

**SUBJECT: Planning for Liveable and Resilient Cities:
Lessons from New York City**

SPEAKER: Professor Alexandros Washburn

MODERATOR: Mr Michael Koh

PANELIST: Mr Henk Ovink

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Note:

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<p>EMCEE</p> <p><u>00:00:00</u></p>	<p>Today we are very honoured to have with us Professor Alexandros Washburn, Founding Director of Center for Coastal Resilience and Urban Xcellence (CRUX), Stevens Institute of Technology; and also Visiting Fellow with CLC. Professor Washburn was the former chief urban designer of New York City, and I'm sure he has many insights. He'll be sharing with us today about New York City's planning system and approach. And as a highly dense, highly liveable coastal city, I'm sure we also have many lessons that we can learn from New York.</p> <p>The format for today's lecture will start out with a presentation by Professor Washburn, followed by a Q&A session with the audience. And in addition, we are also very honoured to have with us Mr Henk Ovink, Special Envoy for International Water Affairs at Kingdom of the Netherlands, and our fellow as his fellow guest panellist today. The session will be moderated by Mr Michael Koh, CLC Fellow. So let us put our hands together to welcome Professor Washburn. (Applause).</p>
<p>AW</p>	<p>There was a man named Daniel Patrick Moynihan. He was the senior senator from New York. He was a senior senator from New York when I worked with him back in 1993, but his career started much, much longer before. He used to work for President Kennedy. In fact, he was the Deputy Under-Secretary of Labour there; and his interest in the city started ... actually the story goes: President Kennedy, during his inaugural, when he rode down Pennsylvania Avenue, from the Capitol to the White House, and back then, in 1960, it was a pretty sad picture. People had been fleeing Washington. Washington was on a decline. Anyway, President said, "This is a disgrace." He turned to the most powerful man in his Cabinet, Secretary Goldberg, of Labor, and he said to him, "Fix it."</p> <p>Well, Secretary Goldberg wanted to be a Supreme Court Justice. He didn't want to fix it. So he turned to his assistant, Daniel Patrick Moynihan, he said, "You fix it." So it took Moynihan three decades, two political parties, but he</p>

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finally did fix it. Senator Moynihan made Pennsylvania Avenue glitter. He made it America's main street. He made it so desirable that Donald Trump wanted to build a hotel on it. And this strange paradox, [a] year ago, Trump has become President [and] the Trump Hotel has opened on Pennsylvania Avenue. This is amazing transformation: from something that was essentially an urban slum edge long ago. But the way he did it was a combination of politics, finance and also design.

You see, he was able to ... by joining – this is what's actually very interesting – he was a Democrat of course, and a big Democrat, but President Nixon asked him to come worked at the White House as a Domestic Advisor; and Moynihan agreed to do that. As part of agreeing to do that, he was able to pass a law forming the Pennsylvania Avenue Development Corporation, PADDC. That's the politics. That law allowed for public-private partnership. It became very profitable. That's the finance. That's actually the same structure under which not-President Trump has done his new hotel. Then Moynihan wrote the Federal guidelines for architecture, which set the very high standards of design for the Avenue. And that's the design.

I can't tell you how grateful I am to Senator Moynihan, for having taught me how cities work, but I also can't tell you how grateful I am for Mayor Bloomberg letting me practise what Senator Moynihan taught me. And now I'm going to show you three things that we did at New York. They're different scales, at different times, but they are great successes. And I say "our". Remember, the urban designer, even the chief urban designer, controls nothing, but has to influence everything.

The first one is the High Line. How many people here have been to the High Line? Ha, almost ... it's a very large percentage! It's the most popular park in the world per square metre. It's been an incredible success. But it started out as an abandoned rail line. You all know the story of the High Line? It's built about almost a hundred years ago, under a programme by Robert Moses as a

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way of improving a at-grade rail track that couldn't have been built a century before that by Commodore Vanderbilt.

It was a wonderful feat of infrastructure, raising four tracks into the air. These railroad tracks would go right into giant factories. Amazing! Amazing piece of infrastructure for 1933. But of course, those factories left. Manufacturing left the city, and the last time a train used that was 1982 for a trainload of frozen turkeys. After that, it was abandoned. But because it was built so strongly, it didn't fall down. In fact it just went to seed. Nature invaded it.

And very interesting now – now that politics, now that finance, now that design comes into play. A group of very smart speculators realised the land underneath the High Line has some value to it, if the High Line could be demolished. You could build five stories under the zoning that existed here of manufacturing; which is not nothing, probably about \$200 per square foot. But you first had to get it torn down. So they formed an organisation and they lobbied then-Mayor [Rudy] Guiliani to tear it down. And he agreed, but as part of that process, they had to have a public hearing. At that public hearing, two guys – ordinary guys from the neighbourhood, Josh and Walt, met and said, “You know what, this isn't a good idea to tear it down. We don't know what we want to do with this thing, but let's give it another shot.”

They formed something called Friends of the High Line to fight this demolition order to see how this strange piece of infrastructure running through their neighbourhood could be reused. The story from there, it's a great story. I write about it in my book, and there're some other good books on it. But the ... anyone of you, if you have been able to be allowed to go on the High Line back in 1999, you would have understood what it could be. I mean, this is the picture I took back then. We were actually, sometimes we would go on illegally, sometimes we go on with the permission of the Railroad. When we saw this, we realised immediately the potential, and the Friends of the High Line got a photographer, Joel Sternfeld, to go back during

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the entire course of the year, photographing. Those photographs were printed in the New Yorker, it became a sensation.

Suddenly the public was demanding that this not be torn down, and the Friends of the High Line had some momentum. One of the Friends of the High Line was Amanda Burden. When Mayor Bloomberg won, he rescinded the demolition order and made Amanda Burden Chair of City Planning. And that's where the story gets interesting.

As Chair of City Planning, she directed the division to figure out a way to save the High Line; and they very quickly told her that it is impossible to save the High Line itself. It has to be done in context. If you must save the High Line, you going to have to make a larger area, affected by the High Line, capture the value needed to improve it and the area surrounding it. So that led to something called the West Chelsea Special District. And you see the line drawn around it here. It's very important, this part of our process, to state the public objectives: to transform the High Line into a unique linear park – yes. But also to provide market rate and affordable housing opportunities. New York City has a huge housing deficit. Here's a chance now to make more. Also, preserve the good things about the neighbourhood.

The old manufacturing zoning, even though outdated for Manhattan, had allowed art galleries. A core of those was thriving, so don't get rid of those. And then, the goal was to make this a 24/7 neighbourhood, and so to mix the uses. And finally, the parts that matter for urban design specifically, was to make sure the new buildings that came up didn't hurt but actually helped the High Line.

The first step was the zoning change from manufacturing, first by adding residential at the edges, keeping the end zone in the centre. This is the intersection of politics and finance. The trick that saved the High Line. The Friends of the High Line were really [great], but these people who want to

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tear down were no slackers. These were some of the richest New Yorkers, some of the biggest developers who were speculating on this land. They do not want to see their investment go down the toilet. So they were fighting very hard. Either we were going to have to win in court, or we're going to have to figure out a win-win solution.

And this is the win-win solution: it was come up by the old hands at City Planning who remembered this from the fight to save Grand Central two decades before – transfer of development rights. There's a provision that allows you, in New York, to take a structure, a historic structure, and [allow it] to be treated as a granting site. In exchange for not tearing it down, you are allowed to sell your development rights elsewhere. Now in the Grand Central case, a case that has survived legal challenges, you're only allowed to sell it next door or across the street. This is different. By creating a special district, you are allowing it to go very far away, by zoning practice. You're allowing it to go into a different use, and also into a different height of the building.

So put yourself now in the position of the enemies of the High Line, who've been wanting to tear it down so they could build five stories of manufacturing in Manhattan – \$200 a foot. Well, suddenly, here's something that says that they could build five stories in Manhattan, but it would be housing – \$1,000 a foot. Cha-ching! [Onomatopoeic sound for cash register.] It would be housing at the top of new skyscrapers — \$2,000 a foot. Cha-ching, cha-ching! So ten times the value was being created for them. You should have seen, that within hours, minutes of this law passing, the lawyers were down at the Land Office, filling out the forms, getting things stamped, getting the transfers done. It was amazing! The speed that this all turned over, and it was because of that understanding that you could solve this political problem through a design solution that created a financial gain.

From the design point back here at Urban Design, we had to figure out how does this touch or not touch the High Line? What's the right form for the

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buildings? And what we came up with was a set of what we called bulk envelopes that were sculpted algorithmically, to ensure the light in the area came down to the High Line and that diffused from and to the High Line stayed in place.

The good news about this is that now it will allow a new building to hopefully improve, make the High Line like a jewel inside a set of new buildings. And here's an example of how it actually works in practice on 23rd Street. So this is HL23 Building [by Neil Denari], and this is 1100 West Peak, and this is where half the High Line has been torn down to develop, they could build their five stories right there. But because the High Line was saved and the legislation was in, you could use as much of the plot ratio as possible on site, very good location, and the rest you could sell to the top of this other development. The result is the Jean Nouvel building, the Denari building and the High Line Park. It's a home run. It's everybody wins.

I think it's a model for urban design, urban development all over the world. I know many people take it literally. I mean, there are literal ... I can't tell you how many cities came in to see us after the High Line success, asking us how to create a High Line in their city. It's not the form that matters. It's the way the politics, finance and design were brought together. It's the way a special district was created around the asset, and it's the way the asset improved the area around it, so that private money ended up doing public good.

The leverage ratio that was achieved by this is phenomenal. For 100 million dollars of public money spent on actually improving the High Line, three billion dollars was spent, around by the private sector. Now if you include Hudson Yards at the top, that figure goes to 10 billion. But just for the immediate area, the special district, that's a 30-to-1 ratio. That is higher leverage than even Lehman Brothers [had] achieved in the height of the financial crisis. That's something special.

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Well, another one of our successes is Times Square. And Times Square, I mean many people ... I'm sure everybody's heard of it, but how many of you have actually been there since we did the change? Okay, good. A good number here. What we changed, as you know, is we made a piece of Broadway that runs through Times Square became pedestrianised, became a plaza. Times Square is what we call Bow-tie Plaza. It's also a very, very tricky intersection, although it's a major intersection, probably one of the top five intersections in New York City, where Broadway comes through and hits Seventh Avenue. You could ... if you ask your transport department to close down one major artery that's in your top five intersection, the answer will likely be "no".

The person who did this, the person that we could credit this to is Janette Sadik-Khan who's our transport commissioner. She's a very dynamic woman. When she was being interviewed for the job by Mayor Bloomberg, he asked her, "Well, why do you want to become traffic commissioner?" You know, the sort of tough interview question, and she said, "I don't want to be traffic commissioner. I want to be transportation commissioner. I want to think about how to get people from one place to another. Not just cars." So he hired her, and like all of us, when he hires you, he said "Don't screw it up." That's actually, it's very nice working for Michael Bloomberg. That's the only ... he's a fantastic manager, because he lets you do what you're good at, and he just says, "Don't screw it up." And he means it. And if you do, you're fired. But if you don't, he'll back you; and he backed her. And the opposition to this was immense.

So how did it actually happen? What's the nitty-gritty, the details of how this could be done? Well, it comes back to a couple of lines in administrative law. The commissioner of transportation is allowed to restripe lanes at her discretion, without requirement for any further approval, because it's not a capital project. If Janette has said, "I want to change Times Square and I want to make granite curbs and new benches and fancy lights," that would be a

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capital project which would have gone through a whole procedure that would have taken two years and would probably have been killed.

Instead, overnight, pop up to paint, and the permanent [paint] came only after political opposition had been silenced because, just like the High Line, the people opposed to this in the first place became its biggest proponents. The people, who owned retail in Times Square – tremendously valuable in terms of turnover and in terms of dollar per square foot sales – thought that this pedestrianisation was going to kill sales because cars wouldn't go through. Well, sales went up afterwards. So now they are big supporters. Once they are supporters, now you can go into the capital programme and you can improve this, and it's just finished, actually, a couple of months ago. And here it is in its state of paint and actually in sand.

Let me actually back up just a second, before we move on to our next one to show you the big picture: this is Tim Tompkins. He's the president of the Times Square Alliance bid, the sort of public-private group that works to improve and programme the area. I'm showing this not just because he's a great guy, does a wonderful job at Times Square, but I'm showing this because as we were taking this picture, a bomb went off. That was a car parked a block and a half on the left. But the bomb did not ... the ignition went off, but not the bomb.

Terrorism is a huge subject in New York. We've been talking in my workshops, stuff about hazardous materials, and nuisances and adjacencies. There is, in New York, a constant threat of terrorism. We spend enormous amounts of money to fight it, enormous ... but we've been hit many times. The first World Trade set of bombing, the second World Trade set of bombing. These bombs, although ... it's a fact of life there, but it doesn't stop us. It doesn't stop anyone. And making Times Square pedestrian, doing some of these changes – again if you love your city, you change your city – question what is challenging you at any given moment and overcome it. Let

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me get back to design.

Streets, the vitality of street life. Well, that's what we never give up, as New Yorkers. Nobody ... just because a bomb went off in Times Square, doesn't mean people don't go to Times Square anymore. Everybody goes there. Everybody walks, and it's the walking that makes New York unique. I mean, how many songs are there about the sidewalks and streets of New York? I mean Frank Sinatra, Alicia Keys, Jay Z. Even back in the jazz age, people would sing about New York's streets and sidewalks. In the rest of the world, pedestrian means just that. Blah.

But in New York, pedestrian means fabulous. And that did not happen by accident. That was one of the chief focuses of the Department of City Planning under Amanda Burden. She would put us to work drawing streets over and over again. And the point is there is a finite amount of space between property lines. Public right of way is small, and in that right of way, you have to fit an enormous number of different functions – everything from a bike lane to a truck lane to a tree. So if you try to fit them all in, you realise they do not fit. You can't have everything. So the point of this exercise is to show that the design of the sidewalk, design of the street, requires making a decision. A political decision: what's more important, what's less important? If you believe in sustainable transportation, you will think of a bike lane is important. If you believe that cars have an unfettered right, you will put in parking lanes, you will put in drive lanes. Somebody has to decide; and that decision reflects the values of the society that makes the decision.

I'm very proud that New York now has a bicycle network that is one of the greatest in the world. This shows a commitment. And it's used more and more every year. The city bike programme is an incredible success. It proves that our values are correct. And it's something every city has to make a choice on. And I know that Singapore faces this choice quite a bit, and frankly, even crossing the street to get to the URA ... I tell you, I'd suggest

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that you look at this. Good luck. (Titters in room)

This is ... narrow the goals, take those values and turn them into an art, or turn them into a science. This is a street that we're designing at the edge of a new development on the East River, showing how we analyse the various space allocation between ... use it as a tool to gain consensus, and finally made this design which is now built, where we have bicycle lanes, park lanes, walking lanes, and very little traffic lanes. There's actually a funny story on this, but I shouldn't digress, I've got to keep things moving here. As a professional, I always digress.

But ... so when we were working on this, the transportation consultant showed an intersection, and I said "Well, where's the crosswalk?" He said. "Oh, I'm sorry, the volume of right turns is so heavy that there's no ability to put a crosswalk." I...(Laughs) "Look, no. There's going to be a crosswalk there." And the guy looked at his handler from his department of transportation, who also looked at me like, "Who are you from city planning to the tell transportation department what to do? These are our consultants!" Now, I knew Janette was going to become transportation commissioner; she ... our kids went to school together, we knew each other for a long time, but this employee had no idea. So I said "No, there's going to be a crosswalk." (Laughs) And of course the next day, she was announced as transportation commissioner, and from then on, crosswalks ruled.

And to his credit, that employee became one of the biggest advocates of biking and crosswalks. I think later on, [he] became in charge of the bike programme in city planning. You know, I think that is an interesting thing, politically and administratively. This person, he felt his job was to fight for the party line: cars. Even though he himself believed in bicycling. He believed in something different, but he was just doing what he was told. And to sort of, to see him blossom, grow, when he was allowed to do what he thought was right, was amazing! And that happened over and over again

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during the Bloomberg administration. We found people who had been in their jobs for years, but somehow didn't realise how this all fit together. How designing a tree pit affected a flow, affected a block, affected a neighbourhood, improved a city. And that's something urban design has the power to unlock, showing how the smallest changes can work towards the largest goals.

So with a grant from actually the Centre for Diseases Control, because there's a very large incidence of diabetes from obesity, especially childhood obesity in New York, we got a grant to study sidewalks and to make a manual on sidewalk design. So we got the pedestrian point of view, and we treated every sidewalk as a room. Now we have architecture as background, so we figured that if we took it on almost as an architectural project, we could finally get people to understand the sidewalk in a block is a piece of public space, and should be thought of in all dimensions.

Now to tie it back into administration. We analysed ... we've broken it up into four planes: the sky plane, the ground plane, the shop plane, the road plane. And under each one of those, listed all the elements of streetscapes: trees, lights, facades, benches, sidewalks, flooring, et cetera, et cetera. But then we traced those elements to the agencies that regulated them and to the form of regulation that each one was under. And typically you'll find that regulations come in four flavours: regulations that allow you to do something, regulations that encourage you to do something, but then again, ones that require you to do something, then regulations that have to simply be removed.

Each of the regulation should have some relationship to a policy goal, and will have a relationship to with [a] policy document. So again we traced all these through, and eventually came up with this manual for active sidewalk design, that took on each of these planes, then put them all together into a sidewalk room. This exercise was instructive for us, but we feel it was

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instructive for other cities, because anyone who follows through on this work plan, learns that these elements are tied to larger policies and learns that these are regulated by different agencies but doesn't give up.

Once you understand the system, now as an urban designer, you feel empowered to be able to work things, and understand how you are going to change things. You're all probably familiar with the Nolli plan of Rome, from I think it's 17th century where black indicates areas of private, and white is the public space, and it showed the interior of churches as public space. Well, we decided to update that and call it something – the Strolli Plan. It's a finer grain version of the Nolli Plan and it's meant to talk about the world from a pedestrian point of view in the city.

So the whitest areas, the lightest areas are the most public. The darkest are the ones you can't go [into]. So the streets are relatively dark in our case, because you can't walk on them if there are cars or bikes. Retail is in between. Then of course, areas that are truly public are bright white. We also take another step to go beyond black and white to include green, so that we can keep track of our street trees and shadings and the absorption that they do. It's a very useful technique. I encourage young designers here to analyse what they do from this point of view: it's a pedestrian point of view, it's a gradient from public to private. And that's all really in service of something I believe: that to build a great city, build a great sidewalk.

Okay, chapter two: Is the future bottom up? See how we're doing on time here ... okay. Let me talk about my career for a little bit. I started out at the federal level. I was then the President of a state corporation, then I was city employee as an urban designer. But most people would think things have been going the wrong way. Like you're supposed to start out small and work your way up to the Federal government level. I've been doing the opposite. I used to have an office on the 63rd floor of the Chrysler Building when I worked for Senator Moynihan. Now I work out of my house. What's

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happened? Is this a disaster? No! I think now I am more effective than I have ever been. And this is the ground floor of my house, and this is a community meeting, where we've gotten together to talk about the integrated flood protection system for [Red Hook, Brooklyn]. It's opened to the street and it's opened every week. People just knock on the door and walk in, and it's approaching planning at a finer degree than we're ever able to do before.

And now I'm going to show you a little bit at the end of the lecture about we're going to do as a community. But I have an inkling that the future is bottom up, that things are changing, certainly in America. We're not relying on government; we're not waiting for government anymore. In fact, we've just elected someone who's vowed to destroy government, to do that (laughter in room.) I mean, no, it's an actual policy about the ... I think the statement was to "remove the administrative state." (Audience member prompts the word "destruction") ... "the destruction of the administrative state." That has real implications. So we may be ahead of the curve a little bit, but I'm telling you, if you want to change things now, change it from the bottom up. We have new tools now, we have new powers, so the bottom up actually can be quite powerful, and what you can suggest does not need to be very small. It can be as large as a region, [but] that still starts from a neighbourhood plan.

Well, in my career, a couple of other stops, I wrote a book called *The Nature of Urban Design* to talk about what I learn whilst [being] a city planner. So much what I'm talking about today is in the book. And then I also went to be a teacher, be a professor at Stevens Institute of Technology. This was after my house was flooded during Hurricane Sandy. And I worked with a group that would combine urban design, hydrodynamic modelling and complex computational modelling, and here's our webpage view of the waters of New York Harbour. We have over 200 sensors in New York Harbour. My colleagues are fantastic hydrodynamicists.

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Actually Mike ... not Michael—you know it's funny, I used to work for Michael Bloomberg, now I work with Alan Blumberg. Alan is publishing a book on urban oceanography: how do oceans behave in cities, near or in cities. Very important because it lets us understand water, and understanding the water lets us understand the land and how we should plan for it.

But at Stevens, which is a very, very good technical university, this was the standard diagram of resilience: shock event, live or die, muddle through, and come back; and then resilience would be measured as a percentage of recovery in a unit of time. If you then took various aspects of a resilience systems and analysed it in this way, you'll come up with a mathematically relatively accurate description of the system resilience. Great, great diagram, with only one problem, and that is it's wrong. Why is it wrong? Well, if you come back at only a percentage of your previous function, and you have a repetition of the event, you'll eventually go to zero. Right? This is not the diagram of resilience. This is a diagram of doom.

The diagram of resilience is this. That you come back better, you come back stronger. And this is the diagram of urban design. You know, urban design, remember we want to leave things better than we found it. It's the essence of cities. That's why big cities are so resilient, even before scientists came to study it. Cities knew about resilience.

Now I'd go so far as to say that resilience is a product of civic virtue. And what is civic virtue? Now I go back to my mentor, Pat Moynihan. Whenever I'd manage to say something smart about the city, he'd say "Spoken like a true Athenian." I thought he was referring to my mom – I'm half-Greek on my mom's side. But I didn't realise what he really was referring to. I didn't realise until after he had died. We were going to his memorial service, and his service was held at the Syracuse University's School of Public Service, where he studied. And when I saw it, I finally got it. It was written up on the wall. Chiselled on the wall, past the door that he would go through every day, was

<p>00:32:37</p>	<p>something called the oath of the Athenians. And that oath, which every young person in Athens had to take when they became a citizen of Athens, was to do three things. One, revere the gods; two, obey the laws; and three, leave the city not less, but greater than you found it. Leave it better than you found it. That's urban design.</p> <p>That's why cities are resilient. Every shock is not just an opportunity, it's an oath, a requirement, a pledge, to build it stronger. We have to keep this alive today. Now that we understand urban design as politics, finance and design, we have to be able to bring a notion of civic virtue to every one of us. When a politician makes a decision, it has to be to leave something better than we found it. When a financier makes a loan or investment, they have to think, "Am I doing good? Am I going to make something better?" And what's most important for us as designers, we have to pledge that what we do makes us stronger and not weaker; makes our city more resilient, more socially unified. It's demanding us to think much more broadly than what we do now. In fact, if all of us took that oath, we could no longer specialise and focus only on what we do; we have to think about how what we do affects our whole city.</p> <p>I think at this point, I see that I'm out of time. I have a lot that I can show you about Brooklyn, about Singapore; I'm not sure how tough our time is required.</p>
<p>MK</p>	<p>Go on for about 10 minutes.</p>
<p>AW</p>	<p>Go on for 10 minutes? Okay. Alright. Well, 10 minutes then. Let me tell you then of Brooklyn's story. I live in Red Hook, Brooklyn. Have you ... how many people here have been to Brooklyn? Ah, okay. Well, Brooklyn is the place you go to in New York when you want to make something. It's the most creative place in New York. And our corner of Brooklyn was flattened during Hurricane Sandy. We had five feet of water. Every year we have a parade to mark that. We called it Barnacle Parade. We build a Noah's Ark,</p>

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we parade through the street and we end up at Sonny's Bar. This is us: old warehouses, old factories. That's where we used to build ships in Brooklyn. On the waterfront, right there, in the harbour, in the middle of New York harbour. 25 minutes by bicycle, 15 minutes by kayak, to Wall Street.

Now every one of my neighbours is there to make something. Viviana – she makes justice, in something called a Community Justice Centre, which is an innovation to keep people out of the court system, and to treat minor offences right here in the community. Joe is learning how to fly drones, as a part of the grant we have to use drones to make fodar images – three-dimensional dynamic models of cities, digital city marks. And they're a social technique because they are made with people who are the community. Ahmed, he makes chairs. He a great designer, very beautiful chairs. And Debria[?] is in charge of a public Wi-Fi network that we're putting up to give ourselves a resilient backbone during the next dip.

Community and character. I think that it's important to talk about character and community. Resilience is related to character, but character is not related to cute cafes. Character is something that's only revealed when you're tested. And we were of course tested during Hurricane Sandy as a community. Here's a storm as big as the East Coast of United States, and there's little Red Hook there in the centre. And what this storm did to us, it's really bad to remember, this is a picture from my house. Remember the ... we in Red Hook have a combined sanitary and storm sewer. So when you get a storm surge coming off the Atlantic, it's like a toilet overflowing. It is horrible. It left everyone's houses, everything that it touched was destroyed. Billy the pit master had been preparing a new barbecue restaurant for six months before Hurricane Sandy hit. And it hit a week just before he was set to open. Well, what did he do when his restaurant was destroyed? He wheeled out a portable cooker, and started making lunch for everybody. What did the rest of the people do, who came from all over the city to help us? They volunteered to clean it up, and they didn't want any thanks, they didn't want any money.

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It's very touching to remember this, for me. People being part of a community, building social resilience. It makes me understand that social resilience really is as important as physical resilience. Now, in physical resilience terms, this is the extent of flooding during Hurricane Sandy. And the city afterwards proposed that we would get a wall. There would be \$200 million for a new wall, but they didn't tell us what sort of wall it would be. We don't want a wall like this one in Japan, that's being built near Fukushima. If we're going to have a wall, let it be something more like the wall on the right, which is an old fort in Copenhagen.

So we would like to follow the Dutch model, and have a polder off shore, rather than a wall on shore to protect us. And as a community that's creative, what we did when we found out that the government didn't have the money to build this wall they were promising us, is we decided to make our own plan with half the money, and half the wall. We picked the hook of Red Hook, and we suggested we build another off-shore island, with the reservoir in between, and map city blocks and streets onto that island. So it would be a polder, and it would be seawall; and it would also help solve our storm water problem. This is the catchment area during the rain from around my house. The red and the yellow are our sewers and pumping stations, which are a disaster. They broke two years ago and flooded our basements with raw sewage as well. So we have to find a way of getting the storm water out of the system. So what if we simply pump it over to this new reservoir we built, filter it and then let it discharge back into the sea?

Well, if we build this and map these streets on, we've made new maritime areas for commerce. We've made a new canal and reservoir between the industry and new housing. And most importantly, this floodwall is now no longer concrete; it's a park. And behind this park, we can do housing. And that's literally the view you have in Red Hooks, sunset with the Statue of Liberty and the Freedom Tower.

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So how are we going to pay for it? Well, we believe it could pay for itself. The red, salmon-coloured, is stuff that costs money: building this new polder. The green stuff makes money: land, building rights. Now the way we've calculated it out in New York, we've got about a hundred dollars a square foot of building rights in Brooklyn right now. It costs about a hundred million dollars to build this polder, and its infrastructure. We think we've got about a million square feet of new development, so we think it can balance out.

So where do we take it? The next steps, we do the hydrodynamic modelling at Stevens. It's going very well. We do fine-grained real estate modelling, every building, every floor, every use. That's finance, and then the politics. We figured out the approvals pathway. What is the law behind building an island in New York? Who owns it? How do you do it? So we did some research and we found out in 1923, the government of New York signed a law, passed by the legislature of New York, to build an island in New York Harbor. This was amazing to us, and this was the island, and we've been just proposing that little strip there by the green, but what was approved in law, albeit law from 1923, was this enormous breakwater island, just to the south of Red Hook. But where is it? If you look at the area, you can't see it, but if you look beneath that to the perimetry, you see that triangular area. We started to build this island, and then we stopped three meters below sea level. But it's there. That is not a natural shape, that triangle, that's man-made.

So, what does an urban designer do? We map blocks and streets on it. We map a park and a little eco-habitat on the water-side, on the harbour-side, and then we map more maritime on the land-side. Essentially we made this new island a new part of the city.

To do it, to get the approval, we have to improve habitat, so that's why the edge to the harbour, we'll create biodiversity, as part of the park that is also

<p><u>00:45:57</u></p>	<p>our seawall. And we also create jobs on the landside, by adding a second dimension to the docks that [are] already in Sunset Park.</p> <p>So it'll pay for itself, with all of the same logic. In fact we use as a precedent a Dutch model from Rotterdam. Analysing that ... I know I'm under a little bit of time constraint, so I'll do it quickly. Bottom line is Red Hook Island is 12 million square feet. The Dutch precedent offers 55% of that land to be put in private use. At an FAR [floor area ratio] or plot ratio of 5, which is a medium density for New York, you get 35 million square feet of development. To build this island, its infrastructure is three and a half billion dollars. The value of 35 million square feet of development in Brooklyn today is 3.5 billion dollars. There is a rough equivalency here. This could pay for itself if you could figure out the financing.</p> <p>So to conclude, I want to go back to the sense of urban design. This is a new way of developing. This is an experiment. You can say, since when can a community plan or a private citizen make change like this? Look what happened with the High Line! Look what Josh and Walt did. Bigger things now can come from small groups of people. So I would say, don't plan, but experiment. See if it brings life. When that life is there ... there's a great quote by Jan Gehl: first the life, then the space, then the buildings. Make an experiment. Capitalise on success. Urban design is about transformation, and urban design is not a masterplan. And urban design is a project that changes the life around it. So if you can figure out a way of aligning the politics, the finance and the design; if you can figure out a way of making each of those steps contribute to the civic good, then you will find a way of making great change happen. That's the purpose of urban design, and that's the reason to be able to design it.</p>
<p>MK</p>	<p>I'd like to talk about, and involve Henk in this as well, from a European level, because we've got examples of High Line, we've got examples of Chicago 606, and we have Superkilen Park in Copenhagen, all these are parks that</p>

<p><u>00:48:59</u></p>	<p>have reused spaces that were in disuse or in bad condition, and they all came up with the idea of linking different neighbourhoods together, green spaces for the people. The Chicago 606, for example, links, was formerly a gloomy little trail; it links different neighbourhoods, rich and poor, together. Superkilen as well, linking rich-poor neighbourhoods together, and the whole process, including the High Line, was that of a community process. And as I like to say, and through that process, actually you've got rich and poor coming all together.</p> <p>But look at the results today, the High Line now it's touristic. Millions of visitors, as is the 606, and Superkilen. What does that mean? The original community had gone together to create a community space, yet now many of them feel disassociated from the community space?</p> <p>And the other criticism is that of gentrification. I think Richard Florida written about it in his third book <i>Then New Urban Crisis</i> admitting that he was wrong, asking the creative class to come in and gentrify the spaces, because it has chased people out. People now can't afford to live there, and I think one of the founders of the High Line has come out to say that he sees that point of gentrification.</p> <p>So I just want to perhaps start the going, yes, there's great success, we all look at it as a success, but how did ... what is it in relation to the original intent of creating a space for the community, to bring the neighbourhoods together, when the neighbourhoods now can't afford it and some people have to move out, et cetera? So is this a positive aspect or is it a negative aspect? Just for discussion, with Alex, and then Henk.</p>
<p>AW</p>	<p>Yes, the issue of gentrification is a particularly important point. The question of gentrification in the High Line area though is a little bit different because the High Line is an entirely manufacturing zone before it and there were very few people who were actually there. I could maybe talk to the question as it</p>

<p><u>00:51:12</u></p>	<p>applied to Red Hook.</p> <p>Well, Red Hook has the largest public housing development in Brooklyn, red brick houses. Our issue of gentrification, I actually see as a little different. Our goal in Red Hook is to unify, is to bring people from the housing community, to participate more and to share more of Red Hook with people who don't live in the houses. We're making strides in this. But how do you do that? Well a way ... you increase the community, and that's an active process. You have to do...in other words, if you want to increase, if you want to know your neighbours, just walk out the door and talk to them. This is what I'm trying to tell you. We talk about community all the time, but there's no legal definition of community. Community is something that you make. So you need a project to work on together to make community. Part of your success would be in the bonds that you make with your neighbours by working together to create something. And that would be my greatest hope for this next phase in Red Hook, is that what we do is meaningful and exciting and impossible to do without doing it together. And by doing it, we create social community, much as we create a physical neighbourhood. And just as I felt when Billy came out and fed us, that social community is as, if not more important, than the physical setting it's on.</p>
<p>HO</p>	<p>So, before gentrification, one clarification. I think, Alex, is not so much deregulated. I think what is critical also was part of his lecture was very much the capacity to understand all levels of the system, make it possible to be able to act upon. So, politic, finance and design. Alex understands the system, therefore can be relaxed because there is this level of understanding that makes [it] possible to act and interact.</p> <p>Political system is often the less ... the least understood. But once you grasp, look at the High Line, only if you can understand the complexity, rules and regulations, finance, development, interests, and so forth, you're able to come up with an intelligent approach. If you lack that understanding, then deregulation won't get you anywhere. So bottom up or top down, without</p>

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knowledge, both fail. Without an inclusive process, both fail. Without collaboration, both fail. So it's not only the approach from bottom up or top down, it's actually the knowledge based from comprehensive parts of all layers that is a necessity.

And this morning I used [inaudible] as an inspiration, it definitely is true. Understanding the environment and the ecosystem, understanding mankind and humanity and economics, and understanding politics. Those three levels of understanding are critical to start a community.

Second, to your last point, and it could be worthwhile almost to invite him here, but I think he will get in. I think Eric Klinenberg was a fellow at CLC, and perhaps he talked about Chicago heat. And when Chicago was hit by the worst heat wave ever, Professor Klinenberg, a good friend Eric, who runs now, the Institute of Public Knowledge in New York, did a research on ... okay, not actually how it would happen, but how did communities live through this heat? And two communities next to each other, same poverty rates, same unemployment rates, same demographics, so age, Afro-American, Asian-American and so forth. But the one with the strong community ties, where people knocked on each other's door and took care of each other, helped out. And the other, no community ties at all. The death rate in the community without the community ties was high. The death rate with the community ties was zero. This social resiliency is strict.

Last, to your point of gentrification, I don't know anything on gentrification in Red Hook. I'm not a resident, although I've visited Alex and we have dinner. And of course, after Hurricane Sandy, working there, seeing the friend's factory pick up and set up shop again. But I do have experience on the lower East Side in Manhattan. And the Lower East Side in Manhattan, [it] is an amazing place, because it's not gentrified. And that actually brings part of ... it's like almost paralysing the community. So there's no subway system, and they don't want a subway system, because subway system on the

<p><u>00:57:04</u></p>	<p>lower East Side actually has the idea of economic opportunity and therefore gentrification.</p> <p>The Lower East Side got flooded totally after Sandy. Social housing, low income housing, all on the lower East Side. When I started to work in New York in the rebuilding after Hurricane Sandy, we started to engage also at the, with the lower East Side community. And the first thing they said to us: please, leave us alone. Leave us alone. Not because they were not in trouble, because they've seen, they went through Sandy and everything was wrong, so social housing, no electricity, and so forth. But they were afraid that by improvements, build back better, improve the place, they would open up for development and gentrification.</p> <p>And we assured them – it was a very careful process, going back and forth, and back and forth – that although we were part government, that we were also part community. And that collaboration actually meant it was true. So we sat down with them, for days, hours, months, weeks. Build a coalition that still is there, still strong. And now we are spending over \$350 million in federal protection and aid money to build the best park that's going to protect the community from flooding, without gentrification opportunities.</p> <p>And I think, gentrification is critically there in New York, as it is in a lot of the places and cities around the world. But having the ability from the government point of view and community point of view to come together and address that question gives you at least the opportunity to develop plans and implement them in a different way.</p>
<p>MK</p>	<p>It's an amazing project alright. I think a group of very dedicated team of planners, architects, urban designers, work with community workers, that went out to the various neighbourhoods that actually solicited comments from grounds up, what does each neighbourhood want, what do they want to do to the coastline. Yes, they face the danger of flooding. It was flooded out, but</p>

<p><u>00:59:31</u></p>	<p>what could they want? What did they want to improve their local community, and how could they work together with agencies to create a much better environment for all? So truly a grounds up approach, and New York City is lucky to having funding for it, and unfortunately as Alex said, Red Hook did not.</p> <p>But it's interesting to note that Red Hook is finally back from a community grounds up point of view. That little island that Alex showed that has been built to the Hook, he said that when they first looked at it, there was industry and there was a layer of residential, but somehow or other, the developer wasn't interested, but then they added that extension with canal and more residential, and then the developer said, "Hey, that's a good idea; now I've got residential facing the water-front, and I'm separated from industrial jobs and industrial uses by waterway, which is great."</p> <p>And that brings me to the question of creating neighbourhoods and ground-up approach, and the issue of mixed uses. How do you determine the mix of uses? I think the High Line it was very successful, when I think you said you wanted to keep galleries, and hence M1 zoning. You kept some of the meat packers as well in the area, which traditionally was there, over there. In the Red Hook example, you started off by saying you wanted to introduce industrial maritime jobs, and you put the residential right next to that. So how do you do that? Is it because you have created this as a special area and formed a development corporation to look at it? What is that success factor that makes New York tick? It's seen in High Line, you see it in Hudson Yards, et cetera. And are there European examples as well?</p>
<p>AW</p>	<p>Well, the special ... the secret, the special recipe, the way of determining the mix is very simple. It's just called "work with it". This is just how we live. We walk to work. The industries are next to houses, are next to groceries, are next to offices. I can't imagine a city that isn't mix use. The idea of separating the uses, really is something only as old as the Charter of Athens</p>

<p><u>01:02:21</u></p>	<p>from 1923 or so. It only came into the zoning code in its current rigidity in 1961. Brooklyn's a lot older than that. And luckily, that has survived both physically, but also as a spirit.</p> <p>So when we want to improve on our neighbourhood, we have to think immediately: jobs, schools, groceries, houses, public spaces. It's all part of a system. It's not housing, it's neighbourhood-ing. And I guess, it's a very good question, but the answer is just more Brooklyn. Save your consultant dollars and all that, just go and look at a piece of Brooklyn, and try and replicate the ratios, and I think you'll have a good start on wonderful mixed use neighbourhood.</p>
<p>HO</p>	<p>Or more Amsterdam, Rotterdam, it's okay, yeah? And Brooklyn. And Brooklyn actually was called after Breukelen, which is a very Dutch town. But then we have to go more than 400 years ago.</p> <p>So I agree. With mixed use adds a different layer. Is it ... it depends on the approach you take, which of course is comprehensive, if you ... and inclusive, if you take on stakeholder's part. This is life. I do think there's a next level then, to this, because life is threatened, because of the challenges mankind puts on the planet, for instance; and not for nothing, if we agree on the [United Nations] Sustainable Development Goals [SDG], and if we agree in the Paris Agreement. So a next level of mix use is actually incorporating not only interests of everyone who lives there, but also think about the future. The ones that don't live there yet. The generations that come afterwards.</p> <p>And then, as you said it in the lecture, never leave a place, unless you leave it better. You said it a little differently, but there's no way forward, unless we move up. And if we don't do that, that goal we set ourselves, SDGs and the climate agreement, all of a sudden become an ambition, that is a nice to have. No. It's very serious. SDGs are a need. If we don't achieve that goal as a baseline approach, too many people dies, and too many dollar, euro, yen,</p>

	<p>whatever currency you live in, were lost. So mixed use as an approach for me is not so interesting. It's about a comprehensive approach that is inclusive. And that is about thinking about it long term and incorporating that long term today. If you're able to do that, the result is showcased in mixed use, like a lot of Brooklyn around the world, as inspiration, for sure. And those Brooklyns [have redundancy] and resilient, and therefore sustainable and will be able to deal with those future challenges.</p>
<p>MK</p> <p><u>01:05:06</u></p>	<p>I'd like to add from Alex's words, and those Brooklyns where being a pedestrian is fabulous, where there is vitality of street life, like what you see in New York, in Brooklyn, and in cities where streets are perhaps regarded as assets for the people, and not for vehicles. Now I'm going to be a little naughty here. We made Alex, for example, walk the streets yesterday, on Monday. I'm sure Henk has also walked the streets. So is this an experience you find in Singapore?</p>
<p>AW</p>	<p>Just walking here from my hotel, you failed. (Laughter in room). Really Singapore ... the best sidewalks I found were in Tuas. We took a tour of the industrial district and there's a beautiful, you know, I don't know, perfectly tidy probably two or three metre sidewalk, and then a very nice row of trees. But here in the centre of the city, there has to be much wider sidewalk capacity, with much more continuous tree planting, and a sense of continuous routes for pedestrians. I mean, this intersection right outside your door of the URA, where you're not really allowed to cross the street, where the red building comes in, and then if you do jay walk, there's only about a half metre wide of perch to go on. You know, that's just wrong. And you know...</p> <p>But Singapore does some extraordinary things as well. It's one of my favourite cities; it's an inspiration for a lot of my book. Marina Barrage, I think, is one of the great civic projects that have been produced. But maybe the problem is you think too big. Maybe you think public space is a public plaza, or a brilliant roof where you fly your kite. But every sidewalk on every</p>

	<p>block is a public space. It deserves the same care that the roof of the Marina Barrage got. And for everyday life, it's the most important space. And the dividends that come back from improving the street in front of your house will astound you. Just try it, right here outside your door. I'll come back and check on it.</p>
<p>HO</p> <p><u>01:08:12</u></p>	<p>Yeah, walking in the streets of Singapore. I think that there is a difference between public space and a systems approach to public space. Because you have great public space. Beautiful parks, like Alex said, or Bishan Park or where? I've been around the island and it's amazing – beaches, parks, but there's not ... you know, they're isolated, fragments, incidents sometimes. Very well planned, beautifully designed, more and more in line with future challenges or [future-]ready events, and so forth. I also think it's not far away, that opportunity. From thinking big, from project by project, to a systems approach, can be a small step, since you have already done so much. If you fly over Singapore, in a kite, you see a huge capacity already being developed. Understanding the systems approach from people's perspective, you know, walking by foot, just try to do it. If every step is an investment in that network, in the system, then it's a step worthwhile. For sure it's within reach.</p>
<p>Q1</p>	<p>Actually, Henk, I would like you to follow up a little bit. You've observed, and I totally agree and have stated so in some other things. Singapore has become a city for cars, not people. What can we recommend, what can we do to bring Singapore back to the people? Away from the cars.</p>
<p>AW</p>	<p>It's a question of balance. Somebody in charge of the streets has to agree that the private space between property line is divided differently, apportioned differently. You don't have to pedestrianise everything, but you have to elevate the pedestrian point of view to be as important or more important than the windshield point of view. The point of view determines everything. If you have the point of view of the windshield, every curb has to the right radius for</p>

<p><u>01:11:15</u></p>	<p>a car. If you have the pedestrian point of view, you don't need a radius. The corner sidewalk at the Oasia Hotel, the oasis hotel, where right by the subway stop, where the corner has been greened, and the radius has been matched for a car turning, and the pedestrian has to make a zigzag, and can't cross there. That's wrong, but that can be solved so simply, not from looking down, but from looking at the point of view. In other words, a traffic engineer has to be a transportation engineer, has to be a person who thinks about moving people, not cars. As they look from the pedestrian point of view, all will make sense.</p> <p>It'll be very easy to do. But for them to be allowed to do that, to be encouraged to do that, that's a leadership question. That's political. Just like that friend now, who was in charge of bicycling in DoT [Department of Transport], who used to opposed it. I don't know enough about the political process here, to make that change. The irony is I think the change will happen sooner than you think, because cars are going to become self-driving very quickly, and you will not need parking. You will not need any of the things that take up space now. So maybe that question will come to Singapore in a different way, but ultimately it depends on pedestrian point of view, and acknowledging that the pedestrian is primary.</p>
<p>HO</p>	<p>To that, nothing to add, because I agree. I will definitely add a perspective on mobility, because it's about moving from A to B to C to D, which is a mobility question. So then biking also comes into the equation. The only thing you could add, then is the perspective of economics.</p> <p>A car is the size of, what is it, two and a half by five and a half meters? Something like that? Yeah? I don't think so; I'm not a specialist in cars. But suppose, something like this: 2.25 times five metres. With one person, the cost of that car on public space is immense. You can fill a lot of bikes in the same place, and more walking people. So space is valuable in Singapore. So if you do an economic modelling, next to all the challenges that cars bring to public space, you know, with the modelling of your streets, and the curbs, and</p>

	<p>the parking space; the space they eat up, space and time if you sit still, there's a car sitting still for an hour on this 10, 15 square metres, with only one person occupying space. And next to it, people are walking by, taking the subway, and the bus. So economic model of the car is failing already here. And cities like Amsterdam, and New York, and Copenhagen, and Paris, and London, have caught up on that. And Amsterdam, of course, we have three times as many bikes as people, so it's a little crazy, the country. So we have traffic jams of bikes, traffic jams of cars. It's also a little weird, but still, that understanding of the model shift and the complexity of mobility, and bringing the economy into the equation is critically important for a decision-maker to actually decide how I can do things differently. Because there are more aspects than only "Am I a car or a bike fan or lover?" whatever. No, there is quality of life, quality of space, and quality of the economy at stake.</p>
<p>Q2 <u>01:14:23</u></p>	<p>There is, right now as we speak, a piece of real estate being manufactured in the island of Batam, and it will be shipped to Hawaii. This piece of real estate is 6,400 square metres. Right? And it can support a load of 18,000 tons quite easily. Now, I bring this up to illustrate the fact that when we talk about sustainability, when we talk about rising sea level, consideration should be given to the manufacture of real estate, floating real estate. And this is particularly relevant, if you're going to combat rising sea levels. Right now, I think the Americans, a company called Seastake Institute, no, Seasteading Institute, is offering a solution to the Polynesian government on the floating condominium. The same can be said of Maldives. They're building floating golf courses, floating hotels, and I'm sure, Holland, you see it all the time – floating houses. So I thought this is something we can consider. I just came from a conference where I just delivered a paper on floating nuclear power plants in Perth just last week.</p>
<p>HO</p>	<p>There is no silver bullet for the future. So a floating city is not the salvation or the Holy Grail. But yes, floating structures can be part of the equation. But I'm always afraid with silver bullets. The silver bullets, most of the time,</p>

	<p>miss their target. But being part of the development and opportunities for the future, that's for sure. There's a lot of testing around the world on floating structures that increase environment and ecological capacity, but mankind won't fit in the floating structure, and that would actually go back, you know, we would be back in the 20s, and in a silo-ed up approach. So can be very inspirational, but it's not the solution for everything.</p>
<p>AW</p> <p><u>01:17:59</u></p>	<p>I had a lot of opportunity to talk about the biggest picture issue: climate change. Climate change is going to create parts of the earth that will lose. And climate change will create parts of the world that will win. There are going to be places that will be nearly uninhabitable, but there will be placed now that are parched or frozen that will become very pleasant. So another way of looking at this is mobility. And if people can move from place to another, you know, as our ancestors migrated constantly, that's part of being species, but in today's world, there is a huge political problem with immigration. Crossing a national border is becoming harder and harder.</p> <p>So, the reason I bring this up, and why it might be of interest to Singapore, or others is, let's say we're in advanced climate change, and you really do have populations in the millions who either die or relocate. A solution to this is to build more cities in the winning parts of climate change wars. The impediment to that are transnational borders. I'll leave that political question aside though, and go back to cities.</p> <p>What are cities, in the broadest sense? Go back to Aristotle, you can go back to Greek philosophy to why cities exist, but what I found, living my life in cities, in working in cities, is that citizens really do one thing: cities make citizens. They're machines making people from anywhere into people from somewhere. New York is the greatest integrating machine the world has ever seen. So if we in the future are faced with situations of moving masses of people, and we need to build entire cities – Singapore has proven that with brilliant execution and leadership, and maybe some luck, you could build a</p>

	<p>global city in, what has it been now? 50 years. That's a handle-able time rate.</p> <p>And the city, a great city, I think, defines itself by making its citizens proud. And these citizens are not all born there. These citizens come from other places, and there are also other backgrounds and other senses of self-worth. You could be nobody, and come to a city and be somebody. That's the ... let's not lose sight of that ultimate function of a city. We may need it again, sooner than we think.</p>
<p>Q3</p> <p><u>01:21:22</u></p>	<p>I think quite often we forget that cities have this width of wildlife and nature for years. In a way, we quite often assumed that cities don't have biodiversity or need biodiversity. But that's not true because we do, we have biodiversity, and in our urban enclaves and our development enclaves should take that into account and I would just like comments from both of you on how do you ensure that biodiversity and nature can grow with the cities that you all live in and how do you ensure, convince urban planners, the urban world that biodiversity is an important part of the growth of cities.</p>
<p>AW</p>	<p>I want to comment from the perspective of environmental law, specifically American environmental law, where in response to the huge amount of pollution in the twentieth century, in around the 1968 and 1973, we passed a series of laws: the Clean Water Act, Clean Air Act, part of the National Environmental Protection Act, very important, very effective, but it took the point of view that humans harmed nature, and that nature had to be protected from humans. In some ways this is a kind of an arrogant view. For nearly hundreds of thousands of years, we felt that we had to protect ourselves from nature and I felt that other effects of climate change are showing us that it's a two way street, that humans affects nature and nature affects humans and I found that there's some an impediment to building for some of our resilience projects because of the environmental impact statements., showing that we are having a significant effect on natural systems. In fact, it's very funny to get your permit, you would want to get something called a "FONSI", a</p>

<p><u>01:24:10</u></p>	<p>“Finding Of No Significant Impact,” so it’s an oxymoron. Of course it is significant, and if the law can change, to become, to fit our new point of view, it’s a means to manage our relationship. If you want to do an important project that protects you, well, you have to show that there’s no significant impact. And if the law can change to fit our new point of view, to manage the relationship, then I think we will be able to make some real traction in the US, but right now we do have an impediment to change, and it’s environmental law.</p> <p>If the law changes and the attitude changes, I think now, we will have the vocabulary to discuss the environment in the cities. It won’t be simply protecting the status quo, it will be building cities as we build for people, but building cities for other species as well, that we are managing this relationship, it’s very diverse. It’s diverse in the flora and the fauna, it’s diverse in the ecological niches and the habitats. Eric Sanderson [of the Bronx Zoo] likes to say that cities are habitats for humans, and they are. But there’s no habitat on earth that’s exclusive to a single species and I think it’s incredible what you’ve done here in Singapore, with a robust programme and point of view through parks, integrating them fully into the city, nature and the city are one. Gives a new meaning to ‘concrete jungle.’ You are actually at the forefront of this, despite your not so good pedestrian [word obscured by laughter in room]. But I ... there’s something in your spirit that is correct and something in your aspiration that’s inspiring. So somehow we’ve got to learn this from Singapore. Export this idea. Quantify it and figure it out, the nitty-gritty of the laws and the finance construction. But yeah, your goals make Singapore a wonderful place to live. Certainly to visit, I assume, to live.</p>
<p>HO</p>	<p>It’s interesting because it’s almost the same question as with segregation, everything has to be taken into account: social, environmental, cultural, economic, they are all interests that compete for attention. And I think the city, at its core, the way we start to design it, way back, where parts that were interconnected – the landscape, nature – was always part of this. It was not a</p>

<p><u>01:27:20</u></p>	<p>place for man and economy alone. The moment we changed it, at a certain point of view in the last century, the city became a place where it only was about economy, so economy first, man second, I don't know what came third. Everything silo-ed out in pockets and no connection, ruined part of the cities. But a concise, comprehensive and inclusive approach means including everything, and that inclusion has a focus on all aspects, and so also including ecology and habitat, and so forth.</p> <p>So I actually would say there is no one point that is more important than the other, because the moment you put one first, your city will actually take off the balance. Everything actually adds to the equation. And as Alex says, we are showing it and there is good inspiration in older cities, there is great inspiration in new cities around the world. We are actually capable of dealing with those challenges. It's also the inspiring part when you work with a concise group of everyone: social scientists, community workers, professors, politicians, designers, architects, engineers and so forth. If you have them all in the room, all of a sudden, it's about everything. And then it's exactly the great thing, what city making is about. That it can be about everything. It is that complexity, that enormous challenge, that is actually so amazing to work with and on, and it delivers us great places to work like and recreate. So yeah so it's part of the game.</p>
<p>AW</p>	<p>You know, this reminded me of something that's important, another thing that we can't do in the US that you do here very well. Our governments and our engineers typically segregate structure, or infrastructure, from any kind of biodiversity or biophilia. What I mean to say is for instance we had projects once that we wanted to grow vines on a highway overpass in Queens. But no, we're not allowed. The natural vines are not allowed to touch the infrastructure because then how can you check the steel to make sure it's still okay? Aren't these vines going to hurt it? The army corp of engineers will not allow you to plant a tree on the flood control levy because it is assumed that that tree will degrade the infrastructure. That has to change. You've changed</p>

	<p>it here in your kind of acceptance of nature into structure, with the vines growing on upper reaches of skyscrapers, with the sky gardens and terraces, that's becoming common place here. But underneath that is acceptance that adding nature to human-made structures doesn't degrade those structures but somehow strengthens and enhances them. We've got to find a way of quantifying that argument and showing people in the United States that we can do the same, that our hard infrastructure will be strengthened by our soft infrastructure and not vice versa.</p>
<p>HO</p> <p><u>01:30:12</u></p>	<p>To build on that, there are great examples from around the world that are able already to capture those revenues. And this is really the added value of a comprehensive approach, also it is in the end, a calculation. And if you silo it, after Hurricane Sandy, to make it very complete, we had 10 billion of first aid and the 50 billion of repair and recovery. 50 billion dollars. Out of the 50 billion, I think 42 plus were infrastructure, and then in sewage, rail, energy roads, environment, water, all silo-ed up. All these agencies, 23 agencies, you know, all silo-ed up. Can you imagine the excess? So I said, "What's going to happen?" It's all small communities. We have the Mayor's Office from the Jersey shore, and then agency one comes and says, "Oh, I have some dollars for your roads", and then next day agency two comes in, "Oh, I have some dollars for your sewage system" and the third day, energy, and the fourth day. It's going to be a total mess. Not only a mess in bureaucracy, but a mess in you know, adding value or implementation or adding quality, and so forth.</p> <p>So I said, "Why don't we showcase what we have? Put it on a map and see if we can, by combining those efforts, and see if we can come up with a more comprehensive approach. And I bet you, we can save dollars and add quality and get inclusion, and so forth." So we analysed all the 6,000 projects in the making, just like out of a jar. And we found 300 plus of them with a huge amount of interdependency, which you needed, not everything we kept. Or you know, it's like, "We can't walk."</p>

	<p>So the 300 plus of them had this huge capacity of being interdependent. We mapped them, put them, all the agencies in a room, who were all silo-ed up: from the federal, from the state, from the local level, closed the door and then said, “Okay, let’s talk.” One by one we went through them. And then they discovered that that interdependency, while met, brought a huge amount of opportunity when brought together and found a new way. And then came the calculation and then came the [drifts off]...so you have to do that. It’s the only way. It’s not theory, it’s practice. And again, it’s amazing. And even within the system of the US, federal system, it was possible. Now it’s a bit more scary because your silo-ed up legislation is now thrown out the door. It also might not be a good approach, but perhaps it gives a new opportunity for experimenting.</p>
<p>Q4</p> <p><u>01:32:50</u></p>	<p>It’s regarding the closing of Orchard Road, so which is related to cycling and specifically to pedestrianisation. And pedestrianisation is my own type of subject, I try very hard to pedestrianise everything I do. In fact, zero roads, the better. So the question is, just one question, but can be broken up into four sub-questions, (laughter in room) to understand the details involved.</p> <p>I call it the wall because I cannot puncture it for so long. A lot of people are trying to close Orchard Road. But the so the four sub-questions are the following: one, is it necessary to close it? Second question is, how do you defend the resistance from LTA, that road arterial, cannot be closed at all. And third is, if you have to realise it, how would you do it? And the last aspect is, what are the chances of achieving this?</p>
AW	<p>Automobile traffic is part of a system. If you constrain one portion of it, it re-balances in another portion. Orchard Road, the few times I’ve visited it, that main thing that is ... have irked me about it, is not being able to cross the street, either to go from one side of it to the other or even through that ... is it Patterson [Road] or that main ... makes you go, “Come on. You can’t cross at grade? That’s awful.” But look, how does ... I don’t know how that is going</p>

	<p>to be an expression of values though. And the solution will ... tell you what, the solution will say a lot about Singapore. And whatever you come up with will be part of how the world will see you. I think you can balance the street more towards pedestrians, and begin that way. I don't think you should declare war one way or the other.</p> <p>Remember Times Square, it's not closed off to traffic. In fact the traffic flows better now because an odd angle intersection was removed, so there is most likely a way to live together on this. But I think that you have to clarify the hierarchy, and if the pedestrian is to be at the top of that hierarchy, then physical change will come in. I'd be very interested to see where this goes, even to be part of the change, if that helpful. But change is coming. You can smell it on Orchard Road. Change is coming.</p>
HO <u>01:35:49</u>	<p>In Sao Paolo we have closed off the streets as an experiment, every week. So you can start to test. Except it's not the total revolutionary approach that Janette [Sadik-Khan] took in New York but in a way, it was. Overnight, start to build up pop up parks, see what happens. And then people started to get adjusted and like it. So you can take an incremental approach. Don't start a war because revolutions cause more damage than they intend to cause, except for the French, they don't believe in it, but ... (laughter in room). And an incremental approach also has the opportunity to help change part of the culture. Step by step, build understanding. And understanding ownership. And once the street is owned by all – including the pedestrians – you have a different thing. But perhaps you can start a car free day on Orchard Road...</p>
Audience	We have that.
HO	You have that? And did it work?
Audience	No. (Laughter in room). It's just not good enough.
HO	No? Now, I...

AW	He's French. (Laughs)
HO	No, I know. I understand. How was the day? Is it...so the question not so much is, of course it's not good enough, I totally agree. But did it work on the day?
Audience	It's not permanent enough for the people to...
HO	No, no, no, that's not my questions. I agree, there's no need to...
Audience	...to be able to cross on the regular basis.
HO	No, I totally agree, but did it function?
MK <u>01:37:48</u>	I can answer that question, because we recently asked the Orchard Road Business Association [ORBA] the same question because they were funding this, say, over the last weekend. Basically a lot of money that they were given from the grant was spent to pay private security to close the streets, to put up the barricades to prevent people from falling into the planting strip, so as a result of which, people could not seamlessly ... that was actually the vision, going in and out of the shopping malls, into the street, and round and round. They were actually barricaded onto space that was the road with designated points to get in and out of the road. So the result of which, retail receipts did not go up, so the building owners said, "Why are we doing this? It's only serving to..."
AW	It's the wrong experiment.
MK	Yeah, so it was the wrong experiment.
HO	We'll do it differently next time. Yeah, yeah, yeah, don't worry, it'll be fun. Yeah, yeah, okay. [End of video at 1:38:16]