around the world, for investors and the private sector. And sustainability and liveability in turn is related to the whole question of infrastructure. An infrastructure is about partnership with the private sector but what struck me from something that was said by one of the speakers in the morning session was that we need new ideas for infrastructure. We need different definitions of what we mean by infrastructure. It's not just the hard infrastructure but also the soft infrastructure, which has to do with networks of people, network among communities.

And then there's the whole of technology, which has been a very dominant theme in this conference in particular the role of information and communications technology which is seen as an enabler, as an instrument to enhance, citizen participation, to enhance ultimately the welfare of people. Another very important message that has been coming across from the morning session, the thematic session, is the whole question of inclusion, making people a part of cities, reaching out to marginalise communities, managing income disparities, also managing the middle class. That was something that came up in the morning session. And of course, cutting across all these common messages is the whole question of governance, of leadership, of political will, of vision.

Now this afternoon at this session, at the closing session of this summit, we are privileged to have a very distinguished panel of speakers. I would say that the objective of this panel discussion is to build on the discussions that we have already begun, not just this morning but a day before and also at the Young Leaders Symposium. So we would like to use this panel discussion to build on some of the themes that we have been discussing to explore some of the messages a bit deeper, to explore also the interconnection between the different messages that have been coming out quite strongly at this summit. So let me without further ado, introduce the speakers we have for this closing session.

I have on my right, extreme right, let me start there with Mr Bertrand Badre. He's the Managing Director and Chief Financial Officer of the World Bank, Bertrand. After that,

we are very fortunate a gender represented panel so we're very privileged in particular to have with us the Right Honourable Clover Moore, the Lord Mayor of Sydney, a very dynamic leader and lady not only in Australia but whose fame spread beyond Australia so she's there. Next to me on my right I have Dr Roland Busch, who is the CEO of Infrastructure and Cities and also in-charge for the Asia Pacific region with regard to Infrastructure at Cities from Siemens, which is a company that needs no introduction.

On my left, I have also someone from a company that needs no introduction and that has been very active in the summit. From Royal Dutch Shell, I have Mr Wim Thomas who is the Chief Energy Advisor. And then on my extreme left, also very fortunate to have someone from another company that also needs no introduction, a very famous company, Dr Michael Dickson, who is the General Manager for Smarter Cities. I think on this panel we have the private sector, in particular private sector dealing with smart technology and information technology and of course the Lord Mayor as well as other panellist. I think we will have a very good discussion I hope.

I'd like to very quickly mention the format. I think if you have been here at the morning the format would be familiar with your. I call upon each of the speakers to make opening positioning statement, hopefully under five minutes and then after we have finished all the positioning statements, I'll throw a question at each one of them on a very specific issue from their presentation and then we will hopefully get a response, a quick response under three minutes or less, hopefully. And then we'll switch to a polling question so a reminder again for you to connect with your handheld devices to look through the question and start polling. And then we will take some questions from the floor and hopefully we can do all of these by six o'clock because we do have some closing speeches to do.

So maybe at this point before I call upon the five speakers, the two broad questions that we have put to them is the question of what they think should be the role of technology in sustainable development and the whole question of what sustainable strategies should cities be adopting. So with those two broad questions, I will like to first of all invite Mr Bertrand Badre, Managing Director and Chief Financial Officer of the World Bank. Betrande, could we start with you please."

Mr Badre: "Merci Monsier Ambassador, if you allow me to remind of your good old French days. I'm sorry there is no translation from French into Mandarin or Japanese but I hope everybody would understand. If you allow me to also switch from French to German before moving back to English, I think there is no German say, middle age we said that *stadtluft macht frei* which, which means basically the air of city liberates and I think this is important to have this in mind when you discuss city. And when you look at development, which is the bread and butter of the World Bank, development is in many ways a tale of two cities. At its best, a city is a hub of prosperity. We know that cities generate over 80 per cent of global economic growth. This is where productivity that workers can find jobs, education, basic services which are provided in cities - the concentration of population, urbanisation, or the potential to save energy, to save land, to save natural resources. So as a result, it's not a surprise that cities are growing at

unprecedented speed and that managing rapid urbanisation is an urgent global challenge with consequences for prosperity, for prosperity, for citizens and for the climate.

But not all cities are able to generate shared prosperity and to provide the service required for sustainable development as you say. We know that in the coming years, the urban population will double but at the same time the urban area will triple. This means per capital consumption will greatly outpace population growth and the vast majority of this growth will happen in developing countries and this is one of the key issues that we are facing. So the great challenge we face is to ensure that cities are built right and are expanding in planned fashion so that they are liveable, low carbon, inclusive, resilient, competitive with strong systems and governance. The menu is pretty impressive. And this is a priority for us so we have to work in different directions.

I would say at the bank and as a development institution, we can bring two things that bridge the gap. As a bank of course, it's a question of finance. As a development institution, we can bring on top of finance, we can bring and we must bring expertise. So when I say finance let me take two examples. One key item is value capture. One approach that you want to foster is to recognise the potential of cities to capture land values. Large scale investments in urban infrastructure, an example is mass transit system that bring long term benefits as well know, improve mobility, access, reduce congestion, reduce air pollution.

At the same time, of course and for the very same reason this leads to real estate appreciation. The benefits go to private landowners and in the long term public revenues will increase the property tax. It does not happen naturally so with this in mind we are helping cities to structure a transparent and equitable mechanism to capture part of this value creation. We have learnt from different schemes in countries as different as Korea or Japan for instance how to do that. In Latin America, we've been working with Sao Paulo or with Bogota where I was a few months ago to set up mechanism for land value capture to auction additional development rights, for instance.

But on top of that it's not just about value capture. It's about credit worthiness programme. If we want to win proper finance, you need to assess the credit worthiness of cities and I think it's important to help municipal governments become more and more self-reliant to broaden and deepen the sources of financing for sustainable infrastructure. So we have to work with them, it's a long process. It's a process at the city level, it's process at the national government level. Again, it's not independent, as you know. It's also a process with the private sector to build the capacity to have the finance professional and the technical experts to handle this. And we've been working for instance recently gathering cities in Nairobi in Africa or in Seoul this year, cities from Asian cities for Africa to discuss how to get there. But more than finance, it's also a question of helping spread knowledge and expertise. The finance is not enough.

So we know that big cities are often ranked. There are countless indexes, which rank cities and we will then process sectors and most of these rankings share basic

characteristics. But we're seeing that it's not just ranking that we need. We think that as a World Bank group we are able to broker knowledge and know-how to do planning, privatisation and sustainable investment. We are conducting urbanisation reviews which are diagnostic to have cities make better informed policy and investment decisions. We are trying to spread the lessons well and we think that three pillars for sustainable development are planning and planning, and planning to ensure land use infrastructure development and make sure we anticipate the future.

Same point, connecting, we have to enable citizens to get to where their jobs are by efficient and low carbon transport system and of course again financing, which looks at the need to cultivate new sources of funding which is what we are discussing today. So that I think, I see I have nine seconds, if I can conclude rapidly, I think city leaders, and I have one next to me, face many challenges as they plan for rapid urbanisation. They need to access financing, I said it, to deliver infrastructure and to deliver basic services. They need promote inclusion, they need to enhance the competitiveness of the city and they need to create economic opportunities, they need to strengthen their resilience and ability to cope with natural hazards, climate risks and various shocks and also they need to plan for low carbon future. I think it's essential.

This requires as I said financing but more importantly global experience, knowledge transfer. This is the arch of our mission and again if we do this properly, if we do this right, this is pure basic condition where really, the air of the city will liberate us. Thank you very much."

Amb Burhan: "Thank you very much, Bertrande, for that."

Ms Moore: "The air of Sydney will liberate us."

Amb Burhan: "From the global level, we go to the local level to the Lord Mayor of Sydney."

Ms Moore: "Thank you Ambassador and good afternoon everyone. It's great honour to be here with you and I'd also like to acknowledge the other capital city, Lord Mayor from Australia who has also attended this conference. So we've been told many times at this conference that more than the world's population is in cities but the ratio is in fact higher in Australia. Almost 90 per cent of our population live in urban areas and so, of course it's really important challenge to make our cities be more sustainable, liveable and resilient. Sydney is Australia's largest city and it does have fabulous natural advantages. Its temperate climate, its beautiful harbour, its harmonious multicultural mix and they have long brought our history's nation as one of the world's most liveable cities. But at the same time, we lag behind other cities and face critical challenges in areas such as transport and increasingly living costs, especially housing affordability.

That's why opportunities like this summit for me is to come together and share experiences are so important. We have so much to learn from one another. Before arriving in Singapore, I visited a number of cities in China, including Shenzhen,

Guangzhou, Xian, Beijing and Wuhan. I was very inspired and amazed at their progress especially in transport and action on climate change and I will be taking the lessons I've learnt back home. The scale of China's growth is very different to Sydney. Out of the Metropolitan Sydney's 4.6 million residents, my city government is directly responsible for 200,000 residents and the one million people who are in our area today for work, for study, for shopping and for entertainment.

Our area contributes 25 per cent of the state's economy and eight per cent of the national economy. Decisions we make underpin the sustainability of the entire Metropolitan area, indeed the entire nation. The past five years, 40 per cent of all jobs had been in our area, jobs growth been in our area with the majority in high value creative, digital, innovative and service sectors in our inner city villages as well of course as tourism and education. The result shows the important role of our historic city villages. The strength of these local communities is the key attraction for people who are choosing to live, work or visit our city. High quality developments close to jobs, shops and transport, efficient and safe attractive ways for people to move around, childcare, stunning community facilities, beautiful parks and open spaces and quirky laneways, small bus and main streets with thriving small businesses. These are all the things we've actively pursued as part of our vision for liveable and a liveable sustainable city.

Back in 2008, following a massive citywide consultation with the residents, businesses, universities, governments and statutory bodies, the city of Sydney completed our Sustainable Sydney 2030 strategy. This was to make Sydney an innovative, future-focused city that is green, global and connected. So we have a motto **(20:06)** in Sydney. We consult, we commit and then we do. The really nice thing is now we're up to doing stage. That we like taking the action. The overarching bridge is to make Sydney environmentally sustainable. We want to be internationally recognized for outstanding environmental performance and our target, the target we're committed to is to reduce our greenhouse gas emissions by 70 per cent by 2030. We have already reduced our emissions by 20 per cent. We believe we're on track to reduce them by 29 percent by 2016. But Australia, our nation is behind in many other countries in reducing emissions and the present national government, the present national government is shamefully unwinding the limited progress made by its predecessor.

Comment [AK(1)]: Added

But despite this environment, Sydney became Australia's first carbon neutral city government. In Australia, first we also trialed solar lights in our streets and parks. We've now completed our three-year rollout to save nearly \$800,000 of energy bills and reduce greenhouse gas emissions from street lights by 51 per cent. This has inspired our state government to pursue a similar installation statewide. We are making city-owned properties more sustainable with solar panels, water saving devices and other methods and here we like to show this image because it's our most historic building, our Town Hall, and we say that if you could put solar panels on the most historic building in the city you can indeed put them anywhere.

We've retrofitted 45 major buildings, city buildings as cutting energy use by 6641 megawatt hours and reducing greenhouse gas emissions by 23 per cent. And we're establishing strategic alliances to deliver, improve environmental performance across all sectors and here are some of our representatives of the Better Building Partnership. They include leading public, private and institutional landlords that collectively owns 60 per cent of Sydney's CBD commercial office space. The group works collaboratively to improve the sustainability of their buildings, delivering a 31 per cent reduction emissions since 2006 and in fact these leaders of our commercial sector have signed up and are committed to same goals that we're committed to, that is reducing emissions by 70 per cent by 2030.

Another part of that programme is the National City Switch Programme and that's for commercial office tenants. Co-funded by us in Sydney and saving almost 33,000 tonnes of greenhouse gas emissions and 8.2 million energy costs by 2013, in 2013 I mean. We transport in the hands of New South Wales State Government. We have lobbied hard and successfully for a light rail system through central Sydney. This will enable us to turn our most historic city street from a congested traffic clogged artery into a major boulevard with the city contributing \$220 million to widen footpaths, increase tree plantings, provide public art and upgrade the laneways connecting to neighbouring streets.

We've also invested in rolling out a 200-kilometre safe cycling network, which has been enthusiastically adopted by residents and city workers. I'm very proud of this. We started off that our goal in we only had a one per cent cycling rate in Sydney and now it's dramatically improved and I'm very pleased to tell you that the number of people riding has grown 113 per cent since we began regular counts in 2010. We've undertaken major urban renewal in former industrial sites. This way we can protect heritage areas while providing needed jobs and housing most significantly through the \$8 billion Green Square Project to transform a former industrial site into 22,500 homes for 40,000 new residents and jobs for 22,000 new workers.

Importantly, we have ensured that that public infrastructure, including the new parks, the cultural and community spaces, childcare, stunning library and aquatic centre will be in place as new residents and workers move in and that will be connected by walking and cycling paths. We know that we can achieve greater urban densities at the same time as we create move liveable cities when we ensure the transport, the facilities, the shops and the vibrant neighbourhoods are there. And I want to say in summary when we do that, the greater densities needed for a sustainable low carbon future do become achievable because they're also desirable for increasing the numbers of people. Thank you and I think I'm on time."

Amb Burhan: "Thank you very much, thank you very much Lord Mayor for that very comprehensive presentation and also for that very nice photos of your city. We move on now to Dr Roland Busch from Siemens, please."

Dr Busch: “So I think I don’t have to make more arguments why cities are important and that we’re living in an urban millennium. I think it’s also clear how astonishing from years the speed which we are running in this millennium and very often I’m asked shouldn’t we stop it, fight it, fight urbanisation? And well, my answer is no and there’s a clear reason for it because there are only three sustainable growth drivers for economies. One is an increasing population. Not many regions and not many countries can have that. Number two is just industrial productivity and the third one, believe it or not, is urbanisation. An urban environment is the most effective and most efficient way to provide infrastructure for people – energy, transport, housing, schools, hospitals.

So three years ago, we decided to really bundle a couple of businesses. 90,000 people, almost 20 billion business from rolling stock to traffic management, signaling, building management but also the whole grid area to gear up for this market of cities, which we believe is a market which needs technology because urbanisation at the same time is a blessing but it can also be a threat for the infrastructure and we believe that technology can help a lot. So since, ever since we trade in that sector, I was travelling around the world, meeting mayors, talking to urban planners and there’s a pattern of the discussions I would like to share with you. After five minutes or so, we are talking about transport, how to move people and goods within an urban environment. This is the most pressing topic. This is the reason why by the way we launched during this event our new study on urban mobility opportunities.

Second is energy, how to get energy into the city, how to have a better grip, a more reliable grip and of course how to include more and more renewable resources. Third one is wastewater but also see two ambitions. Almost all cities we are talking to do have sewage reduction target but it’s good because remember two-third of the energy consumption in the world is consumed by cities. And the last thing we are talking about is liveable, livability, security, safety. Nobody wants to live in a place where they cannot feel secure so therefore this is a topic which is very important to cities and it’s also then you can realise it’s about benchmark, people are, the mayors are talking about at that time and one of the other dimension.

Well, with that we are very clear that the infrastructure as it is today is not used very efficiently because the automation level is rather low. If you talk to industry guys, they talk about industry 4.0. You might heard about it, which is a fully intelligent system, digitalization from the product generation to the supply chain and manufacturing. In the infrastructure, we might sit on a level 1.0 so the level of automation is rather low. And here is when we believe we can contribute a lot in really leveraging the capacity we have on the ground much, much better. And I brought you some examples on that slides talking about the traffic.

You can increase the traffic of a metro, the capacity of a metro if you change from driver to driverless by 20 to 30 per cent. We proved it in Paris when we refurbished one line and we increase the capacity by that. Think about the amount of money sitting in the ground, the incremental investment and the benefits you have. We can reduce the amount of cars flowing into city if you go for a road pricing like you did for example

London, 20 per cent less cars are going into the street in the city, more than 30 per cent traffic flow increase. But going further to the grid for example, if you want to include renewable and decentralised energy in your city, you have to think about how to manage it right you would run in reverse. You would push the energy back. You can do that with 20 to 40 per cent less investment if you do it the smart way and you could even combine different renewable resources and build a kind of virtual power plant which has a kind of a base load capacity.

And last but not least buildings, buildings are due to again as I said, more than two-third of world's energy consumption. But here we have in automating the way how we are running buildings, we can reduce the energy consumption by 20 to 30 per cent with a limited amount of investment, though payback time is three to five years. And there are other incremental benefits like higher resilience. You can have a better failure rate, so that means running the system up much faster using less space. But it means if you bring intelligence to a system, it will do a lot of good things to the city. Last but not least and this is something what we have experienced which those cities, which are a little bit better in their planning and executions than others. They tear down the silos, the silos between the energy department and transport department and urban development and their housing department. It doesn't do the trick if you're running on silos. You have to look in an integrated way if you want to make a proper development of your city."

Amb Burhan: "Thank you very much, Dr Busch. I think you spoke quite a bit about energy and I think that's a nice segue into our next speaker who is from one of the largest and most well-known energy companies so may we ask Mr Wim Thomas, please."

Mr Thomas: "Thank you. So yes I will address this question from an energy perspective because foremost I'm an energy company. But let me say a prompt that the patterns of urban developments is crucial for future energy demand patterns so as an energy company, we are very much interested how future cities will develop. And as already said, the majority of resources built energy is consumed in city's environments and is only going to increase. Urbanisation itself increased from 50 to 70 per cent in 50 years time while the population grows as well. But that means that say energy demand will go up by at least 80 per cent or if not more, and the majority again will be part of cities. And when you look actually not only coal is a resource for energy but it's also on water, waste and other things and emissions, like CO2.

Cities will play a crucial role and business as usual is probably very unlikely because we will have a kind of an additional push in efficiency and in demand management, which on top of efficiency because we think that the supply side on its own cannot keep up the pace of developments. So here is actually then the planning issue for cities, how do you make your planning and actually infrastructure planning resilient to a myriad of possible future energy solutions. And for that we actually, we investigated urbanisation more in depth and we collaborated our effort with the Centre for Liveable Cities here in Singapore and we came to about six archetypes for how cities probably may develop and I'm going through all the details but how they develop, they characterize by specific

pathways but the crucial one is if it's late state development or a controlled urbanisation, we called it.

Late state development is actually cities just grow and you deal with immediate problems like clean water, sewage systems, education and the core transport, and you sort out efficient emissions. It's a bought-on solution later but that's in pathway, which probably lead you twice as energy density as if you have control and urbanisation is actually when you actually plan in advance with the resilience required for the future. A big difference therefore how it's going to happen and that development of course is a continuous transition and continuous cycle and some cities may feel they have a room to maneuver while other cities feel they are more in a trapped transition, they can't get out because they can't get funding or due to their own institution capability or something like that. But that again makes a big difference.

Now our work, I've highlighted five features on water and what can be done. We say first of all it's all about societal and political choices but that's a given in certain context, I would say as well, but in the end it's all but people's choices. And that has to be based on trust – trust with environment, trust with population, et cetera, transparency and more conditions. Also it must be based on and demonstrable basis of that you can execute your projects as promised to the population and in budget to get appropriate funding and you talked about that as well in previous speakers. And one of the elements is really is that integrated planning for flexibility and resilience in the future and I'll come later on to the part is the new forms of collaborations, which was mentioned as well by the previous speakers there.

I just like to say a little bit very briefly so okay right, what for cities then energy systems because you can have numerous scenarios. But I will argue and say that if you have a scenario where a strong government can overcome nimbyism and they can push things through, they can indulge themselves in the ground scheme of large new infrastructure projects, which is great, you can plan in advance. I'll probably say with a myriad of end solutions required you get a combined grid, you get electricity, you get the gas grid, you get high energy grid, you get different forms of mobility, probably much more electrified mobility than otherwise you could do.

Another key element is really that coal is pushed back. It's not an energy you want you close the doorstep because it's pollutant but you should also not push back to the hinterland and have your neighbours solve the problem, right, which actually brings back at the city problems, not just by a city but also about the hinterland, what supports the city and there's an equity issue there although it'll largely get probably some planning issues on a larger scale. So coal is pushed back and also I think cities have to start playing the role in de-carbonisation and in that kind of world, probably there's a lot of carbon captured storage but how do you do that as a city? You can't do it locally, you have to do it again with the hinterland.

Another scenario is really when governments are not so powerful and where citizens really want to take control and how do you all overcome then resistance when people

are so easily organised nowadays with social media. I argue this is multi-solution, smaller scale, small integration scale on city ground probably much more the roots on integrated renewables in city designs and how you do that for the locals, et cetera. That probably has a consequence that you cannot in mobility go for the electrification route, probably you stick much more to the higher carbon fuels but much more efficient and maybe cleaner higher carbon fuels but that's a big question there. So a few pathways you could argue and cities could consider and wherever you go anyone is scarce but as an energy company of course it's a great uncertainty because we have to configure our operations towards demand for the future.

Just to wrap up, of course now we have these archetypes cities and kind of archetypes pathways for the future but no city can be exactly pushed in that one of these archetypes will be a notable solutions and it will not necessarily only be the clean carbon with carbon capture sequestration. A green solution will probably be next but what is crucial really in all these stuff is that the problems become far too complex. You cannot just open your own system, like the energy and do it very well because you will actually cause unintended consequences to other parts of society and then you have a problem of how you actually bring them together again. So this new form of collaborations is very much what we advocate to do a lot of activities on that and it is actually really finding a true win-win because the competitive form is right-win-lose in that sense. So here you have to find a kind of new model as well because this is all about very long term partnership for long term solutions and not necessarily just short regains. So let me conclude there, it's about the new partnerships."

Amb Burhan: "Thank you very much for that. Let's move on from an energy company perspective to an information technology company perspective. I call upon Dr Michael Dixon, General Manager of Smarter Cities at IBM, please."

Dr Dixon: "Thank you, Ambassador. We don't believe that cities have changed very much in the last 5000 years. If we went back to the Middle East 3000 BC, we would have seen sick people gathered in buildings, children gathered in buildings to listen to adults, people that need to be kept away from the community in other buildings and people sleeping in other buildings. That didn't change much until about 20 years ago. But 20 years ago, we saw the rise of electronic infrastructure, something we couldn't really see or perceive but something that we believe has profoundly change cities today but more importantly, change cities for the future.

In the last five years, we have heard people talking about smarter cities and in the last couple of years, I think there's been the rise of very pragmatic focus on very specific things. At IBM, we've seen the focus on three distinct areas in cities around the world, both in the well-developed cities in the older world and certainly in the faster growing cities in the emerging economies around the world. These three group of things are quite clear and quite distinct. Firstly, infrastructure things based around concrete, everything from roads to sporting stadiums to the kinds of buildings that make our cities liveable are a very important aspect and focus for new projects. Secondly, we've heard

about energy. The power of utilities, electricity, gas, water and the information technology structures themselves are grouped together in another powerful group. And finally personal services – health, education, social services, employment services. The things that matter to individuals are also for the first time getting opportunity to take advantage in information technology in ways that weren't previously possible.

So if we think of those three areas and the focus that we take to those, we see a couple of things that are very distinct and three clear obvious activities that we see taking place around the world, which give us great optimism for the development in decades to come. First cities are developing an identity. Some cities are picking the things that matter most to them. Often it's not opt in, it's either an acute or a chronic problem that the city needs to tackle. Perhaps it's emergency management, perhaps in transport, water management, energy, health, employment, something that really matters to them and we're seeing cities increasingly focused on the thing that gives them the most important improvement in both delivery of service and cost efficiency. So cities are developing these kinds of characterization and we've started talking about the charisma of different cities and many of you represent cities from around the world that have that kind of charismatic reputation.

Second I travel a lot and meet many city leaders. I'm yet to meet one who says I have lots of spare money, what should I spend it on. These projects need to have a financial underpinning. There needs to be a business case that really does change the way in which services are delivered and the economies of the project are stated. We talked and take for granted in the commercial world disruptive technologies, extraordinary disruptive technologies are in place. Companies like Netflix, Facebook, their acquisition of WhatsApp, other things will change societies as we think we know it today. In the same way, cities are beginning to understand the power of disruptive approaches especially to the application of technology. Police forces are starting to look at crime and say the issue here with the crime is really a family under stress, it's the social services problem. The social services people say we think it's really a health problem because alcohol is involved in the family. But when they look more closely, they say the real issue is depression and the problem is unemployment and we need to provide employment services. We think this kind of disruption will become the norm in years to come as we see police forces, social services, employment services, health, education and other groups working together to deliver much better benefits to the people in the communities they represent.

Finally leadership is everything. We talked about technology. Technology comes and goes. We talked about infrastructure, much longer horizon, it comes and goes. Leadership is critical. In our view, governments don't do things, committees don't do things, think tanks don't do things, people do things and if we look around this conference and certainly around the world at the projects that we all like to look at and understand how best we can replicate, there's someone at the heart a leader, someone who is visionary, someone who has taken responsibility for delivering something of real value and then accountable for delivering that result. These people we see are applying cloud, they are applying analytics to big data, they're applying mobility and we think

very importantly they're providing social media as a major way of communication in everything they do.

In summary, we think that cities are changing and introducing a level of collaboration that is not previously been possible in history and we think this is a very, very exciting time for what we might talk about as smarter cities in a very catchy phrase. We're very optimistic about the possibilities and we don't think cities will be smarter next month or next year. We think we've started a long period of evolution where we'll see cities taken on personas that we're only beginning to think possible. Thank you."

Amb Burhan: "Thank you very much, Michael. I like that optimistic note very much. You also spoke about finance as one of the three points that you identified in addition to leadership and cities developing a certain identity in terms efficiency, of delivering certain services and I think that's a good way to get back to our very first speaker, Bertrande, from the World Bank. Now Bertrande, I like to ask you a question. I mean it's quite clear after listening to more than two days of various meetings that a lot of money is going to be needed to make the trillions of dollars of investment that are needed to make cities sustainable. Is there enough money to go around? By that I don't mean whether the World Bank has enough money but is there enough money in the system? And what should cities be doing in terms of identifying bankable projects to make that investment and to make that transition? Bertrande, could you perhaps one to two minutes, please?"

Mr Badre: "No, I think, I mean money is not all but money matters. And the good news is that there is money around, there is long term financing available around, this is the good news. The bad news is that it does not move naturally in that space and it's a matter of two big issues under one and as I said, you need to have credit worthy cities because these cities, when you create an infrastructure the city is directly or indirectly are the people who will pay for the infrastructure. And when you finance, you don't pay for it, you provide the financing and then I mean the users, the taxpayers, the cities, et cetera, will pay for it. So you need to work on the credit worthiness of cities, that's one aspect.

And the second aspect is also to have projects. We can say that millions or billion or trillions of infrastructure needs, it doesn't make anything. So you have to say okay, it's about x last transportation system, x energy et cetera. So you have to be very precise and that's how you move from a big figure to a list of bankable projects and there's where we have to play a very important role, to move from a mass of projects to a list of bankable projects. So you have cities prioritise, select, structure, design appropriately so that it becomes attractive for others and you have to take into account the public good aspects. I mean, not all projects are eligible and will benefit from your support. So this is the kind of cost system that you have to build together and I think it's an important element that we are discussing today in various instances including in G20, how can we make this city infrastructure an asset class where some institutionally invested money will naturally come because they understand the type of risk and returns they are facing. Thank you."

Amb Burhan: “Thank you very, Bertrande. Now I like to also put a question to the Lord Mayor of Sydney. Sydney certainly has done a lot of things. Your point about Sydney going global, green and connected I think captures it very well. Sydney 2030, you have a very clear and bold strategy and it’s a fantastic city. Tell us what is the secret of Sydney? What makes Sydney, Sydney? What is your secret is making this city so vibrant, wonderful and yet sustainable?”

Ms Moore: “Well, Sydney is very blessed because it’s a beautiful city, it has a wonderful harbour and a great climate so it’s got some very good starting points. I think it was also, you know it was the first city that was founded and it’s quite a fast city, you know things happen in Sydney. It’s got a lot of spunk and character and I think that attracts people and I think we have been building on that and, and, and I think the work that we have done has attracted the people we want to work in our city, to want to work and live in it and I think that’s been very important.

And I think having, you know we’re in this wonderful place of Singapore that has this long term vision that we’re now seeing it all happening, I think by doing our long term plan and engaging with everyone, our universities, our business community, our residents, and you know our business community, I was at a meeting not so long ago when a very key person in the business community said to our then Prime Minister, we have an urban policy in Sydney. It’s called Sustainable City 2030, I thought wow, it’s something that has been embraced by the, so everyone knows it’s where we’re going and as we do these projects, at the moment we have a waste-to-energy project on exhibition, so everyone knows it’s all part of this policy which is to make us a sustainable city. And whilst we focus on the environmental sustainability first because we know unless we address that we all know, you know, 80 per cent of emissions are in our cities and we can address in our cities. We’re making a very important contribution to the global challenge we all have. So that’s our drive.

But it’s also about the economic, the social and cultural sustainability and we’re also working on each of those areas. And that is about, you know, a long-term policy for our city and what I really wanted in the beginning was something that had engaged everyone. So it wouldn’t matter who was in Town Hall or who is in the State Parliament or the Federal Parliament for that matter, the policy would continue and I think that’s the strength of what you’ve achieved in Singapore that long term and vision that has been developed with the community that everyone feels they have ownership of and it has a life into the future and it has significant projects that are taking us forward, and we’re seeing the end results.

And you know as we build beautiful facilities and create wonderful parks that people come and when I first started in politics, we were a very unusual family because we chose to stay in the inner city and bring up our family there and not many people do at that time. Now we have a baby boom and you know we have to build lots of childcare and open schools and do all of these things because all of those families now want to stay in the city, living in higher density, which is unusual in Australia because it’s had a

suburban history. But it's where it's all happening and it's really good place to be and you don't have to spend hours in cars in congestion. So there are lots of reasons why but we had to do the work to create the city that it now is and it is really attracting people to want to live and work there. So we're very proud of that."

Amb Burhan: "Thank you very much, Lord Mayor. In a sense, you spoke about long-term policy planning, vision, clarity, continuity and all of which are clearly paying dividends for your city. I'd like to move on to Roland now. Roland, you spoke about in your presentation the different smart technologies that your company has at its disposal. There is a plethora of smart technologies. How does cities use smart technology in a smart way? I mean, you know where does one start? I mean there are so many options and decisions to make with regard to different issues. So how can city leaders use technology in a smarter way? That's my question to you."

Dr Busch: "So before answering, let me, let me make a comment on what we believe smart is or intelligent infrastructure is"

Amb Burhan: "That's helpful."

Dr Busch: "It starts really at the field level. I mean you have to have, you have to have few devices measuring the traffic, the energy consumption, smart meters. So and you have to have actuators. That means if you really want to make grid and you want to automate it, that means you have to really manage it, that means sensors and apparatus on the field level as the basis. Once you have that, you start creating the data from those. You aggregate them into automation level. This is where you really manage the infrastructure and the next higher level is what do you call digitalization. I think this is also when my colleague from IBM interplay, it's really making more out of the data. But this is not that you just have data. I mean they don't give you anything. You have to first ask what is the problem you want to solve. I mean, let's say you want to increase the traffic flow by eight per cent, so then you can start working on it. So from that perspective, this is what we believe is smart and plus integrating it, that means making this system talking to each other.

Give you an example, we talk about smart grids or smart building and smart grids. If you do that for a smart building, you can manage it on its own. You can drive efficiency as I have explained to you. But it's more powerful if you combine it while the grid and then you have hundreds of buildings talking to each other using the storage which you have, share it. So that means they could create a kind of base load in power generation and consumption, which makes it much more powerful. Same goes true for intermodal traffic management. If you just optimise the rail road and you're not giving an intermodal ticketing system where people have easy-to-use kind of way to use bus and the rail road and maybe even rented or leased cars, car sharing. So once you do that, you can really deploy the full power of an integrated system, a smart system. That's where we believe that our action is going."

Amb Burhan: “I think that’s very helpful, Roland, thinking of integrated approaches as a way of defining smart approaches to solving problem. Thank you very much to that. I think we move on now to Wim. You know, one of the things that struck me as you spoke about your different scenarios that Shell has just put out and I believe the publication has just been released about different energy scenarios and how cities can deal with that. One of the scenarios that you spoke about, you spoke about a scenario where citizens are aware. So I’d like to ask you, what should citizens be doing in smart cities. I want to push you beyond your comfort zone of an energy company. What are the attributes of an urban citizen in a smart city from your perspective as an energy company?”

Mr Thomas: “Right, so I would have interpreted what is the model citizen question really. I don’t actually know if a model citizen exist or even as desirable in that sense and then who’s to judge that because it all depends on which kind of political environment you’re in, I guess. So let me say I would say is that there are some general attributes I think a good citizen should have and I think that is a first of all that in growing cities that he or she should really embrace to a great extent diversity because that would the effects of life. The whole world live at your doorstep and that’s probably very enriching but some communities are still scared for that. So diversity will be I think a key trend there and I think also then the new citizen also need to have a high level of tolerance therefore for other people’s lifestyles and dare I say maybe also high level tolerance of bureaucracy. That’s another part.

What I hope will survive in very large cities and urbanised et cetera is the sense of community and a sense of looking after each other. I mean, yes, big data may see all kinds of connection and can even pick up signals but you still read too many time at least in Europe loneliness is a problem especially elderly and there are people forgotten. It’s all very good when you are young, mobile and upward and all these stuff but there’s of course that the growing population in the West where there’s a whole other group of people has to look after. So if there’s one I really hope will survive or actually that the city could maybe reinvent itself is to bring back the sense of community and locals doing things together by people and not as driven by data or you know instances of social infrastructure.”

Amb Burhan: “Thank you very much, Wim, thank you for that. Question to you Michael, I think at this conference there has been a lot of talk about technology, information technology, mobile, cloud, big data, social. My question is can city leaders use these types of technology to transcend resource limits or infrastructure limits that they face? And how would this whole question of technology also apply to lower income cities or smaller cities which may not be in the same league as the big cities to talk about technology and mobilizing technology? So Michael.”

Dr Dixon: “Well, thank you, Ambassador. Yes, I do think that they, they can be applied in a creative way so I was pleased you commented on my optimism after my comments because we’re very optimistic about the potential to do exactly as you say in some of our biggest cities but more so in fast growing cities where often there’s a much lower base

from where cities can develop. But I think to answer your question which lies back in London in over 100 years ago where there was a great deal of anxiety about the inability of a city to grow or move further because of the horse manure on the streets. And today, we would all think that was amusing but the people that day probably at a conference similar to this were very worried about it. But technology certainly solves that problem.

The thing that really changed was change itself and I'd like to draw some attention to change because it's something perhaps that we all talk about but not many of us welcome and I think that's the critical piece. So I think as I said earlier, I think cloud, analytics mobility, social is important but they're just tools. Technology is something to be applied to people problems and so we think the real issue is around change and I think sometimes you think about, again it was something I was talking about earlier, which is the predominant existing structures particularly of government that have existed for a very long time. So we think the answer lies in how do we change those structures, how do we welcome change, how do we disrupt what we've had, how do we free capital to invest in infrastructure, how do we reduce the reliance on really bureaucratic back office and put power back to people.

So I think social media is critically important. Technology is linked to that through social media. We heard from Ridwan Kamil yesterday, the Mayor of Bandung, with 600,000 Twitter followers and I think that's the future. So cities in many ways for centuries people have kind of had cities done to them and I think perhaps the most exciting thing now is that people have a voice, individually and collectively where they can really start the influence how their cities develop. So I think leaders can take those things you talks about cloud, analytics, mobile, social and use that information to move to an era of fact-based decision making which Harvard is increasingly talking about."

Ms Moore: "Ambassador, could I follow on to that?"

Amb Burhan: "Yes, yes, please, if you disagree with Michael, let us know because ..."

Ms Moore: "I don't disagree. I just want say that I think we have really, one of the things that we've talked about in this conference is particularly at this time it is a very exciting time but there is a lot of change and we need to take people through change fairly quickly in the light of global warming. So I also know as elected representative the people are innately conservative and don't like change. You know, it was though I was starting a revolution and I needed to be beheaded when I started recycled waste in Sydney and you know in most other cities it's just a normal form of transport. Now there's broad acceptance but it took years and a lot of fairly unpleasant meetings I've got to say.

But you know, and those consultations I did as elected representative and I have always done that. We are always in, you know, drafty halls and you know on the street. But now through technology we are really using that as a tool. And so one of our most recent consultations, we did the roundtable at committee meetings too but also we are also able to talk to 11,000 people about what sort of night time economy they wanted in

Sydney. And one of the issues that was confronting us as a city is an issue that's confronting many cities and that's about alcohol-related violence and particularly with youth. And you know, we had some terrible deaths from king hits and our media were going off the air about it and what we wanted to do was not close our city down but we wanted to create a more vital, an interesting nighttime economy so that there other things for people, young people to do other than go and get drunk and bash each other up.

So we reached thousands and thousands of people using technology and we've decided on various sets of tools that we developed and it's been really effective. It gives an elected representative a feeling of confidence that you are talking to people, you know what they are thinking because you always get the odd person who is going to go after you and it's going to often be just a handful of people. But you think they are the ones that really have an opinion here. But when you talk to 11,000 people, you know that you are going in the right direction. So I think given leaders now have to undertake such a lot of change and innovation and take people on the journey that technology is an excellent tool and absolutely essential tool to do it."

Amb Burhan: "Yeah, thank you very much Lord Mayor. I think the question of change and resistance to change I think is almost universal and I guess that's where the question of leadership comes in. And leadership in turn requires that leaders communicate a vision and have a plan, et cetera. So I think that sort of nicely illustrates that point that you made right from the beginning. Now let's move now. I think we are running a little short of time. I like to ask the organisers perhaps we could extend by maybe five to 10 minutes because I like to go to the polling questions. Maybe we can have the poll results flashed. You can still poll because we'll start discussing the results of the polling questions and the results of that. Now let's see. It's quite interesting that we are talking about multi-prong integrated policymaking. I think that is certainly one of the big themes that have been coming across and what's interesting for me is this whole question of cohesive engaged civil society. Now I like to ask any of the panel members if they have any sort of comments and observations that come to them very quickly. Anyone wants to take a stab at it? Michael?"

Dr Dixon: "We have identified and talking more about engagement and so I think whether it's engagement of commercial entities with their clients, whether it's with government with their constituents or any other group of people, we think systems of engagement through the kinds of issues that Clover was just illustrating are critically important. So we think there's a whole dimension that is starting to be, starting now which is what does it mean to engage effectively but also to communities in a multidimensional way. So I think it's an area we're going to hear a great deal more about and again I think the power of social media gives us the opportunity to develop new ways of communication that historically we've not been able to consider."

Amb Burhan: "All right. Thanks very much, Michael. Again, talking about citizen engagement, cohesive engaged civil society, I want to ask you, Wim, can a society be sustainable if it is not engaged socially or if there is no citizen activism because one of

the implications of that scenario is that when citizens are more actively engaged, you can actually have more efficient and sustainable societies. Am I drawing the wrong implications or conclusions from your scenarios? 30-second response, please.”

Mr Thomas: “Right so I think in the scenario you can have both ways basically and in any world but generally people think that when you have strong government and top-down policymaking is the way forward. But I would argue that it becomes more and more difficult and because of the social media and Internet connectivity and a lot of people just want to be part of shaping their environment. So I think probably the truth is somewhere in the middle and that’s just the end-end again.”

Amb Burhan: “Well, thanks for that. Any other comments? Lord Mayor, would you like to say anything about citizen engagement?”

Ms Moore: “It’s what you do. I mean you absolutely have to have citizen engagement and if, yeah it is as many people have said at this conference, it’s about people and it’s about how we as leaders can take people on the journey to do the change it’s needed for the future. Global warming, you know, we had no choice but to take because we’re having to change a whole lot of things in our lives, particularly for older people. They don’t like change and so you know, communications is absolutely critical.”

Amb Burhan: “Yea, yeah.”

Ms Moore: “It’s what elected representatives do and if you don’t do it, you’re not there for long.”

Amb Burhan: “Yeah, please Roland”

Dr Busch: “I think you should see the last columns in combination because this does the trick. Firstly is...”

Amb Burhan: “Which last two?”

Dr Busch: “The multi-prong integrated policymaking and engagement because at the end I mean we’re talking about a developing city, I think it’s not your five-term tenure which we’re looking for. It’s a 20-year-, 30-year planning to develop a city.”

Ms Moore: “As Singapore has done.”

Dr Busch: “Exactly. So this is one thing. So it means that without that clear policy and integrated and really a long term of policy you are not getting anywhere, anyhow. Second you have to take the people with you in order to really make a pie because that’s makes the whole thing really running for a long time. Let me give you one example from South Africa, Mayor Mpho Parks, he was really engaged in his people, in defining this strategy as a city. So after all it’s their strategy so execution is on them and this was a very clear move and he started from the very beginning.”

Amb Burhan: “Okay, good. Bertrande, 30 seconds because I like to. Yeah, that’s right. I’ll give you the floor in 30 seconds to speak for 30 minutes. But I think I like to move on to some very interesting questions that we have. So Bertrande.”

Mr Barde: “I suspect you only have very interesting questions anyway. I just wanted to share with you one of the most moving and impressive experience I’ve had during my first year with the World Bank. It was a meeting I had with the Mayor of Kabul.”

Amb Burhan: “Kabul?”

Mr Barde: “Kabul in Afghanistan.”

Amb Burhan: “Right.”

Mr Barde: “It’s probably, it’s pretty challenging. So I had this two-hour meeting with him and he started by showing me pictures of Kabul in 2002 saying I have 700,000 people and 300 cows. Now in 2013, it was last year, I have six million people and 700,000 cows. So where should I start? Is it about road? Is it about water? Is it about schools? Is it about security, et cetera? And this is really at the heart of what we are discussing. I think it’s probably more comfortable to start with Sydney than to start with Kabul and we are exactly there. So if you don’t start with integrated policymaking, including in Kabul, there is no way you can engage the citizen which is a big challenge there and get the financing investment solutions. So I think it’s important to have this in mind. We’re not talking about the big Western cities, like Singapore. Diversity of solutions or climate change in Kabul is as challenging as other cities I think. You have very smart audience.”

Amb Burhan: “Yeah, that’s very interesting. I mean one of the key points that struck me was that the last two bars, multi-prong integrated policy making is related to cohesive and engaged society which in a sense is related to so many things – to get financing and investment and to find solutions to your energy dilemmas, et cetera. Good, let’s move on to one of the questions that I am trying to put on the screen now. Do you think there is a finite limit to sustainable dense city, a point to which demands of dense city and the impetus is to squeeze more and more into limited resources brings about a negative outcome. Well, let’s get some quick reactions to that. But you know my own perspective is that there is a finite limit to how much the planet can take. So that imposes in a sense an upper boundary on people who lived on this planet. So perhaps we can see who like to go first. Lord Mayor, you spoke about carbon-neutral Sydney. Tell us why this is important for you in one minute. There’s a finite time available.”

Ms Moore: “Well, it was an action to show that we’re really about, you see our emission, it was really, really important. But you know I think in answering this question here, you have to say yes and it’s something we have to talk about and we have to talk about it globally. But you know, I don’t know as an Australian I can make much of the contributions. We got a population of 24 million people. Now I’ve been visiting Chinese

cities that have that population and you know I'm just in awe of how they're coping frankly and then how they are planning for the future. You know we are very dry continent and that's clearly why we have such a small population. We are living in cities on the periphery of the country and you know, in any desired mainland scene, the scene of Australia has never come off and I don't think it's ever going to. So it's probably a different issue for Australia. But you know, it's a suburban background and all these arguments in the media about we don't want eight stories."

Amb Burhan: "I think I should ask Roland."

Ms Moore: "Chalk and cheese."

Amb Burhan: "Since Siemens has been talking about some of the integrated solutions. How would you respond to that question?"

Dr Busch: "I think this is one of the most pressing questions. Today I believe we are living on 1.5 over Earth so the population consumes definitely more than one Earth can give. So having said that, we're still growing, the population, number one. Number two, whatever billions of people are living on a fraction of the energy consumption and the water consumption then let's say they emerge, the mature countries, they want to step up, they want to consume as well. So if you project that forward you will find out that this is not the way how it goes. So rethinking the way how we are living, how we are using resources, how we are recycling resources and just save energy and we can do lot. Most important part I believe we can do bring it down substantially. It's the only how we can make a sustainable development. So it's pressing and I think the problem is larger than we can imagine."

Amb Burhan: "True, thank you. Wim, you had a ..."

Mr Thomas: "So I'm a bit more optimistic here. I think in energy terms there is enough renewable energy for 10 billion people on Earth and there's enough natural gas and enough some things for another couple hundreds of years. In energy terms, it looks pretty good and that gives us plenty of time and I am an engineer so I'm very optimistic about innovation. I think with now connecting of our brains to Internet et cetera and big data projects, I think we will see an unleashing of technologies and technological solutions and it's anyone's guess where we are going. But I'm myself much more optimistic that we are actually finding better solutions fast in the future."

Amb Burhan: "I share that optimism, Win, because partly we need it and I agree with you that we can find the solutions. Let's go very quickly to questions from the floor if there is anyone who wishes to. We might have one or two questions for time. Yes please. Can we pass the microphone to ..."

Mr Nayar: "Thank you. My name is Narinder Nayar, Chairman of Bombay First. I'm just talking about the last question about dense cities. I think Lord Mayor rightly said Australia doesn't have the problem of dense city. I think we should be talking about

cities like Bombay, which has a problem of density. You got 18 million people, 60 per cent living in slums, 37,000 people in one square. With the panel, how do solve that sort of problem? And we have about 1500 families coming into city everyday. That's the migration that's taking place. So that's a problem with real challenge that we have I think in cities."

Amb Burhan: "Thanks very much. Let's maybe take a one more question and perhaps comment and then we can see if members of the panel have any. I know it's the last session so I don't want to push the audience. Some of you have been here for several days but if there are no questions then, what I like to do is, we're pressed for time. Before I ask the panel members if they have any further comments, I think these last two days have been very, very intense and I would say also very insightful and fruitful for many of us who've been attending different meetings.

I'd like to put on the spot some of the panel members, in fact all the panel members, by asking them what would be for you the biggest takeaway message from this summit and series of meetings and conferences that you have had in Singapore. There are probably many different ideas and thoughts that struck you but for you as get ready to leave for your respective homes, what would be the biggest takeaway message? So perhaps we will start with Lord Mayor because I think we should let the lady go first and then each one gets not more than one minute please. So Lord Mayor, you first and then the rest of the gentlemen on the panel and if you have any other comments feel free to do so and then after that we close the session. So Lord Mayor."

Ms Moore: "I think the takeaway message from me again is about leadership and it's about determining leadership in our cities. We have discussed the issues and the problems that's been incredibly helpful and the solutions that have been put forward too incredibly helpful. But not only is it leadership in our own cities but I think continuing to work collaboratively across cities of the world is just absolutely critical at this moment in time. We don't have time to waste. The issues are exhilarating and I think we can so much benefit and I just think it's an essential. It's about leadership and collaboration."

Amb Burhan: "That's fantastic. I think those are two excellent words to sort of summarise a two-day day conference. Bertrande?"

Mr Barde: "Well, I think for me before 2050, 75 to 80 per cent of the world population will live in cities so this in cities was a battle for development will be won or will be lost. And we know we can take the right way with the appropriate leaders or it can take the wrong way. We have to be sure that we help our clients and partners to take the right way, to work on as you say (1:15:20) on urbanisation, what does it mean, how can we help with the appropriate finance and the appropriate share of knowledge."

Amb Burhan: "Thank you, Bertrande. Roland?"

Dr Busch: “I made it easy because I trust, take the intelligence of the audience and just look at the feedback. For me the most important takeaway is a proper long-term integrated planning, the engagement of the people and then of course use the technology and innovations to drive it forward on the back of a proper financing which is by the way there. My belief is that in many areas the proper, let’s say skills for structuring projects has most cost than the financing you can find and that would be by the way my answer to you. This would be the way I would address it just in a nutshell but this is a good sequence.”

Amb Burhan: “Thank you Roland. Wim?”

Mr Thomas: “Yes, I agree that I think what you think. Time and time again it was integrated planning, flexibility in planning, leadership, collaboration, almost the words you heard all the time. But I think I would like to add here is that the nature of leadership has to change in a collaborated effort. It cannot be say one person who knows it all and puts his fish in all because you just simply don’t have the knowledge anymore. So where there’s collaboration you get knowledge but it takes different forms of leadership to bring the knowledge together and then be able to communicate that to people who actually so that they actually buy into it.”

Amb Burhan: “Right, right. Michael?”

Dr Dixon: “I think the real value of a conference like this is exposure of this group, a group of leaders from the world to visions and strategies and activities that run away around the world and that’s really valuable. But I think the real power is the extent to which we take that back to our cities and engage in new forms of collaboration which I think you know defines our future, our ability to effectively communicate and collaborate I think will change the nature of cities in decades to come.”:

Amb Burhan: “Thank you so much Michael. For me, one of the biggest takeaway messages is that the planet cannot be sustainable if cities are not sustainable. So in other words, if you want to make the planet sustainable, we have to make cities sustainable. So that has been one of the biggest messages that have been reinforced again and again in the different meetings. On that note, I would like to thank all the panel members and would you please join me in giving them a round of applause. Thank you all very much, panel members and also the rest of the audience for being very patient. We have slightly exceeded the time so I pass the microphone back to the MC and please wait around for the closing speech and remarks. I like the emcee introduce the next segment programme. Once again, thank you very much and good afternoon.”

Emcee: “Thank you Ambassador for concluding the plenary. Now I would like to invite Ambassador Burhan and speakers to take their seats amongst the audience before we proceed into the final segment. May I now invite Dr Liu Thai Ker, Chairman of the Centre for Liveable Cities Singapore to give us a grand summary on the World Cities Summit. Dr Liu, please.”

Dr Liu: “Good afternoon, Senior Minister of State of National Development and of Trade and Industry, Mr Lee Yi Shyan, Excellencies, distinguished guests, ladies and gentlemen. First of all I would like to say that I’m totally encouraged by the strong turnout and spontaneous participations of the conference in the last few days. And I feel that through this discussion, all of us, I hope you’ll agree, seems to feel the pulse of urbanisation across the world and we seem to share common challenges and lessons despite the diversities of cities in science, in jobs, and in cultural background. Just to recap, to refresh your memory where the journey that we have travelled. Okay, we started with the inaugural World Cities Summit among young leaders. It’s followed by World Cities Summit of Mayor Forums with six teams. One is high quality of life and then sustainable environment, competitive economy, integrated long-term planning, dynamic urban governance and intelligent cities. It’s followed by In Conversation and the Opening Plenary Sessions and Lee Kuan Yew World City Prize Lectures and the Singapore Water Prize Lecture, and it’s also today we’ve been engaged in the World Cities Summit Plenary Session with six thematic tracks. Safe and Liveable Cities is one, Will Mayor Rule the World is the second one, Making Plans into Reality, Building Resilient Cities, Innovative Urban Solutions for Liveable and Future Ready Cities and also finally Future Mobility.

So it is my job, I’ve been given the task to connect all the dots and there are so many, many dots. I am afraid that, I will try my best to connect all the dots but I’m sure I’m going to leave out many, many dots. So what we’re trying to do is to ducktail all these different themes into five issues. So let me take you through what I believe are the central five issues that are discussed in the last few days.

One is the issue of liveable quality of life. It seems to be high in the minds of the people and for that we discussed how to create a sustainable environment and just now Ambassador mentioned, I thought he’s very good with his words, that means it is a must and not an option and I think I totally agree with you. We need to a sustainable environment. Also there seems to be a greater emphasis this time than before on the importance of preserving our historical heritage and expressing our cultural identity. And we also want the city to be workable and also much clearer articulation on water issues, safety issues, alternative energy issues and future mobility issues. That’s the first item under liveable quality of life.

The second big issue would be the issue of resilience. In fact, this is the resilience, it was discussed in 2012. It was quite a big issue but I’m happy to say that during these last few days the definition of resilience is much, much broader. We talked about economic resilience, about the possibility of interdependency of cities, globalized economy and also we talked about social resilience in terms of equitable, inclusive and cohesive society, and also the reaffirmation of the role of families in a society. And we talked about physical resilience, particularly in terms of recovery from shocks and natural disasters and also about the leverage on new technologies and big data to tackle bigger challenges to come. That’s the second one.

The third big issue is future readiness and there’s a strong sense I get is that in the

discussion of future readiness, there's a greater sense of confidence than I felt two years ago and greater sense of emphasis and also the discussion was much more forceful than before. Obviously the world in the last two years have really put in a lot of effort in understanding and also research on these issues. So the emphasis here under future readiness is that we must provide infrastructure in a timely basis and also manage our infrastructure well. We have to think seriously in terms of integrated system for smarter technology in order to create more intelligent cities, not only for personal services but for systems to talk to one another and also for inter-city collaboration. And we are also paying more attention on innovative technology to connect the various urban systems and people in the collaborative way and there's also an urge for cities to measure our performance on a database basis. So this is about future readiness.

Then the fourth point I want to highlight is that there's a much more emphatic emphasis than ever on the need for long-term planning and also it's long term planning which deals with diverse solution in the plan simultaneously and not one after another. And so to, for this long term planning to have credibility, it must be transparent, it must earn the trust of people. Also we need good government to lead the long-term planning, we need champions to do a good plan and there's a greater emphasis than before about public-private partnership including government, NGOs, business community and the people in order to compliment one another. There's a very strong emphasis, advocacy rather, of quantifying whatever we do and make the plans predictable. In other words, we don't go by gut feel. We put it on a much more scientific and quantifiable basis. So this is the fourth item.

Then the fifth, the fifth and the last one, I think it is a rhetorical question but I thought it's timely to be raised and that is will mayors be able to rule the world? And actually one of the speakers corrected that. Why don't we change it to will mayors be able to, sorry, the original question is will mayors be able to rule to the world and one of the speakers said well why not change it to will mayors be able to lead the world. It is a rhetorical question but I think it's a timely one because there's a strong and stronger view around the world that in the future the engine head of the whole world is not through the countries but it's through cities. And I think there's a lot of truth in that because the city actually drives the economic growth, provide jobs, attract talents and also some cities, particularly in Asia, some of the cities in China and India, each one of them is as big as all the cities put together in Australia. So actually one Shanghai, one Beijing, one Bombay is a country and I think the only issue is that we need to help these cities to be better planned, to be more liveable.

I think personally, the reason I mentioned that will mayors be able to lead the world is a rhetorical question because in listening to the debate this morning on this issue, I feel that maybe we should first ask ourselves will mayors be able to lead the city because there are lots and lots of problems to lead the cities. You have mayors on the frontline with a lot of problems. His leadership is everything but with difficulties because he has to deal with the state government, central government particularly for financial resources and the, and also they need to stay in line with the national policies and state policies and also it has to win trust all around, not only with the citizens but also with

the higher authorities. So I'm optimistic about the fact that the mayors can lead the city but definitely with difficulty and what we need obviously is dynamic leadership to do so.

Okay, so these are five issues that I have tried to identify. But I like to say that the discussion this time a lot of opinions are much more clearly evidently researched-based and not just based on opinion and that's really a credit to the quality of discussion today. And also they are much more down-to-earth, they go down to nitty-gritty to find out how some of these ideas can be implemented. And also there's a strong awareness of the massiveness of urbanisation in the world and there's a greater sense of urgency, there's a greater sense of urgency for all the cities to get our cities planned and developed correctly because if we don't do so I think the world may not be, our globe may not be sustainable. That seems to be the mood that I gather during these last few days. Now I thought I would take the liberty to remind you the kind of discussion we had in 2012 so that you can see the difference in mood and also see the progress the world has made on their discussion on urbanisation.

Two years ago, we talked about, we talked about urbanisation as something unstoppable and we have to deal with it, we have to deal with the growth. We talked about number one, number two, and also sorry, urbanisation is unstoppable and it should, its explosion is imminent and therefore we need to learn to curb the sprawl, we have to make cities more competitive, we have to focus more on higher quality of life and so on. That's the first issue we discussed two years ago.

The second issue is that we're talking about what are the key ingredients to develop the cities. That means we must design the city and not let the city grow by default and also great emphasis on functionality and sustainability. Also we touched on resilience and I think at that time, the definition resilience is more safety from crime, disaster, storms, water shortage, energy shortage as against this time we talked about resilience in a much, much broader sense.

And the third there was emphasis on government but our emphasis on government is in terms of having long servicing government to try to drive urbanisation and holistic approach in our plan, and good process in implementing the plan. We wanted, in those that we wanted top-down as well as bottom-up process and that was just the beginning of discussion on green technology. So that's two years ago. If you compare that discussion and what we are doing today, I think you can see that there is a clear sense of progress our understanding on urban issue is much, much better.

Now just taking, my final point just taking a general observation, my personal observation of the discussion in the last few days. I feel that personally I feel that in 2008 when we first organised this World Cities Summit, my feeling was I met new people. 2010, I met new people and some old friends. 2012, I met old friends and met new people and today this I met all people and a lot more old people, old friends rather, old friends and also some new friends. So I hope that this trend will go on and next time we come we basically see old friends and therefore the sense of chemistry, interaction, the sense of camaraderie will be even stronger. I feel, I must I have been enjoying the

conference because of the sense that I'm actually in the community of people that I'm familiar with.

And I would like to take the liberty also express some of the personal view as a final input and that is for city planners and the city leaders, let's try not to do anything which will harm the people and the land that you're working on. I think that's the kind of very basic which very simple, very basic, very hard to achieve. And second is that it's important, second is that a city in my view is the largest industrial design. In other words, it's like a car or washing machine. So when you want to evaluate a car, first thing you ask is whether it's user friendly, second is will the engine work, third does it look beautiful and a city actually consists of these three parts. Is it easy, friendly to use? Second, does it function well? And third, does it look beautiful?

So that leads me to the third point, I feel that when we create cities or do city plan, maybe we have to think about these three short statements. One is that when we, the value we want to give to the city should be done in the vein of the humanist heart but the city planners must be put the city together with a scientist hats but package it nicely, creating an image with an artist's eyes. Just three simple statements – humanist heart, scientist head and artist's eyes. And finally, absolutely finally I want to say that ultimately in my view the purpose of creating beautiful city and good city is not only not to do harm to the people or the land but to earn unconditional respect from people all over the world, to our people, to our city and to our country. Thank you."

Emcee: "Thank you, Dr Liu, for distilling the key takeaways from the World Cities Summit for us. I've now the honour of inviting the final speaker of the session, Mr Lee Yi Shyan, Singapore's Senior Minister of State for National Development, Senior Minister of State for Trade and Industry and Chairman of the World Cities Summit Mayors Forum to give closing address. SMS, please."

Mr Lee: "Excellencies, ladies and gentlemen, first let me say that I marvel at your stamina for staying right to the end of this conference. Some of you came on Sunday so it has been a long three intensive, intense and exhausting days. The fact that you remain so alert really is to your credit. Well, just now we talked about whether cities have grown to their limits, whether cities are too large for our own good. I think it really depends on your perspective. You know, all of us human being we are under the law of gravity so if we're not careful, we fall. But if you look at water spiders, they glide across water. So the law of gravity doesn't apply to them but the surface tension law applies to them. So we've heard of people, workers falling from height but we haven't heard of butterfly falling to death.

What does it mean for us? I think I share the optimism of the other engineers and scientists. I think over time with technology, we can make life more liveable and comfortable in a, even in a dense environment. If we keep working on travelling speed for instance, we try to, we had a supersonic plane before and if today we try to fly passengers on fighter jet, it is 2.2 times the sound, the speed of sound, that is the limit. But if we do face time, it is the speed of light. It's a different paradigm but we still get the

contact face time. So these are one of the many insights and inspiring thoughts that I thought that characterized this summit.

In this year's World Cities Summit, we've seen an unprecedented level of participation of 1200 delegates, including over 130 mayors and 30 ministers, heads of international organisations and NGOs and business leaders. If we include also participants in Clean Enviro Summit and Water Week, we will have more than 20,000. While as impressive as the numbers are, I think I can speak for all participants that we are more interested in the qualitative aspect of the summit. We are interested in the takeaways. We want to bring back best practices and practical solutions we can implement at homes. We want simple and cost effective ways to deal with challenges we encounter in our cities. Our deliberations in the summit are wide-ranging but I found our studies of the two Lee Kuan Yew Prize Winners as well as the Special Mentions Cities instructive.

The usefulness lies in the fact that they represent cities at different stages of development. They have different priorities, attempt to solve different kinds of problems and yet have one common goal of creating a sustainable and liveable city. We learn how Orange County Water District painstakingly prepared its constituents to accept recycled water and through ingenious membrane solutions, the city arrives at cost effective water sufficiency. We are amazed at the determination of Medellin in turning crime-laden streets into institutes of higher learning combining parks with libraries to create community spaces for safe social interactions and replacing high homicides rates with job opportunities.

We studied the best practices of Yokohoma in creating family-friendly amenities such as childcare and job opportunities to attract young families, the same topic that the Lord Mayor spoke about. We see a microcosm of a cosmopolitan Japan where foreigners and new ideas are welcomed. We are awed by Suzhou's transformation all within a short span of 20 years to become a harmonious and integrated township celebrating both modern economic achievements and the rich heritage of an ancient city of 2500 years.

While these are definitely four worthy highlights in the World Cities Summit, our discussion at the Mayors Forum held earlier also gave me the impression that we have very real and pressing and fundamental problems on hand to resolve. For the 130 or more mayors and city leaders who are present, having access to technical solutions and functional options are not good enough. To set their cities on the path of sustainable development, the city leaders have to figure out better ways of making their voices heard in the national and international arena of securing the necessary financial resources at the federal level to do what is needed at the municipal level and of galvanizing the ground to support long-term sustainable development goals that go beyond multiple election cycles for realization. So sustainable development requires both determination as much as discipline.

From the various polls conducted before or after every session over the past two days, it is not totally obvious that we participants are confident that we will achieve our sustainable and livability targets anytime soon. For instance, one poll shows that 29 per

cent of the participants deemed that the world would never have 100 per cent portable water accessibility even beyond 2050. In another poll, 42 per cent of participants felt that the world would never be able to achieve the vision of a city without slums and homeless people. Are we too pessimistic or it is a reflection of current reality?

At the Mayors Forum, Dr Kacyira of UN Habitat cautioned that there were one billion people who still live in slums or in slum-like conditions. Many cities are grappling with housing, sanitation, transport and social inequality issues. For many cities, livability means going back to basic. As leaders of cities, it is important that we exercise effective leadership and keep politics honest, so says our Minister Khaw Boon Wan. Along our efforts to make our cities better places, we need to do, we need to be as honest and as transparent as we can about what we can do and what we cannot. Of course if there are stumbling blocks along our way, we will need to persevere and exercise effective leadership to remove them.

I would like to highlight that the practice of effective leadership in a fast changing digitized and globalized world has become much more complex. Rising expectations from the public, ready access to information among others are changing the shape and texture of public people sector interactions, hence the subject of citizen engagement in the context of a smart city. Fortunately, a digitized society can also present itself a ready platform for active citizenry and citizen engagement.

In the presentations we've just heard, cities which invest in IT infrastructure, educational and training capacity to raise IT literacy, the adoption of open data and deployment of various intelligence systems can actually harness public opinions and promote co-ownership of problems and co-creation of solutions. In such instances, the government need not be the sole solution provider and neither can it because there is potential for greater creative capacity in the people and in the private sector in devising solutions to help city residents deal with the day-to-day problems such as mobility, safety, learning, healthcare and municipal services.

Ladies and gentlemen, there are just too many unfinished task at hand. Even before we meet again in 2015 in New York for the Mayors Forums, we should continue this conversation. You may be pleased to know that there are ways to keep in touch with each other for instance the World Cities Summit Secretariat will soon send you the reports of the various proceedings. For those who prefer to communicate online, we have our online platform such as Mayor's Blog, World Cities Summit Young Leaders Facebook page and even a Twitter account. As we endeavor to render our city people centered, we should also make Mayor Forum 2015 and World Cities Summit 2016 highly customized to your needs. Please keep your ideas and suggestions coming. I therefore welcome you to connect with me directly on my Facebook page or email me. The World Cities Summit and Mayors Forum are yours.

In conclusion, let thank all the good people in the organizing committees for organizing this terrific gathering. I like to thank all the sponsors for supporting this event

generously. Finally, let me thank all of you for contributing your time, passion and wisdom to make this event a great success. Thank you.”

Emcee: “Thank you Senior Minister of State. Ladies and gentlemen we have now come to the end of day. We look forward to seeing you tomorrow at the In Focus sessions to find out more about the opportunities and trends in different urban regions. Also, our urban solution partners will like to invite you to visit their hospitality suits on level four during your free time tomorrow.

All Asean and Australian delegates please take special note of this announcement. The Australia High Commissioner, Mr Phillip Green, has invited you to a gala reception for Asean and Australian mayors and city leaders to celebrate their 40th anniversary of the Asean-Australian relationship. If you are attending the reception, there is an Australian High Commission Representative waiting outside the ballroom with a sign. The representative will escort you to your transport pick-up venue downstairs.

Before you go, I would like to seek to your help to fill in our quick survey about the session via pigeonhole live. If you are still holding on to a simultaneous interpretation receiver, please be reminded to return it at the foyer. Once again, thank you for joining us today. Have a good evening.

[End of Transcript]