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*Jim Schwab:* Welcome to part 2 of *Planning for Post-Disaster Recovery*. I – how many of you were here for the first session or sticking around? Most of you. Okay, great. So there's some great – 'cause I think there's some great continuity here, and I hope you enjoy part 2 as much as you enjoyed part one or maybe more.

My name is Jim Schwab. I'm the manager of the APA Hazards Planning Research Center, which is the body that is – the entity that is producing the new PAS report on planning for post-disaster recovery, the rewrite of the famous “green book,” and I have a great panel with me. I'd like to take a moment to introduce them, starting with Laurie Johnson, and I'm not even sure why I'm looking at this – I know these people so well – but I'll use this anyways. She's the principal of Laurie Johnson Consulting and Research and a senior science advisor to Lexington and Chartis insurance companies. She has over 20 years of experience in urban planning, catastrophe-risk management, and disaster-recovery management and has consulted on or researched recovery following many urban disasters, including the 1989 Loma Prieta earthquake, 1994 Northridge earthquake. She was active down in New Orleans and as a coauthor with Rob Olshansky of an APA Planners Press book called *Clear as Mud*, about the recovery in New Orleans after Katrina.

Sitting to her right is Lincoln Walther, somebody else I've known for an awful long time. He is the planning director at CSA International, a consulting firm – actually, it's now CSA Ocean Sciences, a consulting firm down in Florida that has wide experience. They produced the Post-Disaster Recovery Planning Guidance for the State of Florida Department of Community Affairs – what used to be the Florida Department of Community Affairs – it's since been dismantled and reorganized into something else, but we won't go into that right now – and has wide experience with hazard-mitigation plans for a variety of jurisdictions. I know he's worked also in wildfire mitigation plans in Florida, has a ton of experience in mitigation.

And then, finally, to his right and closest to me is Lori Schwarz. Lori is going to talk from the perspective of her recent and previous job as the director of – interim director of planning for the City of Galveston, a post she was holding when Hurricane Ike struck Galveston five years ago, and so she has had the full experience of working with recovery in Galveston after that disaster. And she has just recently moved on to become the

comprehensive planning manager for the City of Plano, Texas, over near Dallas, so now she can stop worrying about hurricanes and start worrying about tornadoes. I wanna mention also that she has an interesting additional perspective in that, in her 12-year tenure at the City of Galveston, she was also their historic preservation officer, and that's always been a subject that's interested me, is this whole business of how do we protect historic properties in disasters, certainly is a huge issue in New Orleans.

So that's our panel, and I know we covered these points in the first track, but – first session, but I'll just cover it very briefly again, in case we have newcomers. This pair of sessions is part of the Resilient Communities Track here at the APA conference, with the purpose of looking at planning for long-term recovery from disasters and how it's critical to community resilience and the role of planners in shaping recovery, why that is important. And it's – we're going to introduce some key concepts and lessons from the new Planning Advisory Service Report that we are working on now, that is due out late this year or early next year. Actually, we have most of the manuscript in hand and sitting on my computer at APA, and we did delay it a bit, but – to do some workshops. This team actually served as the instructional team for a series of five Sandy-related workshops, the first week of April; I think we learned some valuable lessons that we will incorporate into the final version of that before we go to press.

What makes these sessions different? A very important point. It was covered the first time, but I want to reiterate it because we're very happy about this arrangement with the Governors' South Atlantic Alliance. They came to us asking if there was some way to do training based on the work that we were doing. We worked out this arrangement to do a live webcast of this and the prior session, and so we are grateful to them and the Florida Department of Economic Development, the Florida Coastal Management Program, Florida Department of Environmental Protection, and the National Oceanic and Atmospheric Administration for helping to fund the webcast to make all this possible today.

And this – well, that should not say – this is part 2 of 2 sessions. Somehow, that slide didn't get changed properly. In this second session – it's a little different from the first – we're gonna shift gears a little bit to a different part of the report that we are producing, to describe the differences between pre- and post-disaster planning processes. What is the difference between what you're in a position to do before the disaster has occurred versus what you're in a position to do after the disaster has occurred and

you know the dimensions of the disaster and the contours of the damage that has occurred? And we're gonna try to help you understand how long-term recovery planning goals and policies can be linked with other local planning processes to help make those more relevant and more easy to implement.

So with that, I'm going to take a second again to review some of this information about our FEMA/APA partnership. Most of you heard this before, but we started with a 1993 agreement – this is about 20 years we've been working together – to – in first instance, to produce the original “green book,” as it's known, on *Planning for Post-Disaster Recovery and Reconstruction*. We've done a number of efforts since then, working on training programs, providing input to FEMA programs over the years, a lot of outreach efforts back and forth, as well as a report three years ago on hazard mitigation and integrating hazard-mitigation priorities into the rest of the planning process.

And this current project started a little over two-and-a-half years ago, with the aim of incorporating a lot of new lessons that have – I mean, it – the time since 1998 has been rich with lessons about post-disaster recovery. Don't need to recite the history for you – I'm sure most of you can think of three or four major disasters that have taught us some really significant things about planning for post-disaster recovery, and so that's the basis. You can go online, basically, to find out the whole rationale for this project, and I certainly invite you to check out the details on the website, as well as that *Recovery News* blog, which is a multimedia blog – it's not just written entries, but videos and Skype-taped interviews and podcasts, and my personal joke is that, “You don't have to be literate to learn from it; all you have to do, in some cases, is just push buttons and listen and watch.”

So with that, I would like to tee up by starting with our case study community, which is the – Galveston. And we will let Lori Schwarz tell us about Galveston.

*Lori Schwarz:*

All right. I'm gonna ask the same question that Christine asked: how many of you know where Galveston is located? Okay, good, a majority of the room. How many knew that it was impacted by Hurricane Ike? Okay. One of the challenges that we had was that Hurricane Ike hit approximately one week before the national news was taken over by our economic recession, so we had a lot of attention that turned away from us right after that hurricane, and just give you a little bit of background. We are a barrier island located off of the coast of Texas; we're about 15 miles southeast of

Houston. We do have a history of tropical events, including the 1900 storm, which is still the deadliest natural disaster in U.S. history with between 6,000 to 12,000 deaths. One of the things that is unique about Galveston is that we are a long barrier island – we're 32 miles long and only 2-and-half miles wide at its widest point – so that does cause some challenges as far as dealing with infrastructure and dealing with other issues in a disaster event.

This is just some facts about what happened during the Hurricane Ike in 2008. It was September 12th and 13th in 2008 – that was a Friday night and a Saturday. We had Category 2 winds, which I would say that most people, when you're looking at a Category 2 storm, doesn't seem like it would be very significant, which was a challenge for our community in that many people felt that they could ride that out. But the problem was is that we had Category 4 storm surge. A lot of – I believe, and the other panelists can correct me if I'm wrong, but shortly after Hurricane Ike, it was changed, the way that you saw predictive modeling for hurricanes, primarily because of the challenges we saw both in Katrina and also in Hurricane Ike. There was a significant amount of damage from the surge, primarily in areas that we had not seen surge before, and that was one of the more difficult parts of our recovery process, is that areas that had never seen surge-type waters actually received that and had destruction inland – or, sorry, not inland but within the inner part of our island, behind our seawall, which I'll touch on in a little bit, but it was in areas that we had not previously had that kind of experience.

As noted, we had 75 percent of all of the buildings in Galveston had some sort of damage. We are fortunate that, in many cases, because we had had good flood requirements and a good building code, that most of the properties that were newly built were still doing fairly well, survived fairly well, and most of the older buildings that were high-raised did fairly well. Where we saw the most damage was in properties that were built in the '50s to the '70s because we forgot that we lived on a barrier island and we built slab-on-grade brick homes. So you would see a lot, in cases, that that was where we actually experienced the most damage.

We had over 25,000 building permits issued, and that was with current staff. We did not have a very large team, and it was a very difficult thing to deal with; I can pretty much say that everything that Christine mentioned in the first session was something that we experienced, and I would think that her points are completely valid to anybody going through any kind of disaster event. And one of the most devastating parts of our disaster was we lost 75 percent of

our tree canopy, and that was due to the salt inundation. We were also in a drought right before the hurricane hit, so most of the trees were stressed before that hurricane happened. And, in about a year, we ended up having to cut down most of the trees within the island that had died.

This is just an example of where the storm surge occurred in Galveston. You can see the white areas are, basically, where our X zones are, where it was not considered part of a flood plain – I'll explain why it looks like that in a little bit – but most of the water came in through the bay, which is on the north side of the island, and we had very deep water in our downtown and it slowly decreased as it went up towards our seawall. And – but we had significant loss of infrastructure; almost all of our systems went down immediately after the storm because of various reasons. There's still a lot of infrastructure that was on the coastal side of the island that did not have a seawall that was destroyed. Just to give you a little bit of background about the island itself: before the hurricane, we had about 65,000 people and after the hurricane, our population did drop and it was below 50,000 afterwards.

*Jim Schwab:*

Okay. As in the first session, we're going to make this interactive, first, with a series of questions we will pose to the panel, and, when we're done with that, we will also take questions from both our live audience here in the room, as well as the online audience. So we'll start off asking a question for Laurie Johnson which is: “How is the recovery planning process different from normal city planning?”

*Laurie Johnson:*

Thanks, Jim, and hi, everybody, and thanks for all of you online who are tuning in today as well. On the left, I have a picture here of just the rational planning processes and the steps in that process. We do a lot of work, as planners, in normal city planning, to get organized for the process, make sure that our approving bodies, our authorizing bodies are on board with the plan. There might be state regulations, et cetera, so there's always a gearing up part. There's also a lot you have to do in advance to organize your public participation before you actually get into the real work of planning. I just lump a lot of that into what I call “conduct research and analysis,” but within that, you would be doing an evaluation, a needs assessment. You'd be looking at identifying what your priority issues are. You typically develop some scenarios or alternatives to begin to develop some strategies and look forward. So that's the typical –

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steps in the workflow of the plan development. And then there's another input stage, and that might actually coincide with different parts of the normal planning process. And then there's a lot around developing and adopting the final plan and then, really, the real work begins; as Christine said earlier, so much about planning is really about implementation, and I think that's really true in recovery.

On the other side – you can hit the – yeah, thanks, Jim. What's different about a disaster environment first is that there actually is something very unique about a post-disaster environment. This is something some of us, as researchers, have been questioning for a long time: is post-disaster recovery, is the environment of city planning in – the context in which we do planning different? And this is actually a graph that's in a paper that I coauthored with some colleagues after we studied a number of different disasters.

And what we proposed that there's actually, a phenomena we call “time compression,” and this is really something, for us, that makes a lot of sense as planners, especially those of us involved in capital-improvement planning, where, over time, you are retiring and redoing and investing in new services and new facilities at a fairly sort of given rate. Many cities even have sort of bond limits, and so they do a lot of capital planning around keeping within that bonding capacity over time, and so sort of a regular schedule of improving services, enhancing services, rebuilding services. But a disaster strikes, and all of that, that quantity of capital services, that demand for repair and reconstruction happens all at once; all of a sudden, you have all these systems that are stressed and they all need attention. And that's why time is actually compressed and the issues of planning are actually both focused in time and focused in space, as you then have to gear up and do a lot more replacement services, and, as Lori just said, you know, doing that with your current staff, issuing 25,000 building permits in a couple of years with the same staff who would normally do a couple of thousand a year, I'm assuming, can be very, very demanding. And that's the real challenge of the planning process as well as the implementation in a post-disaster environment.

Some other issues that I think sort of lend – sort of become part of how you have to think about the planning process, particularly post-disaster, is that the workflow doesn't really end up being as linear sometimes as other planning efforts. And that's really just especially because you may not have a lot of information, so you have to make a lot of assumptions, you have to do a lot of tasks

simultaneously because of time compression. This all requires a lot more resources – more people, more communication, and more coordination – and that's why I emphasize the “initiating the process” and “the organizing for the process” as being such important tasks to think about before you actually begin thinking about the plan development.

In terms of the content of plans, they often cover all the same issues – transportation, land use, economics, all the things that Barry showed on his slides earlier – but, often, the topics get much more focused on what was actually damaged, so you might only be focusing on portions of your city in more detail than others. Your policies and programs tend to be very disaster oriented. And the big thing is that plans begin to look like a lot of – often look like a series of projects, so they look often more like a capital plan than they do, necessarily, a normal plan with just policies and frameworks and strategies. The other thing, as I mentioned earlier, is just the amount of – the fact that you have to make decisions before you actually have information, and that's really about managing uncertainty.

And this is a big issue post-disaster, and I think Lori and Christine could attest to this: one of the big questions you have when you have a really catastrophic disaster is really, “When are people gonna be able to come back and how many are gonna come back?” And the more that time is delayed, the bigger the question mark of whether or not people are gonna resettle and get comfortable in their new life, they get a new job somewhere, they get a new – their kids enroll in school somewhere, and those really – I think it was Steve Villavaso from New Orleans who said to me the first time in New Orleans, “It's a golden triangle: house, school, job.” And that really was the challenge for us in New Orleans after Katrina, is that we really didn't know our diaspora from Katrina was so vast, it was so hard to get in touch with people, and so we really had a challenge of managing population return over time.

Other issues that are big are just, “When is the money gonna come and how much money is gonna come?” That's a big uncertainty in post-disaster planning that affects everything; it affects the policies you're gonna do for the economic recovery, for business restoration, for housing rehabilitation. Anybody from the New York-New Jersey area knows exactly what we're talking about 'cause you're going through that right now.

And one of the most important things that I wanna touch upon, which I think Lori's gonna respond to in more detail, is this issue

of a planning vision. Think this is something we always struggle with, how to get the public to actually look into the future as part of a planning process to aspire and to think about what that future place, that future community is gonna look like. And I think it's very important to be very sensitive to developing that vision but push hard for doing it because, in the post-disaster environment, really, local government or FEMA or anybody, any institution involved in recovery, can only do a limited amount. I like to talk about the fact that there's an army of recovery rebuilders, and so you really need to have that inspiring vision in order for that army to tip in and begin to do their various parts. So that's investors. That's all the various agencies that have money. That's the individuals, the individual businesses, the building owners of businesses – all of these people who might stand on the sidelines without that vision, without a clear sense of what the – what and when recovery is gonna – what it's gonna look like and when it's gonna be accomplished.

*Lori Schwarz:*

All right. I'm gonna touch base on our experience that we had with our long-term recovery plan, and a lot of the points that Laurie just brought up are very true. You know, the challenge that we had is that we are a barrier island. After the evacuation, the failure of all of our systems made it impossible for folks to be able to come back in a healthy way. We were – the island was closed to anybody other than emergency personnel for over a week, and that was a very divisive situation in our community because people wanted to get back into their homes – they wanted to assess the damage – and it was just a very difficult decision that had to be made by our mayor and our city manager. But we were looking at the health and public safety issues, and that was, certainly, a difficult time for us, in trying to assess that.

In that instance, because most of the island had some sort of damage either from flooding or wind, primarily flooding, a lot of people were displaced, and our process, because of our smaller staff, did take longer to start than Cedar Rapids. We did have FEMA come in fairly early on – they were there as of October, I believe – wanting to start the disaster recovery process, and, frankly, we weren't able to handle it at that point. The planners became support personnel for the building department, and we did everything possible to get people that could pull building permits back into their homes. And that was the priority that was given to us by our management team and that was the way that we proceeded for the first few months following the event.

However, we were able to get to the disaster recovery planning process and began with a series of open houses. We had ten open houses – two of them were off-island; the rest of them were on-island. We were trying to accommodate the fact that we knew most people were not back on the island full-time. We had over 800 attendees at the meeting and had over 2,700 comments that were submitted for the ideas for our disaster recovery plan. As noted, we started off with a recommendation from the planning staff to use our comprehensive planning steering committee that was underway when the hurricane hit – we had almost completed our comprehensive plan, and the hurricane hit, and so we thought, you know, these folks are well used to the ideas that were going on in the City of Galveston, would be helpful for us as working with them through recovery planning process – and that was 30 people. However, the public interest was so strong that, by the end of it, we had an appointed committee of 330.

We're very grateful to FEMA and their consultant team from URS for being able to help us facilitate that process because having 330 people and trying to manage it in an effective way is very difficult. This is just half of the committee members that were part of the process, but, just to give you some idea, we met for approximately six weeks every Monday night for three hours at our convention center. And they worked very hard, very diligently. It was 42 – over 4,200 hours of volunteer time that was put into this plan.

But as Laurie mentioned, because we were dealing with a immediately post-storm event – or immediately post-storm planning process, we ended up with a lot of projects because that was really sort of the focus of, you know, “We want to see things happen, and we believe that these are the best ways to go about it.” We had a very good team on the steering committee that was able to sort of allow an inclusiveness – that was something that was very important, to make sure that everybody had their points heard and had a say in it because anytime you're dealing with a situation, any type of community engagement, I think that, you know, everybody has their idea of what is the perfect way to finish, you know, just sort of solve the problem, and in this case, everybody wanted to ensure that their voices were heard.

And the – really, was broken into five recovery focus areas, and as mentioned, you know, it – they tend to look at the areas that were most damaged in the event, and in our case, it was the environment. Clearly, we have a coastal environment; I had mentioned the tree loss. Economic development. Our downtown area's one of the lowest parts of the island, and it's one of our

heaviest tourism areas. It is a national landmark district, which means it's of national significance historically, and it was underwater somewhere between seven to ten feet in certain areas. And housing and community character. That was a very big part; if you've never been to Galveston, it is a wonderfully architecturally-rich place, and it has great coastal environment. It's an amazing birding sanctuary. People come from all over to come to Galveston to watch our – to see the bird migration. But, you know, we had a lot of important parts of our community that were damaged since it was so all-inclusive then to our community.

Health and education. We have a medical school that is located on the island, University of Texas Medical Branch. That was increasingly important, to keep that on the island in that access. And also transportation, infrastructure, and mitigation. I had mentioned that we had a complete failure of systems, and so one of the things that has become a huge highlight is how do we make our infrastructure stronger, more resilient, and not be compromised the next time we have a hurricane event because we will have another hurricane event in Galveston.

So this is the vision for recovery. Now, you see that there's a lot of bullet points there. The reason why is each one of those focus areas wanted their own vision. And if you look at the top one, that's kind of a more all-inclusive one, which is, if you look at sort of the important points, we have unique characteristics in history. I can say that, after working in a few communities at this point, Galveston is unique and it has planning challenges and opportunities that I don't think you find everywhere. But they wanted to be less vulnerable, more resilient, and the fact that “resilient” was a word for them in 2008, when it has really become a buzzword now, it tells you something. I think that they were really looking at the fact that they wanted to have the ability to bounce back quickly because we do have a history of severe weather in that area, and, regardless of the reasons for climate change, it is affecting us. We have eroding areas. We have rising sea levels, and those are things that we need to be taking into account. And we just want to make sure that we're addressing all parts of it, so you look at it economically, socially, physically, and environmentally.

But if you look at each one of the following bullet points, I think that it gets more specific to those focus areas and it kind of expands on those points, and you'll see that the projects are very specific to those ideas and each time that they voted on a project in their focus areas, they were trying to figure out whether or not it

truly met that vision that they had for that focus area. So I think that it was very important that people felt that there was consensus, that, you know, if there was enough support for an idea, that it made it into the plan, and it was – they were very strong-willed about how they chose to get the projects included and how it was included in the plan, as far as even going down to writing it themselves and editing themselves to ensure that it said exactly what the public wanted it to say.

*Jim Schwab:* Okay. Now for our second question, which we'll start with Linc: “The new PAS Report will distinguish between recovery plans developed before disaster strikes and those developed afterwards, so can you tell us what can be addressed appropriately ahead of a disaster and what must await a proper assessment of the damages and impact of the disaster?”

*Lincoln Walther:* And the answer is... I'd like to know how many people in the –

*Jim Schwab:* Hold the.

*Lori Schwarz:* You need to put your –

*Lincoln Walther:* Oh, I'm sorry. I'd like to know how many people in the audience are planners? This is your job. This is not emergency management. You have to work with emergency management, but it is your job.

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Mitigation is your job. Lori had a, I thought, a great quote in one of her publications, which I think is very pertinent to planners, and it talks about the focus on “risk-based framework for land-use planning offers public agencies a rational means for managing inevitable change.” If you took the words “risk-based” out and “inevitable” out, it would probably – a lot of planners would say, “That's what I do anyway.” Here, we're talking about risk-based. Comp planners don't have risk-based assessments. Some may now, but most don't. They don't look at hazards and hazard areas and what do we do in these risk-based areas. And, also, with disasters, disasters automatically tell you, “There's gonna be a new normal.” You never return to normalcy after a major disaster. You must be ready; you must have a vision for that, and that's what this process is about.

Let's go to the next one, yeah. Then I thought about pre-disaster benefits. Well, you know, the question – at first, I was saying

there's a lot of similar aspects that you would address either pre- or post-, but there is some benefits with pre-disaster. If anyone's been around FEMA for a number of years, they use the concept Blue Skies planning. That's when you plan. That's when you plan for a disaster. You don't wait till disaster's on top of you. That means today, tomorrow, as soon as you go home, you start it. Don't waste time. Don't end up in – I don't know how much time maybe Galveston lost because they didn't have a plan in place or Cedar Rapids, but you can move quicker.

And as Laurie talked about, is compressed planning. When you're doing compressed planning – well, I call it “compressed planning,” I guess compressed timeframe – you're not gonna catch everything. You're not gonna think about all the issues in a more comprehensive manner 'cause you're trying to get back to the normal. So pre-disaster gives you more time for thoughtful consideration. And I like that, in the compressed one, it's ready, fire, aim. I think one of the things that struck me in one of our first post-disaster plans for Palm Beach County was the organizational chart, organizational: we laid out the, “The day after, what are the responsibilities? Whose role is what?” And that's where I see Mississippi, Louisiana. You know, I don't know how long it took them to even figure out what they're even doing, but if you have some kind of framework for the day after, you can get on with the job.

I also wrote down here, I think that having a plan, a pre plan, and having it open to the public, when you do have a disaster, there's a certain level of comfort that – the public may not like the disaster, but a level of comfort that, “My local government has – they're in charge. They know what they're doing, and we can get through this.” And then doing pre- planning, you have a chance to do more comprehensive planning. You get to think about more issues that might occur, not just trying to do the Band-Aids after the disaster and catch, you know, the places that we are – some of the housing issues, but we – you know, something that came out of Katrina for myself was the health and social service aspect of how important that is to think about and especially in a pre-disaster mode, you know. Hillsborough County, where we did the post-disaster plan, that subcommittee divided itself into three subcommittees, dealing – 'cause there were so many health issues, either environmental health, mental health, just the health of the citizenry and access to health services.

Also, in pre-disaster, I – Christine mentioned two items that I think are very important: communication, having communication, letting

people know what happened. I know in 2004 – I live in Florida – and we had 2 hurricanes within 2 weeks. And the biggest item that really irritated the populace was our power company. They just didn't tell us when power was coming back, and that really frustrated the public. And I know, in New York and – especially in New York, that they had a similar situation, so being transparent, having a communication plan is so very important. And then the one other item too is financial, is the – in a large disaster, money is gonna flow in. You should have some kind of, within your organization, how are you gonna manage that money? And don't wait until you get overwhelmed with all these dollars flowing in and who's gonna manage what.

So I think pre planning allows you to stay in charge, and then you're in charge of your destiny. I've seen too many places where they – I've seen people, in defense of FEMA, I've seen local governments cry about FEMA, “Why are they coming in and telling us – ,” well, you had no plan. What do you expect them to do? At least they have some experience. So that's why it's so important for you to have a plan – you, local government.

Let's go to the next one, yeah.

*Lori Schwarz:* We already are.

*Lincoln Walther:* Oh, we are. Excuse me, go back. I'm sorry. So quickly, again, time compression – that is one of the problems after disaster. That's why it's important to have a pre-disaster plan. Speed versus deliberation. You know, we want to recover quickly as possible. The elected official certainly wants to 'cause he has people walking up to his door, saying, “I wanna get in my house. I wanna get to my business. I don't care how bad it is. I wanna be – ,” I guess Lori, even with Galveston, as bad as the road was going to Galveston, people wanted to get in – they wanted to go see their homes and see their businesses. It's a lot better to have a plan in how you're gonna handle that upfront.

Then we get down to, after a disaster, you take a pre-disaster plan, but it doesn't mean you thought of everything. You need to tweak it, and that means you need to know the scale and the scope of the disaster. You need to know the physical damage. You need to have some assessment of psychological and emotional effects on its populace and also the demographic and special needs. Where is it – you know, I look it up, Palm Beach County, which is a huge county, and you can have a major hurricane come in at Boca Raton, which is the south end; 40 miles away to the north, Jupiter

might not have that much impact. So we need to know the demographic characteristics of the area. Young children, infirmed, age, handicapped – all that needs to come into play and needs to be in your plan before the disaster occurs.

Jim.

*Lori Schwarz:*

And I will say that the City of Galveston does have an amazing response plan. And I'm going to separate that; I'm sure that most of you, if you were part of this resiliency track, understand sort of the process as far as, you know, planning, response, recovery, and mitigation. But I think we thought we had a fairly good recovery concept – I'm not gonna say we had a plan, but we had an idea. I'm gonna talk a little bit more about what we had done later in the session, but, you know, one of the challenges is that when you do have a disaster, how do you start implementing it in a way that's real? In our case, what we ended up doing: there're always a silver lining in these hurricanes or natural events that you might have – Christine touched on that – and one of the advantages is is that you do have a opportunity to do better, to change. But then the – also, the other silver lining that can be a little – it comes with strings, but it's still a silver lining is the money. And you do have some opportunities to really try and make a change in your community.

One of the things that we were very fortunate to receive as part of our disaster recovery funds was money to do what we call “Progress Galveston.” It was a very ambitious project that we were able to get funded, dealing with the fact that we had zoning regulations that were not specific to a coastal environment – they were primarily written in the 1960s, with some updates in the '90s – but really did not express the issues that we had there in Galveston. And we also needed to look at some specialized plans. And, as I had mentioned, we were in the middle of our comprehensive planning process – we thought we were close to being done – but when the long-term community recovery plan was finished, we realized that there were a lot of ideas and concepts that came out of that recovery planning process that were not anywhere in our comprehensive plan that we had just finished.

So we started work again, and it was in 2011, the beginning of the year, that we were able to get the money through the disaster recovery dollars from the State of Texas. And we began work on this project, and one of the things that we did first was to deal with our comprehensive plan, which ended up adding in a couple of elements that had not been there before. A lot of the ideas and the projects that came out of long-term community recovery plan were

incorporated into the comprehensive plan. It was adopted, and we started proceeding forward with the specialized plans.

And really looking at these, there're a couple of these that are very specific to disaster planning. One of them specifically is the coastal-management and erosion-response plan. State of Texas did have a mandate in order for the use of certain state dollars that we had to reduce the public expenditure of funds in certain areas that were eroding, and ended up as one of our most controversial projects because, in talking about FEMA buyouts properties, that was the one area, which was the coastal properties, that we have looked at for allowing buyouts, and it is – Texas's strong property rate state, and it was just a very difficult conversation in our community. But we were able to come up with some additional plans for that – that could be a whole other discussion in itself. But the erosion response plan is still controversial, even though it has been adopted; there are folks that are wanting to bring it back and look at revisions already, even though it's only been adopted a year.

But we also did a disaster recovery plan. And one of the things that's interesting, and I was just talking to Linc about this before we got up here to speak, is that even though we're doing pre-planning at this point and our land development regulations are incorporating ideas for mitigation of disaster – during disaster recovery, I wonder how long it is that you need to be out from an event to do pre- planning and not have the emotional responses still part of that decision making process. You know, for a community like Galveston, where hurricanes are a, you know, an annual event that we, you know, basically start in May, trying to decide whether or not, you know, we're prepared to deal with it, if we have a hurricane this season. You know, how long does it take before that memory has sufficiently gone from your community to be able to objectively plan for recovery? I don't think that anybody should discount that political processes that come into play when you're working through the recovery process, and I do think that it will affect the decisions that are made. And so – but I think that you have to do the best you can as you're moving forward, and in this case, we were certainly looking at the issues that came from Hurricane Ike, the things that we wish we could have have addressed previously and making sure that those were incorporated.

As of right now, when I left the City of Galveston, the plans were primarily adopted. The disaster recovery plan was adopted about maybe two, four weeks after I left, so I was there during – while it

was primarily written, and so the one remaining portion of this Progress Galveston project is the land-development regulations. And the land-development regulations are in planning commission discussion right now, and it – whenever you're talking about a complete code rewrite that also incorporates disaster response and recovery, it can be a bit controversial. And so they're continuing to work through that process right now.

*Jim Schwab:* Okay. We're gonna go to our third question. I'm gonna ask we kind of move through this quickly because we're –

*Lincoln Walther:* You're right. Move quickly.

*Jim Schwab:* – lose time for questions, but, Linc, what is the imperative behind preparing such a plan, and what have Florida communities and others learned about the value of those plans?

*Lincoln Walther:* Let's do next slide. That's what got us going. That's Andrew. And Florida had a growth-management law at that point; we'd had a growth-management law for 20 years. And in that coastal – we had required mandated elements within the comp plan, and coastal management was one of 'em, and in that, it said, “You must address post-disaster – or long-term disaster.” That's all most plans say today: “We will address long-term disaster, period.” And I like to say that my planning brethren –

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didn't do anything with it because we didn't know what to do. So we ended up getting hired by the State of Florida to prepare a guidebook based on a series of pilot studies that were built into it.

So I wanna go to the next slide. And on top, this is why planners need to be involved. This is big dollars. Katrina, \$81 billion. Northridge, \$42 billion. Wilma, Hurricane Wilma, 2005, \$20 billion. Ike, \$15 billion. And so it goes on and on. We're talking billions, ladies and gentlemen. This is why you need to be involved in post-disaster redevelopment. You are redeveloping your community, and you need to be ready to do it and have that vision. Disasters will happen again, guaranteed. New Jersey, New York, think it won't happen again? Forget it; it will happen all over. Up there, they had, in 1938, the Long Island Express, a hurricane that moved 70 miles an hour and killed thousands. Will Mississippi have more hurricanes? Like there's Katrina, but I don't know if people remember Camille, Category 5. They will, and they will have another 30-foot surge, a wall of water coming at

you, 30-foot high, higher than this ceiling. Projection by scientists: we're gonna have greater disaster intensity. They said maybe the frequency may be less, but the intensity is gonna go up, with climate change.

Rebuilding a community after a major disaster is a huge undertaking. It takes planning – that's why you need to pre- plan to think about all the aspects. Do it in a holistic manner and involve stakeholders. Also, you have to get the – get buy-in with your elected officials. And I don't mean get buy-in after the report is done; get buy-in from day one. Keep 'em informed about what's going on. Let them know. Try to get an advocate on your elected board so they argue their case for their peers. And make sure that the plan is – if you don't implement, and Lori's gonna talk about this, if you don't implement the plan, it's what I call “ink on paper.” I hope everybody understands – ink on paper. You know how important that is? That belongs in file 13. You have to implement the plan that you put in place. Hillsborough County is one – a great example that I've worked with that continues to implement their plan. Then I leave you with one final thought. This came in New Jersey, just a citizen; just a citizen made this comment last week. I think it's a great comment. I think it should be in our new PAS Report. “If you don't invest in the future, you repeat the past.”

*Lori Schwarz:*

So I would like to tell you what we did do, and I have the advantage of growing up in New Orleans, so I was paying particular attention to Hurricane Katrina, and I think we all remember the devastating hurricane season of 2005. Rita did hit the Galveston-Houston area. We did sustain damage, primarily through fires, in that case, and some wind damage. And I think that one of the things that you have to look at is the fact that you will have the same types of disasters in your community again, and you need to look at other communities' successes and failures. I learned a lot from watching the things that went wrong in Katrina. I took a lot of time calling communities, after they had had a little bit of time to recover, to ask them, “What would you have done differently?” I think you can look at other communities that have similar hazards to your own area and try and take that initiative on your own to figure out, “What things might I be able to do to help mitigate the damage in my own community.”

We did – I had mentioned previously, we have quite a lot of historic resources; one of the things that we did, we knew that we did not have enough information to deal with damage to our historic resources and particularly the use of federal dollars and

Section 106 review and in relation to our flood plain regulations, and so we set up a volunteer effort called “Picture This!” And we gave people a set of directions, asked them to go out into the community and take pictures of their historic resources, and we loaded them up digitally and had that resource when the hurricane hit. I had the Texas Historical Commission sitting beside me, and because we had lost all of our paper records because not only did we have a devastating event in our community, but we lost our city hall because our roof blew off and had flood damage on the fourth floor, which is where my office was located. So I didn’t have access to any of my historic surveys, but because I had done this as a digital project, I had all of those records backed up and were able to access that. And that was a huge benefit for us, and I’ll just remind everybody that thinks that they might not have historic resources in your community, 1968 is currently the period that we are looking at for review of projects for federal dollars, so you really need to be looking out to at least 1975. So I’ll – that’s my plug for historic preservation efforts in your community.

But then hazard-mitigation planning. We were not part – we had – we were part of a county plan; we did not have our own specific plan. And in our case, it was not specific to the coastal and historic environment in Galveston, and that was a huge problem because – and as soon as the hurricane happened, we did pursue hazard-mitigation funds to be very specific to those parts of our community that were not covered as part of the larger county plan, and so that was something that we ended up doing. And I had mentioned the 1900 storm. Galveston has a history of mitigation. And I – the seawall, a seawall came up in the discussion at the last session, and in 1900, that was the solution, that was the mitigation that we chose to pursue at that time. And we had a seawall built; it was 17 feet tall. It slopes back down. We had a huge grade-raising project which you can see an example of in that bottom corner. And it was something that was looked at as a solution.

Coming up, after Hurricane Ike, that idea came back, and, you know, I think that most people question whether or not a seawall is a good solution, and that certainly is under discussion, continuing in Galveston, but we have what they’re calling the “Ike Dike Project” which is looking at a six-county dike that would be based off of the Netherlands system, similar to what happened in New Orleans, to try and protect the Houston-Galveston region, and that has been – one thing I didn’t mention is all of these projects, in implementation, each one of those projects were given to a project champion to implement. The city did not take responsibility for all of these projects; they did take responsibility for several, but in this

case, this was given to a more regional entity to investigate the possibilities of that. There is also an old FEMA study, looking at a levy system that would just focus on the interior core of the city and essentially let all areas outside of the seawall protection sort of deal with the coastal environment until they were other changes, and so, you know, there's certainly a lot of mitigation activities that you'll hear across the board.

And just as a reminder that, you know, things can happen again and again and history does repeat itself, the bottom line shows the 1900 storm – the deadliest natural disaster in U.S. history – and the top line shows the Hurricane Ike, and those are the two different paths. And you'll note that they cross in three places: they cross in Cuba, they cross in Galveston, and they cross in the Great Lakes. So don't think about a hurricane event or tropical event being specific to just a coastal area; I think Irene last – it was last year, right? – Irene was a great example of seeing how that could damage the Northeast and then up into Vermont and New Hampshire, and you have to look at the fact that these tropical events will morph into heavier storms, and I think the blizzards that we've even seen this year are a good example of how certain events will impact the interior of the nation with flooding.

*Laurie Johnson:*

So I was asked to wrap up this question about the importance of planning pre- and post-event, and this is actually a list of items that come from a number of people in this room who have been studying post-disaster recovery planning. So this is research derived. Proven value of recovery plans and recovery planning. The first is improving the quality and efficiency of a community's recovery, that a community that has a plan actually does recover better, and “better” has a lot of definitions, over that of an ad-hoc approach. The second is helping to reduce uncertainty through the collection and analysis of all the disaster-related conditions and needs. As I was mentioning earlier, the idea of the recovery rebuilders tipping in, knowing and having access to information is often one of the most motivating things for people to actually decide they want to come back. So making information available, helping reduce their uncertainty. Plans have, again and again, been developed because we need to justify or request money and get money. They – oftentimes, money comes before the plan is done, so sometimes plans are important because you have to justify – the politicians need to justify what's already been allocated. But, more importantly, just like our businesses and our families, you have to – you really need to show to various funders that you have a plan to spend money wisely.

And I think this is most important for those who are trying to persuade their elected officials to undertake a process, a planning process, and that's that plans themselves become important demonstrations of leadership, to help inform and influence the various stakeholders, and I think we've heard some great testimonies from mayors of Greensburg, Kansas and other places talk about how important it was for them, as leaders of their communities, to have that planning process and be part of that planning process and support the outcomes of that. And, lastly, I think that the one thing that we've learned about planning is that it actually can, in many cases, be the public process for grieving. You can take that and work that into a much more positive way of thinking helping people adapt and think about the new normal and use the process as a way to really get people to think about new ideas and refine strategies, assess alternatives, et cetera, so it's an important means of having public discussion.

*Jim Schwab:*

So Laurie is going to wrap us up, bring us home to where we can take questions from the audience with one final little talk here. She's gonna answer the question, “What is involved in planning for disaster recovery and reconstruction? What does it take to plan successfully?”

*Laurie Johnson:*

So I'm mostly gonna answer the second question 'cause I went through the process at a high level in the beginning, but the first important thing I think – there's four points I'm gonna make here about what makes a plan – what's important for a planning process to be successful. I think the first one is identifying leadership and making sure you have a very collaborative partnerships in the planning process. And this is a graphic I've developed as a draft; hopefully, it'll get enhanced by graphic artists for the PAS Report. But the – what I'm trying to show here is that one thing that I said earlier, that knowing – having an authorizing, an approving body in place for the plan before you begin the planning process is extremely important. I was involved in an effort in New Orleans when that wasn't the case. It's so catastrophic for the community to spend so much time involved in these kinds of difficult planning discussions post-disaster then if their elected officials actually aren't on board to adopt and improve and vet that plan in a formal, public, authoritative way. It's really – can be very, very debilitating.

The second part of this is plan leadership, and I call out three things. There needs to be a person or an agency in charge, and this is very important to address the time compression thing because people are very confused in that – in a time-compressed

environment. It's also important to have a planning task force, and that might be made of some elected officials, some people from your planning commission, some people from staff, some people from the community. And, also, there needs to be a group of planning liaisons, and that really is where you begin to cultivate your long-term implementation partners, and those would be some of the key funding agencies from the state and the feds, maybe even foundations who you might attract to fund your planning process. So having those involved as part of your leadership is very important.

On the plan development, I like to emphasize three things. There needs to be the team that's actually doing planning, and there needs to be two other components to that, which should not be the same people doing the planning: one is people managing the information and data, getting that information out, putting it into maps, getting it up on a website, making sure that it's out for the public to see and to understand – again, helping to reduce that uncertainty; the second is communications. We spent twice the amount of money on communications in the New Orleans plan process than we did on the plan itself. Communications is very expensive in a time-compressed environment because you have to reach all these people, you have to – you sometimes have to actually pay for meeting space because public facilities are housing people on a temporary basis or serving other recovery functions, so it can be quite costly.

And that leads, really, to the last piece of this, which is public participation, which I –

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try to break into two categories, that there's the broader participation, which is very, very important. You need to have a demographically-representative process, so it's important to make sure that you organize and reach the broader public to at least endorse the policies in the plan, and that's different from having a more focused discussion with stakeholder groups, which might be having a downtown business district discussion with your chamber of commerce or getting the school districts and utility districts together to talk about the infrastructure policies in the plan.

Jim? Next slide. So the public input into the process, as my second point, is really critical for a successful plan, and one thing that I try to suggest is that you use the – from the public's point of view, that they actually see the planning process evolve through

the public input, that it really can become the way in which you pivot from step to step in the process. So for example, you could have a public hearing or input onto the – once you completed the assessment, then when you begin to look at alternatives and identify priority issues, and then as you begin to actually develop specific strategies and projects and policies, and so from the public's point of view, they're seeing themselves – they're seeing the process evolve and they're seeing themselves part of that.

And then the fourth – the third point is about the research and the analysis. I think, as we mentioned – all of us have mentioned, you're gonna be kind of pushed towards identifying those priority areas pretty quickly, and – but it's important to make sure that's done within the context of taking a comprehensive view. And it's not that hard; as planners, we have the data already if we have an up-to-date general plan, which is something that I emphasize having going into a disaster. Then you have a place to start in looking comprehensively and legitimately identifying what the priority issues are to the public, making that transparent – how you pivot from, you know, having it be a – everybody wanting to talk about everything to trying to focus in on talking about a few things that are most important.

And, lastly, implementation. This is something that Christine said and Linc has said and I'm gonna close with, is just how critical implementation is to the recovery, and so the plan really does need to have an implementation section that is very clear in defining who's gonna be leading the actual implementation, which will be a different organization than your planning team or your planning leadership team. And there also needs to be an implementation timeline and other strategies laid out for how you're gonna achieve implementation. A colleague from Japan wrote, after the Kobe earthquake, that time is the major strategy of implementation post-disaster, but there are also two other lenses that you have to look at. One is that there's also a spatial element to recovery, so certain neighborhoods are going to be recovering at different paces than others, and there's also a systematic element to recovery and you need systematic strategies because lifeline systems restore in a certain structured way – you have to work on the top of the system first before you work at the endpoints and the distribution points of several lifeline systems, or schools will be working in a systematic way, looking at how they repair the various schools that are damaged. So you have to think about implementation from a number of different vantage points: time, space, and systems.

And, lastly, as Linc and others have mentioned, money. A financing plan, a matrix for what pots of money are gonna go towards what projects, even if you don't know, that's the way you can actually use the plan to attract more money, becomes an important way to go and recruit or negotiate for fulfilling the vision in the plan and the projects articulated in the plan.

*Jim Schwab:* Okay, with that, we will go to questions from both the floor and from our virtual audience. And we'll just see which – we've got one question for Linc from our online audience, just get things started here. “Are you talking about a pre-disaster recovery plan or a Blue Skies pre-disaster hazard-mitigation plan-slash-planning process to avoid disaster in the first place? Please clarify.”

*Lincoln Walther:* No, we're talking about a pre-disaster –

*Jim Schwab:* Here, Linc.

*Lori Schwarz:* They were saying what were you talking about?

*Lincoln Walther:* Yeah. I was talking about a pre-disaster, long-term recovery plan in a Blue Skies environment.

*Jim Schwab:* Okay. We'll take our first question from the floor.

*Audience Member:* Thank you. Good afternoon. I'm here from the northwest coast of Oregon, where we're increasingly involved in community resilience and post-disaster planning, particularly for tsunamis and what we're calling a “Cascadia subduction event” and also for sea level rise. And I have a two-part question for you. Recently, at the request of a small community called “Cannon Beach” on the northern Oregon coast, we asked the state to write a new rule to the statute permitting storage structures for emergency supplies to be located in forestry and in ag-protected zones. The reason for that was so that Cannon Beach could move forward with locating several storage structures up on the hill above the community, in the event there was a disaster. And at the time that we were asking the state to make this change to the statute, that struck me as being a real concrete example of something that we could be doing to prepare for an emergency or a disaster. And so I'm wondering if there are other examples that you might have that come to mind about things that, as a region or as a community, we could be doing, other concrete examples of things that we could be doing now to prepare for an emergency?

And the second part of my question has to do with the incident-management system, otherwise called the “IMS system,” that we've been training all of our management-level folks at the cities and county levels, though that system. But I've taken several of the classes, and I have to say that, you know, there's a lot of abbreviations and very bureaucratic-sounding language that I'm supposed to understand, and I'm not retaining a whole lot of it, and I'm sort of wondering what the real value is of that whole training program. I'm supposed to take two full days of it here in a couple of weeks. So I'm just wondering if you have any comments about the incident-management system and how worthwhile it is.

*Lincoln Walther:* Yeah.

*Laurie Johnson:* Take the first part if you guys wanna think about examples. So, well, I think the emergency management and the purpose of the incident command system, incident-management system, is not necessarily appropriate for this recovery discussion, but it's really designed to be something that's command-and-control-based but allowing lots of people to, basically, defining the positions of the incident management, having an incident manager come in first and basically fill these other key functional roles and that people can be trained to work in all those functional areas and that all other institutions are set up with the same management structure so that recovery – or so that management talks to management, planners talk to planners, operations talks to operations, logistics talk to logistics, finance talks to finance, and that can work at multiple levels of government and across different levels of government. So there's some reason, I think, from a management framework point of view, there's a lot of art and value in the incident-management system. There's a lot of detail and jargon in actually implementing it and using all the forms that go with it and all of that, and that's probably more appropriate for another discussion, but I'm actually a big proponent of using that framework of management for even thinking about your recovery management organization because time compression, it continues into recovery, and part of the reason incident management is there is because resources are strapped, decisions need to be made quickly, people need clear definitions of who's making decisions versus who's doing operations and doing these other functional areas, and I think, while in recovery, it's slowed down, it's still a great organizing framework.

So we actually, in San Francisco right now, are working on developing our short-term recovery plan to still be structured in the same format as incident management. It – we'll will slow it down,

and we won't use all the jargon; we'll do weekly action planning sessions and situation summaries. But it will allow us to transition our emergency operations center and all of that management resource that you've developed into the next stage of recovery and then, ultimately, if it's a really catastrophic event, we might have to set up a different kind of organization to manage land use, something that looks more like a redevelopment agency, has those kinds of authorities. But for the most of the moderate-type events, we're expecting to use the same kind of system and leverage the resources we have and the knowledge base we have of our incident command system to take us into recovery.

*Lori Schwarz:* As far as your, I guess, your first part of the question, I have questions back for you. Is this an area that currently allows development, other than just the storage buildings that you're talking about?

*Audience Member:* The forestry and agricultural zones generally don't, unless that residential development is directly related to the forestry and agricultural activities that are taking place.

*Lori Schwarz:* And are they considered flood plain?

*Audience Member:* The particular areas that were targeted are not in the 100-year flood plain.

*Lori Schwarz:* Okay. And in that, there's part of the things that I would look at is, "What is the land use for that area and what are mitigation actions you can consider?" I think what you're talking about, about moving the storage areas outside of that location, would certainly be a good first step. If it was privately owned, I would be looking at, you know, notification, how are you letting people know that this is a public access area, signage so that people would know that this is a tsunami-potential area. And then, also, you know, if you have the ability to adjust building codes or flood plain requirements there, if it's residential related to that forestry or to that agricultural use, how are you considering that? I mean, most storage units don't have to – they can still be at grade; they don't have to be elevated. So are there other mitigation measures you could take for buildings that are located within that zone that would allow that property to survive or be located outside of that zone? So those – I mean, I think you're on the right path; it's just I think a lot of it's – you're at least fortunate that you have a lot of the framework in place that it's not a developable area at this point, and that would have been more of a concern.

*Jim Schwab:* Okay. We have another online question, and, obviously, we have a couple other people waiting too. So let's get to the – this one here. “One of the criticisms concerning hard protections is the reallocation of funds, for example, funds that were supposed to – ,” this doesn't quite add up. “Supposed to,” something, “New Orleans over many years were reallocated to other problems of the day, so the question becomes, 'If you propose a large massive project that will take many budget cycles to complete, how do you keep the funding going in the coming era of austerity?' ”

*Laurie Johnson:* Does our official local government person wanna...

*Lori Schwarz:* Well, I mean, I would say that if you're looking at a large massive project, though, that most likely is going to be – it's gonna have to use federal or state dollars. I think that it would be very difficult for a local community to deal with that kind of a massive project. I know that when we have talked about some of the hard structure projects that were coming out, we're looking at a larger planning process, including lots of different entities, so there would have to be some plan and assurance that it was going to be funded all the way through.

*Jim Schwab:* Okay. Let's take a question from the floor?

*Audience Member:* Hello. Thank you all for coming from such long distances. I am from Michigan State; I'm a grad student. My question kind of is – it seems focused on Florida, but it's mainly, I think, for the Gulf or for possibly even the West Coast. So we know that Florida has led the way with hurricane-resilient building codes. We know that the communication infrastructure was improved since Andrew. We've switched the path prediction to the cone of uncertainty. And we know that warmer gulf waters will lead to stronger events. Does all this lead to a false sense of security, and if so, how do we address that?

*Lincoln Walther:* Well, I guess you could say it could. Just like levies, if you live next to a levy, you think you're safe, but, in reality, yeah, it's false sense of security. I think it's – no, I don't view – I wouldn't view it that way. I think it's some substantial steps being taken when we redid the building code. I mean, it's being recognized all over the country. You build the Miami-Dade. You build the Miami-Dade, you're probably gonna make it through hurricanes. But, no, I would say that we are – it's not a false sense of security. We need to continue to improve, but it's step at a time.

*Laurie Johnson:* I just – I have one comment that goes back to the PAS report I wrote about risk and land-use planning, and that's that what's interesting about risk management is the idea that it does provide this rational way in which you can compare one risk versus another risk, by doing something like, let's say, a benefit-cost analysis and you come up with the value of this risk or this risk, and that's what the Army Corps of Engineers does when it tries to decide what to do, you know, what level of protection to provide with a levy or building –

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codes, what level, are we protecting to life safety or are we protecting to a higher level performance of the structure? What we don't do very well, once we make those big decisions and put those policies in place, is remember what the residual risk is.

And so in the case of the building code, for example, I deal with this in California all the time: we build buildings to a life safety performance. That means, after a major earthquake, the expected earthquake in the building lifetime, that building is probably not gonna be functional; it will need to be demolished. But how many people who buy those buildings at California real estate prices really know that that's all that building is built for? It's built to make sure that building does not collapse. And codes change with time, so what we knew in 1930 about building construction is not what we know today, so the vintage of the building, the code at which it's developed, the residual risk that is inherent in every building is quite different, and I think, as planners and as engineers – this is something I advocate a lot in the engineering community – we need to do a better job of articulating the residual risk and letting people know exactly what they have and what they don't have, what they're buying into and what they're actually accepting themselves.

*Jim Schwab:* Okay. Another question from floor?

*Audience Member:* Hi. As a consulting planner who lives in the Jersey shore before October 29th, when Sandy took out my first floor, also responsible for a lot of the CDBG-DR money that's coming down the pike for a bunch of towns that I work for, the – I appreciate all the planning thoughts and ideas, and I think we're gonna start doing that. But if I walk into a room of public and people right now and say, “Let's start talking about the next storm,” I'd probably end up with a bullet in my head. But the real question I have from the immediate standpoint right now, five months in, are the FEMA maps. We

have lots of upset individuals in the V zones, which have to raise their houses by six feet. In the AB zone, which I'm at, we have to raise it by four feet. Whether CDBG funds are going to be adequate enough for that, of course, it's only available to low- and moderate-income people. In just one town alone, we are gonna have 5,035 residences that need to be raised. That's at a cost of at least \$80,000.00 per home. And that's – if we don't do that, then we have a flood insurance implications on individual residence. So this is the most immediate situation that's hitting our towns right now, and based on your background, in terms of what you've seen and what you worked with on FEMA, I'm very curious as to what the answers that I can bring back to my towns. Thank you.

*Lincoln Walther:* I – you're getting to factor one other item in: Biggert-Waters, which is – between Biggert-Waters and elevation, I had comments last week from some elected officials in Jersey, saying, “What are we gonna do? 'Cause we have a lot of bungalows. Those people – the ones right on the ocean, they've got millions. They – doesn't matter to 'em. But the bungalow folks.” I said, “You know, you have a built-out situation. My solution initially is, first – and the president of the planning association was there, I'd be going up as the representative for planners and trying to get some of the HUD money to be used for community planning, like New York is gonna do. And you need to do planning even in a built-out community, you're – it's gonna be tough. There's gonna be a lot of blood and tears shed before it ends, and to figure out what is the strategy, what do you want,” as Lori always talks about, “the vision for your community.” They need to revision themselves and figure out what they want and have a clear vision, a vision that can be implemented –

*Audience Member:* New Jersey don't work that way. *[Laughter]*

*Lincoln Walther:* Well, I – that's what they told me when I was at the meeting, you know?

*Jim Schwab:* We heard that a lot.

*Lincoln Walther:* Yeah. But, anyhow, yeah, I don't – I didn't give you answer, I know. And it's only by the citizens, not you the consultant – you're the facilitator. You just keep asking the questions and trying to have the citizens come up with their answers.

*Lori Schwarz:* Well, and I was gonna say, if you wanna talk to me afterwards, I can tell you about our experience that we had with – the entire island was in a flood plain. We have a lot of historic buildings that

were built below base flood, and then we ended up with money – requirements for using the state-filtered money that they had to be built at three feet pre-board. So when you already had requirements of 12 feet, plus then you're now at 15 feet in the air, what kind of things happen? So if you wanna come talk to me afterwards, I'll talk to you a little bit more about that.

*Lincoln Walther:* And one other item: Ed Thomas, sitting in a blue shirt here, this is who you need to talk about Biggert-Waters. He is one of the –

*Jim Schwab:* I am aware that we're now five minutes over, and there's probably somebody else coming in here at 4:00, so I think we're going to have to cut it off, but it certainly is an indication of the interest of this audience, that we had enough questions and the young – the lady that was waiting to answer a question maybe can ask them individually if you wish.

*Audience Member:* Thank you.

*Jim Schwab:* Okay.

*[Applause]*

*[End of Audio]*