
Committee Meeting

of

ASSEMBLY SPECIAL COMMITTEE ON INFRASTRUCTURE
AND NATURAL RESOURCES

ASSEMBLY ENVIRONMENT AND SOLID WASTE COMMITTEE

"The committees will meet jointly to hear from invited guests and members of the public to observe the upcoming tenth anniversary of Superstorm Sandy, and receive testimony concerning the State's existing storm preparedness and post-storm assistance efforts, the disbursement of storm recovery funds, an evaluation of existing mitigation strategies, and future storm preparedness and resilience"

LOCATION: Committee Room 11
State House Annex
Trenton, New Jersey

DATE: October 6, 2022
10:00 a.m.

MEMBERS OF COMMITTEE PRESENT:

Assemblyman Robert J. Karabinchak, Chair
Assemblyman James J. Kennedy, Vice Chair
Assemblyman William W. Spearman
Assemblyman Anthony S. Verrelli
Assemblyman Donald A. Guardian
Assemblywoman Marilyn Piperno
Assemblyman Michael Torrissi, Jr.

Assemblyman Sterley S. Stanley
Assemblywoman Shama A. Haider
Assemblywoman Bethanne McCarthy Patrick
Assemblyman John F. McKeon
Assemblywoman DiAnne C. Gove



ALSO PRESENT:

Carrie Anne Calvo-Hahn
Carolina Guzman
*Office of Legislative Services
Committee Aides*

Samuel Aloï
Allison Meyers
Catherine Tung
*Assembly Majority
Committee Aides*

Thea Sheridan
*Assembly Republican
Committee Aide*

***Meeting Recorded and Transcribed by
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Robert J. Karabinchak
Chair

James J. Kennedy
Vice Chair

William W. Spearman
Anthony S. Verrelli
Donald A. Guardian
Marilyn Piperno
Michael Torrisi, Jr.



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NEW JERSEY STATE LEGISLATURE

ASSEMBLY SPECIAL COMMITTEE ON INFRASTRUCTURE AND NATURAL RESOURCES

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COMMITTEE NOTICE

TO: MEMBERS OF THE ASSEMBLY SPECIAL COMMITTEE ON INFRASTRUCTURE
AND NATURAL RESOURCES

FROM: ASSEMBLYMAN ROBERT J. KARABINCHAK, CHAIR

SUBJECT: COMMITTEE MEETING - OCTOBER 6, 2022

The public may address comments and questions to Christina Denney or Carolina Guzman, Committee Aides, or make bill status and scheduling inquiries to Pamela Cocroft, Secretary, at (609)847-3855 or e-mail: OLSAideANR@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.

The Assembly Special Committee on Infrastructure and Natural Resources and the Assembly Environment and Solid Waste Committee will meet jointly on Thursday, October 6, 2022 at 10:00 AM in Committee Room 11, 4th Floor, State House Annex, Trenton, New Jersey.

An individual interested in registering their position with the Committee may fill out the Registration Form located on the New Jersey Legislature Home Page under the applicable Committee heading. For those individuals who wish to testify, please check the box "Do you wish to testify?" on the Registration Form. The Registration Link will close at 3:00 PM, Wednesday, October 5, 2022. An individual is not required to pre-register in order to register their position with the Committee. Witness slips will be available in the Committee Room and written testimony will be accepted at the Committee Meeting.

The committees will meet jointly to hear from invited guests and members of the public to observe the upcoming tenth anniversary of Superstorm Sandy, and receive testimony concerning the State's existing storm preparedness and post-storm assistance efforts, the disbursement of storm recovery funds, an evaluation of existing mitigation strategies, and future storm preparedness and resilience.

Issued 9/28/22

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ASSEMBLYMAN ROBERT J. KARABINCHAK (Chair):

Good morning, everyone. Good morning.

Thank you. If I could just take a moment, what I would like to do first is stand for the Pledge of Allegiance.

Assemblyman.

(Pledge of Allegiance)

Thank you so much. I just have a brief opening statement about today. First of all, I would like to thank everyone for coming. I would like to thank Chairman Kennedy for agreeing to hold this joint hearing with me and recognizing this importance; the Speaker Coughlin for his support; the members of the Assembly Majority office; and OLS in organizing this; and those who have agreed to testify today.

Ten years ago, our state experienced the brunt of what was the deadliest, most destructive, and strongest hurricane in 2012. As a result of this storm, 38 New Jerseyans died. There was \$30 billion in damage; 346,000 homes in New Jersey alone were destroyed. The loss is incalculable.

My district in Middlesex County experienced devastation as a firsthand cause from this surge. The effects of Hurricane Sandy are still felt by my constituents a decade later. Since New Jersey is known as being a kind state, we all rallied together to support the people who lost the most, and also to rebuild with the help of the Federal support.

To better understand what is needed to improve our state's storm preparedness, we have asked the subject-matter experts here today to give testimony on how we can better prepare for the next storm, whether it be a hurricane or a nor'easter. And, especially since we just saw what happened in Florida and the Carolinas, this has raised this to an even higher level.

First, the impacts of climate change are here. Whether you call it climate change or whether you want to call it a freak of nature -- whatever you think that it is, it's changing. Superstorm Sandy was considered a once-in-a-300-year storm. We saw one just recently that's more than that. As we have seen recently with the devastation left behind on Hurricane Fiona in Puerto Rico and Hurricane Ian in Florida and South Carolina, these massive storms have become more common and caused massive destruction. If we as a state do not take proactive steps to combat climate change and invest in the stability, these storms will continue to devastate people's homes and their lives.

Second, when considering the future of fund disbursements, oversight is needed to ensure that the money gets to the hands of those who need it, and not those who are taking advantage of a serious, serious disaster. In the aftermath of the storm, an incalculable number of people needed assistance to get back on track. Unfortunately, many unscrupulous people took advantage of that. This has to change.

Lastly, as I said previously, residents are still feeling the effects of the hurricane. Some never returned to their homes; never reopened their businesses. And, the support of the economy to our state and to ensure that the people do not migrate out of this state, we need to provide more assistance to those who need it. I look forward to hearing the testimony and responses from the people that are -- the professionals gathered here today, and, more importantly, continuing both committees working on the oversight.

So, thank you for taking that moment and listening to just my opening statements.

ASSEMBLYMAN JAMES J. KENNEDY (Vice Chair): Good morning, Jim Kennedy, Chair of the Environment.

Assemblyman Karabinchak pretty much covered everything, so I think we should just get started, and not waste your valuable time.

Thank you.

ASSEMBLYMAN KARABINCHAK: You're welcome.

We're going to ask for a roll call, thanks.

MS. CALVO-HAHN: For the Assembly Environment and Solid Waste Committee.

Assemblywoman Gove.

ASSEMBLYWOMAN GOVE: Here.

MS. CALVO-HAHN: Assemblywoman McCarthy Patrick is on her way, thank you.

Assemblyman Guardian.

ASSEMBLYMAN GUARDIAN: Here.

MS. CALVO-HAHN: Assemblyman McKeon is present.

Assemblywoman Haider.

ASSEMBLYWOMAN HAIDER: Present.

MS. CALVO-HAHN: Assemblyman Stanley.

ASSEMBLYMAN STANLEY: Here.

MS. CALVO-HAHN: Chairman Kennedy.

ASSEMBLYMAN KENNEDY: Here.

ASSEMBLYMAN KARABINCHAK: OK.

I'm just going to ask Carolina for a roll call.

MS. GUZMAN: For the Special Committee on Infrastructure and Natural Resources.

Assemblywoman Piperno.

She's on her way.

Assemblyman Guardian.

ASSEMBLYMAN GUARDIAN: Here.

MS. GUZMAN: Assemblyman Verrelli.

ASSEMBLYMAN VERRELLI: Here.

MS. GUZMAN: Assemblyman Spearman.

ASSEMBLYMAN SPEARMAN: Here.

MS. GUZMAN: Assemblyman Kennedy.

ASSEMBLYMAN KENNEDY: Here.

MS. GUZMAN: Chair Karabinchak.

ASSEMBLYMAN KARABINCHAK: Here.

OK.

Yes, Assemblywoman.

ASSEMBLYWOMAN GOVE: Mr. Chairman, could I just make a brief statement?

ASSEMBLYMAN KARABINCHAK: Go ahead.

ASSEMBLYWOMAN GOVE: Thank you.

Thank you; good morning, everyone, and thank you for giving me this short period of time.

I am serving here as a substitute on this Committee not only as a coastal legislator, but as a Superstorm Sandy survivor whose home sustained significant damage along with many other homes, businesses, and structures on that fateful day that changed your lives -- everyone's life -- and we see that with Ian in Florida. And my heart, every minute, watching that

TV, went out to those people, but brought back memories that I tried to put in the back of my head.

Along with my constituents, as you know, the coast really was hit. I went through bureaucratic process necessary to rebuild my home as part of the State's overall re-building and recovery effort. While I was out of my home for nearly six months -- and I pushed it to get in there -- I ultimately was able to complete the rebuilding process and return to a sense of normalcy. I had a tremendous amount of family and friend support that helped me get through it paper-wise, as well as mentally.

However, to many Sandy survivors -- among some who are in this room -- some of my constituents who are *still* dealing with bureaucratic Sandy issues that have created prolonged hardships -- as we know, 10 years -- whether it be related to RREM or other Sandy-relief programs. In certain cases, the amounts of monies involved are in tens of thousands to millions of dollars, as you said.

While serving the best interest of my constituents, I proudly supported bipartisan legislative initiatives, which have been active over the years to provide assistance to Sandy survivors. Along with my 9th District colleague, Senator Chris Connors, and Assemblyman Brian Rumpf, I've worked closely with the New Jersey Organizing Project, which you will hear today, to not only assist with individual Sandy constituent cases, but also on legislation involving the issue of claw backs, whereby the State attempts to get Sandy assistance funds back from Sandy victims after the monies were already distributed.

While I understand that today's Committee will include future storm preparedness among the agenda issues, I believe that resolving these

immediate needs of Sandy survivors should take priority. As you said, oversight is so important, and that, I think-- I'm a people person, so my passions and my emotions are there for the people. And, like you said, the devastation is going to be there, but it's the after-effects that need to be helped, and continue to help.

Thank you so much for allowing me to speak.

ASSEMBLYMAN KARABINCHAK: Thank you, Assemblywoman, thank you so much.

Here we have the first panel. I'm not going to introduce everyone, I'm going to ask everyone to introduce yourself just for the record, and thank you for being up here so promptly.

What we're looking to do is try to limit some of the time, between three and five minutes. They actually have some lights here, because I don't watch the time; a lot of people just talk, because some of it is more data-driven, and also, information. And, at the same time, a lot of this stuff is also emotional, and I think that both -- everything -- has to come into play today, that's what the purpose of this hearing is about.

Thank you. So, I'm going to turn it over to you.

DANIEL J. KELLY: Thank you, and good morning.

ASSEMBLYMAN KARABINCHAK: Good morning.

MR. KELLY: My name is Dan Kelly, I am the Executive Director of the Governor's Disaster Recovery Office. And, joined with colleagues today -- we'll go in order -- me; Sam Viavattine, Deputy Commissioner at the Department of Community Affairs; Colonel Callahan; Bruce Ciallella from EDA; Chance Lykins from the Board of Public Utilities; and Justin Davis from New Jersey Transit.

ASSEMBLYMAN KARABINCHAK: Thank you.

MR. KELLY: And thank you, Chairs Kennedy and Karabinchak; Vice Chair Stanley; and members of this Committee, for giving us the opportunity to discuss what's happened post-Sandy and how we are better prepared for the next Sandy, which we all know is coming.

October 29, 2012 -- that's a day no one New Jerseyan will ever forget. As the Chair alluded to, more than 300,000 homes either completely destroyed, or so substantially damaged that they were uninhabitable. Two-point-seven million were without power due to large-scale power failures across numerous regions in the state. Eight million cubic tons of storm debris strewn across the state's transportation systems, making it almost impossible to access some of the most heavily impacted in the immediate aftermath of the storm. There was not a single water-treatment or wastewater-treatment facility in full operation throughout the entire state, leading to an estimated 3-5 billion gallons of untreated water being discharged into our waterways. Our transit and transportation systems were in disarray. Tens of thousands of people were cold, wet, tired, and scared. And, as the Chair alluded to, most importantly, 38 people died.

It was the most devastating storm that has ever hit this state. It changed every New Jerseyan, and it changed me, too. In the years after Sandy, I was asked to lead what was the Governor's Office of Recovery and Rebuilding, which is now the Governor's Disaster Recovery Office. And, as part of that role, I met face to face with a lot of Sandy survivors, and people impacted by every major disaster that's happened in the state -- or at least since that time. And, seeing the impact first hand is something you have to do in this job. You can't be a bureaucrat who sits behind a desk who just

pushes papers. Seeing people in person, too, emphasizes the need to hopefully have them never, ever go through the process of disaster recovery again.

In terms of storm response and initial recovery, the group you have before you today is unmatched in terms of knowledge and expertise in how to get FEMA money; Small Business Administration money; HUD money; Federal transit money; and other sources of Federal income in response to a disaster out to individuals.

The question is not how do we get money out to people today. We know that we can. I think the real question for this Committee is, how do we avoid people getting into that disaster-recovery process altogether, or avoid as many as possible going into that process? Because, Assemblywoman Gove, as you've noted, at best, it's a horrible process. Even when it goes smoothly and everything works out, if you got back in six months, that's a success story. But, from your perspective, probably one of the worst experiences you ever went through.

ASSEMBLYWOMAN GOVE: Absolutely.

MR. KELLY: And, we recognize that.

So, really, the question is how do we avoid it? And, I have to start by saying my office didn't exist when Sandy hit. It was created in the aftermath of Sandy. But, now it serves as the vital point of institutional knowledge on coordination, of course, with the Colonel and his team and State Police in terms of that emergency response. And, then, of course, with everyone here; especially Sam Viavattine at DCA on that long-term recovery piece. How are we getting people back in their homes? How will we make

them more resilient? How are we investing in infrastructure that hopefully prevents this from happening again?

Additionally -- and, Chair, I'm glad you brought this point up -- about the compliance issue. Overseeing Federal funds and protecting taxpayer money. A large role within our office, led by Bob Bartolone -- who is in attendance today, and was here for Sandy recovery at the Department of Community Affairs -- is overseeing that Federal money, preventing fraud, waste, and abuse. Because we all know there's that push and the pull and, Chair, you touched on it -- and Assemblywoman, you touched on it. You can have all the controls in place to protect all the taxpayer money and not misspend a single dime, but, you'd never get money out to people. Or, if we just opened the flood banks and gave money out to people without having the right controls in place, that would be great, but then the Federal Government and their Inspector General would come in and deobligate every penny that we had. And, that's an even worse disaster.

So, there's that natural push and pull between the two goals of disaster recovery that we always compete with and have a heavy focus on, and that we learned our lessons post-Sandy.

Now, with all that said, Sandy recovery was not perfect. Disaster recovery itself never is; and, there's no exact roadmap in response to any one disaster event. It requires new dynamic programs that need to be created on an urgent basis, and they need to comply with all these technical and bureaucratic rules. A successful recovery requires years of effort by citizens, nonprofit organizations, faith-based organizations, and government agencies.

Now, what *was* perfect after Sandy recovery was the effort by all the State agencies represented here today, and all the ones that aren't, that

all had a major role in Sandy. Sandy didn't fail to impact any aspect of daily life for anyone in New Jersey. The State launched 97 individual programs. Many were focused on recovery, but many focused on the resilience aspect, which we're focused here on today. Notably, housing recovery and resilience flood protection projects led by DEP -- which, unfortunately, could not be here today, but I'll speak generally to what they've done, and we can follow up in writing with their specific projects: Transit resilience; hardening our energy grid; and reviving our economy and supporting our small businesses in the aftermath of a storm.

Now, I see I'm a little over time, but if you don't mind--

ASSEMBLYMAN KARABINCHAK: No, please--

MR. KELLY: --I wouldn't mind just going over it a little bit.

So, now, there's never a "mission accomplished" moment in Sandy recovery. Even today, there are still residents who haven't been made whole; there are still residents who are not yet back in their homes.

But, the amount of resilience work completed in the decade, quite frankly, is remarkable, and bears noting today. Not to celebrate it, but to relieve all of our collective anxiety whenever we see a storm rolling up the coast. We know we're better protected than we were 10 years ago.

Now, in terms of housing recovery, we didn't just help homeowners rebuild what they had. We focused on making them resilient so they didn't get hit again when the next storm comes. Led by the Department of Community Affairs, along with Colonel Callahan's Mitigation Unit, we've successfully elevated 6,955 homes, above base-flood elevation. For me, that's 6,955 families who don't have to go through the disaster-

recovery process -- or certainly not to the extent they did -- during the next storm.

Just as impressively, DEP's Blue Acres Program has bought out more than 800 worst-of-the-worst flood-prone homes. And that, we all know, is the house in your neighborhood that, no matter what you do to it, just should not exist. DEP's Blue Acres Program has been a tremendous success in that regard. Working with, of course, the Mitigation Unit at NJ OBM to get additional Federal money directly to towns, even outside the State program, to elevate hundreds more homes.

Now, in terms of flood-resilience projects -- which is really your high-level resilience project, to hold back the water -- we've heavily invested, like never before. Led by DEP, in partnership with the U.S. Army Corps of Engineers, we've invested well over \$2 billion in 19 coastal and inland resilience projects over the last 10 years to build dunes and build storm-protection systems, to ensure that another Sandy-type event doesn't devastate our shore. From Cape May to Union Beach and further inland, and north along the Hudson River and Meadowlands, DEP has constructed -- and is constructing -- storm-protection systems that our citizens can rely on for decades.

And, as I've noted, I work closely with DEP. They couldn't be here today; we're happy to provide a list in response to this Committee to highlight, really, where all these investments have occurred, where they're going to protect. It's an impressive story that needs to be told.

And, we all saw the stories in terms of NJ Transit's issues in the aftermath of Sandy, both operationally and in terms of their assets. We all know there were weaknesses there, but NJ Transit has made tremendous

strides. And, I know Justin Davis is going to touch on this in his comments, but, in terms of the changes to their emergency operations as well as more than \$1.2 billion in Federal money invested in transit-resilience projects, transit is in a better -- much better -- position today than it was 10 years ago.

Now, perhaps the most glaring weakness post-Sandy-- And some of it gets forgotten, because we focus on homeowners, and rightfully so. But, there was a massive failure of our energy grid in the aftermath of Sandy. Millions without power; it interrupted everything. Critical facilities either could not operate, or couldn't operate at full capacity. BPU has led the effort over the last 10 years to work with the energy companies to make more than a billion dollars in grid hardening -- typically electric, but natural gas, too -- to make sure that our system can better withstand the next storm.

Likewise, the Economic Development Authority thought creatively and created the first public infrastructure bank in the country to deal with energy resilience at critical facilities. Through a \$200 million investment in that program, nine hospitals and three wastewater-treatment plants have what I like to refer to as "micro-grid technologies." When the larger grid fails, the lights stay on at those facilities to avoid the problems we saw post-Sandy with wastewater being dumped into our natural waterways.

Now, outside these tangible investments, the thing that I think I, myself, have really learned post-Sandy is that we need to make it easier for individuals, particularly residents, to access the vital recovery programs that are out there. It's an incredibly confusing world. I've lived in it for the better part of 10 years now, and there's no shortage of confusion between what's available from the Federal Government, between FEMA; the Small Business Administration; HUD's money going through Sam and his shop at DCA; how

to use your insurance; as well as local governments, in terms of how to tap into money.

When Sandy hit, and, up until recently, to a certain extent, individuals were left to -- I wouldn't say figure it out on their own, but they had to go to each agency and really do their homework. Assemblywoman, I see you nodding in agreement. It becomes a full-time job, figuring out just where can you go for resources.

And now, I have to call him out by name: Adrion Perez, from our Governor's Disaster Recovery Office -- who we stole from the Small Business Administration and has a very client-oriented background -- has helped create *disasterhelp.nj.gov*. It's sort of a one-stop shop, individualized by storm and type of resource needed, to help give you a little bit more of a direction, instead of a homework assignment, to point you toward resources that are helpful. It's a small step, but an important one.

So, while we've done much, we recognize that recovering from Superstorm Sandy and fully adapting to the impacts of climate change is not solved in one decade or through any one program. It requires year-over-year, decade-over-decade commitment to investing tens of billions, not just billions, in storm protection and prevention projects. It also requires this continued-action mentality we've had over the last 10 years. If anyone can remember pre-Sandy times -- just like we remember pre-COVID times -- the idea of the government coming in and paying you to elevate your home, or paying you full-market value for your storm-damaged home and then demolishing it, was somewhat of a foreign concept; it wasn't commonplace.

Case in point is Blue Acres. It's been around since 1995. It's been a good idea for the better part of 30 years. It's done a thousand total

buyouts; 800 of those buyouts have occurred since Sandy. And, that just shows you, Number 1, the amount of money and dedication by the State employees putting that program out there, but also the change of mentality. We can't force a buyout, but more and more homeowners or constituents are realizing that the next storm is coming. We can't just avoid it; it's not a far-off risk. And, as the Chair noted, whatever your politics are, we all know the water is coming, and something has to be done with it. And, I think maintaining that action mentality is critical to the next 10 years, so that when I'm here in 10 years, as an old man, we can be talking about the next \$20 billion that we've invested instead of the initial first \$10-ish billion that we've done.

I'll end by noting that FEMA recently announced its mitigation programs for this year, which have an all-time record of about \$3 billion available, nationally, for a competitive program that's run by NJOEM's mitigation unit, and, in typical NJOEM fashion, they neither seek credit or expect it. The Colonel is going to get into his remarks, but, New Jersey is always referred to a giver's state, in terms of sending Federal money to the government. The Colonel's team with the Mitigation Unit is doing its best to even that table in terms of pulling money back into New Jersey; it's a little bit above our weight class.

So, I have to recognize them there. They won't recognize themselves, ever, but I have to do that today.

So, to conclude, having Legislative awareness and urgency, and express to local governments and residents is the key to, I think, maintaining this momentum going forward. And, we appreciate the Legislature's support, and the opportunity to speak today.

Thank you for your time, and, I urge you, please use any one of us -- myself in particular -- as a resource for any of the information needed out there. It's a complex world, to the extent and of your constituents or local governments need help in terms of planning, or anything. We can help plug them into those resources.

Thank you.

ASSEMBLYMAN KARABINCHAK: Thank you so much.

Sam.

SAMUEL VIAVATTINE: Good morning.

My name is Samuel Viavattine, I am the Deputy Commissioner for the Department of Community Affairs overseeing the Disaster Recovery Mitigation Division.

Ten years ago, Superstorm Sandy caused unprecedented destruction in New Jersey. The task of recovery was monumental. Today, I would like to share with you our journey through disaster recovery and, in doing so, recognize the struggle of countless families and individuals who will never be the same as a result.

First, let me share with you the scope of our challenge, which continues even today. Superstorm Sandy had a widespread and lasting impact. In response, the Sandy Recovery Division was created to facilitate the disbursement of \$4.1 billion in Community Development Block Grant Disaster Recovery funding, or CDBG-DR funding. DCA was responsible for all aspects of this funding, including launching homeowner and renter recovery programs; managing outreach; engaging constituents; and coordinating funding across multiple state agencies. The Department created

39 programs -- most completed now -- and spent over \$3.6 billion helping New Jerseyans recover from Superstorm Sandy.

Five hundred and eighty million dollars remains unspent. Understanding this is a substantial amount of money, I would like to note that all of these dollars are allocated, over \$430 million of which is dedicated to long-term infrastructure and resiliency projects, including the Rebuild By Design projects in the Meadowlands and Hoboken -- which the State was awarded several years after Sandy. These projects will be completed over the next few years; a time frame DCA has known and understood since the early phases of planning and design.

Also of note, DCA just re-allocated \$52 million of unspent Sandy funds towards the Ida recovery efforts. In the housing sector, the Department implemented the Reconstruction, Rehabilitation, Elevation and Mitigation Program -- or RREM -- to provide grant awards of up to \$150,000 to Sandy-impacted homeowners to restore their storm-damaged primary residences. Similarly, the Low-to-Moderate Income Homeowners Rebuilding Program was designed for the same purpose, but targeting LMI homeowners who had not applied to RREM. Together, these programs expended over \$1 billion to repair, rebuild, and elevate 7,185 single-family homes.

Recognizing that some folks had significant financial barriers preventing a full recovery, the Murphy Administration took steps to provide additional funding above and beyond the \$150,000 grant cap. After receiving approval from HUD in 2019, DCA launched the Supplemental Fund. The Supplemental Fund provided zero-interest forgivable loans to over 109 homeowners. This late influx of cash to these projects is what will ultimately bring home many of the families yet to cross the finish line.

Though there were some early pitfalls in the RREM program, great successes were realized. Up and down the shore, homes have been reconstructed and elevated to make them more resilient and protect them against future storms. Our program design and implementation, as well as the strategies we employed for outreach and engagement serve as a recovery model for other disaster-impacted states across the country. We also recognize some areas should not be rebuilt after the storms. Overseen by DEP, supported in part with CDBG-DR funds, the Blue Acres Buyout Program acquires properties in flood-prone areas. Buyouts remove residents from harm's way and, through the creation of open space, enhance natural protections against future severe weather events. The program has expended \$72 million to purchase over 213 homes.

Superstorm Sandy also had a significant impact on renters. The storm and subsequent flooding damaged and destroyed the already limited rental housing stock, and increased the prices of remaining rental units far above market rates. The State allocated a total of \$868 million to assist renters. Several programs were dedicated to creating affordable rental units. Through the Neighborhood Enhancement Program and the Fund for the Restoration of Large Multi-Family Developments, the Department created nearly 6,000 affordable rental units.

A core tenet of the Department's recovery plan was empowering municipalities to revive their communities. The Essential Services Grant Program funded local governments' essential public service needs. The program funded 57 units of local government and school districts that could demonstrate a risk to these services related to the financial impact of the

ratables after Sandy. The program has allocated \$134 million and expended all of that.

Because of the lessons we learned during our Sandy recovery efforts, we are better equipped to meet the current recovery needs and launch programs responding to Hurricane Ida. New Jersey was awarded \$228 million in CDBG-DR funds from HUD to assist with recovery from Hurricane Ida. The funds will create housing recovery mitigation programs to help individuals and communities in the most impacted areas from Newark to Manville. To access these Federal recovery funds, DCA developed an action plan for how it will use these funds, and submitted it to HUD for approval just last month. DCA is also dedicating funding from the FEMA Hazard Mitigation Grant Program towards housing-mitigation efforts. The State will prepare an application to FEMA in coordination with our partners at OEM to elevate over 100 properties in storm-impacted areas.

In launching these new Ida recovery programs, DCA will implement programmatic changes to increase compliance, and ensure that recovery funds are distributed as efficiently as possible, reducing the likelihood of any recapture for homeowners and the State. It will increase oversight of contractors to minimize potential fraud. And, we will give households options to stay in their communities in lower-risk areas.

The need for an agile and responsive disaster-recovery team remains. To ensure New Jersey is ready for the next hurricane and the recovery that follows, DCA should have State funds available to bridge the gap from the date of the storm to when Federal funds begin to flow to the Department. State funding will ensure DCA systems and staff can deploy immediately. It took several years to get housing-recovery programs fully up

and running after Superstorm Sandy, and without the staff, systems, and the institutional knowledge DCA has cultivated over the last 10 years, Ida recovery would be many months behind where we are today. We don't want to lose this competitive advantage when the next storm hits.

Finally, we know the Federal Government's response to disasters is never enough. The State must take steps to decrease the risk of damage from future storms. Again, DCA is working with our partners at OEM to administer FEMA funds through the Mitigation Assistance Program to elevate flood-prone homes. This will not only keep people safe during future storms, but also reduces property damage and lowers insurance rates. We hope we can expand these efforts in the years to come.

Thank you, and I appreciate the opportunity to be here today and provide this testimony.

ASSEMBLYMAN KARABINCHAK: Thank you so much for your testimony.

Colonel.

COLONEL PATRICK J. CALLAHAN: Thank you.

Good morning. Is it on?

ASSEMBLYMAN KARABINCHAK: You got it.

COLONEL CALLAHAN: My name is Pat Callahan, Colonel and Superintendent of New Jersey State Police; I also serve as State Director of the Office of Emergency Management in this role. In just a second or two, before I go into my prepared remarks, I had the position of Recovery Bureau Chief. I was thrust into that in the wake of Superstorm Sandy, and I knew where we were at the time; I know where we've come in the last 10 years. Certainly not a spiking-the-football moment, but I can tell you, in the last

decade having lived that seven days a week with all our partnerships, certainly, as Dan said, not perfect by any stretch, but we are looked at as a national leader across mitigation efforts, so, it's been an honor. From that role, obviously, up to my current one, I see how New Jersey is looked at as a national model.

In the aftermath of Sandy, we've made huge strides in enhancing our resiliency, providing assistance to our residents and subsequent disasters in the wake of Sandy and becoming a national leader, as I said. The State has funded multi-jurisdictional all-hazard mitigation plans for all 21 counties to assist in these efforts. Since Sandy, we have administered more than \$6 billion in Stafford Grant funding for public assistance, individual assistance, and mitigation. New Jersey OEM routinely brings in about 12% of the available competitive funding that Dan alluded to, which is pretty special, considering that New Jersey represents 3% of the nation's population. But, we continue, as Dan said, to fight above our weight.

We also, recently, had a renowned research company identified us as the third best state for return on investment for our mitigation projects. So, for every \$1 that New Jersey spends on mitigation, we save \$6.67, almost seven times the amount invested. We know that these awards impact the quality of life, resiliency, and financial sustainability of residents across all of our population, from our most vulnerable economically to those living and working in areas of the state subject to the ever-increasing impacts of severe weather events.

And, all of this is achievable only through the investments and personnel in the continued development of subject-matter expertise and mitigation and the impacts of climate change, coupled with intensive

community outreach. The New Jersey OEM has built the staffing and expertise to seek and obtain an award for mitigation in disaster recovery, which is funded by FEMA. The administrative costs -- we've also supported climate change modeling tools such as the Rutgers LiDAR initiative to enhance flood-risk communication and disaster preparedness, as well as the Rutgers NJ Adapt planning tool that provides needed data to community decision makers on climate change. Our personnel routinely and constantly engage in outreach to ensure that the State and its residents are awarded maximum funds. And, I'll just go into a few examples of that.

In the wake of Sandy, we created NJEM grants. Believe it or not, it was a paper process 10 years ago to process millions and millions as a multi-disaster state. It's a web-based portal that tracks applicants. They can go on there and see where it is, what review process. We also, by the way, give that access to the auditors that come in, whether it's the IG or KPMG, whoever the state-- And, they can see the processes and the checks and balances that we have in place. We've also partnered with the New Jersey Institute of Technology to identify mitigation funding opportunities for underserved communities. Our mitigation team, led by Lieutenant Brad Waugh, who is sitting behind me, were also a member of New Jersey Resilience Accelerator Program, which helps equip local communities with the tools that they need to reduce risk from climate change and other natural hazards.

We work across the lines with OEM to ensure that our emergency response bureau personnel are in each and every county and local emergency management coordinators' offices, who are also trained in public assistance, individual assistance, and mitigation. The seamless coordination allows us to double down on messaging, identify where we might have to

provide some extra technical assistance, to the Assemblywoman's point, which I know is always a daily battle, but, to do that at the local level and provide a pathway for providing feedback to FEMA in order to get it right and as smooth and seamless as possible.

In terms of the mitigation dollars, our mitigation unit has been awarded \$860 million in FEMA funding since Sandy. And, through the Co-Chair, that I can certainly submit that list of the various -- there's four or five programs that make up those. Five hundred seventy-six million dollars of that has been in what we call Hazard Mitigation Grant Program funds, and they include, to Dan's point, acquisitions and elevations of flood-prone homes and flood-control projects. Two hundred eighty-four million dollars of that has been in non-disaster funds, which is flood-mitigation assistance; pre-disaster mitigation; and Building Resilient Infrastructure Communities, also known as the BRIC program. They also include acquisition and elevation of homes, flood-control planning, and community resiliency projects. In the first year of that BRIC program, out of 22 competitive awards given nationally, New Jersey secured two of those for a total of \$65 million; and that was just recently announced. Also, those projects are complimentary projects to DEP's Rebuild By Design projects, and will assist with flood-risk reduction and resilience in the Meadowlands and Hoboken areas.

I'm getting close. I know the red light is on. (laughter)

Troopers, we pay attention to red lights. (laughter)

Our approach is to leverage multiple funding sources to optimize results. A really great example of this is the Hoboken, Jersey City, Weehawken area, where funds from the U.S. Department of Housing and Urban Development -- HUD; FEMA; New Jersey Infrastructure Trust; and

North Hudson Sewage Authority are being deployed to mitigate flooding in these urban areas, through creative solutions and multi-use properties to enhance the lives of residents in those areas. That multi-faceted, multi-funded project continues mitigation efforts; stormwater storage; recreational use such as bulkheads, floodwalls, seawalls, and soft landscaping features such as berms and levees, which can be used as parks. The Northwest Hoboken Resilient Infrastructure Park will integrate with and compliment the Hudson River rebuild and design project. That 6-acre park marries heavily engineered underground storage with surface green infrastructure and stormwater storage to mitigate flooding by storing 1.7 million gallons of water that can be discharged and treated following a storm event. The park will have outdoor recreation areas that treats eight distinct drainage areas; a lowered basketball court for stormwater sewage; rain gardens for stormwater capture and filtration; and various other storm innovations that can accommodate approximately 750 million gallons of water.

Based upon our recent discussions with Hoboken, we do believe that those improvements made to date for this project were instrumental in minimizing the flooding this area saw last year during Tropical Storm Henri and the remnants of Hurricane Ida, which are still, obviously, very fresh in our minds.

Public assistance, which is another piece of that FEMA funding that filters through OEM has brought a total of \$815 million in category-A funding -- that's debris removal -- as well as emergency protective measures from Sandy.

I'm going to wrap it up, but just-- Really, as I said, I can provide the certain numbers. But, to the Assemblywoman's point, I can sit here and

talk about the positive things. We have come a long way, but we also have a long way to go. I am honored and humbled to be a part of it; I know Lieutenant Colonel Poulton and Lieutenant Colonel -- excuse me, Lieutenant Waugh are here as well to assist in any of the questions and answers that you ask us to provide in this hearing.

So, thank you for the opportunity.

ASSEMBLYMAN KENNEDY: Thank you very much.

Our next speaker is Chance Lykins.

CHANCE LYKINS: Thank you, Chairs, members of the Committee, for allowing me to be here today.

You may have noticed I am not Joe Fiordaliso, so -- President Fiordaliso is still getting over COVID, so he sends his regrets for not being here. But, I will do my best to take his place.

As folks have already alluded to, Sandy was devastating to New Jersey with approximately 70% of our electric grid, our customers, losing power -- some for as many as 14 days. The Board's Division of Reliability and Security was already in the middle of an investigation into Hurricane Irene, which happened less than a year prior to that, and that investigation was then expanded to cover Sandy as well, to look at, you know, what went wrong, what the reactions from the utilities were, and, most importantly, how do we improve on those things.

The result of those investigations -- the Board issued approximately 100 actions for the EDCs to take the electric distribution companies to take in the wake of those storms. I'm obviously not going to cover all 100 of those for you today, but I'll try to highlight the most important.

The Board's directives focused on preparedness efforts addressed at organizational structure, roles, and responsibilities for the EDC personnel. We also began to require the EDCs to update and file emergency-response plans, and to implement continuous training and exercise drills. In the area of communications, we've seen a lot of improvements, but that's an area that we still have a lot of improvements to make, but the utilities are now required to staff any activated county OEMs upon the request of those OEMs. They're required to use both traditional and social media, in addition to their websites, when providing information to the public. They provide -- during major outage events -- they provide daily updates for municipal officials and other elected officials with information specific to their municipalities. And, they are now required to provide global ETR -- Estimated Time to Restoration -- within 24 hours of a major outage event.

On the infrastructure side, the Board has improved a great deal of investments since Sandy; \$771 million in gas utility infrastructure improvements and \$1.4 billion in electric utility infrastructure improvements since Superstorm Sandy. For the gas utility infrastructure, these investments have resulted in the hardening and reinforcement of the distribution system; the replacement of low-pressure mains with high-pressure mains and associated services; the elimination of regulator stations and the installation of excess flow valves and metering and regulating station upgrades.

For the electric utilities, the investments have included electric station flood mitigation; contingency reconfiguration; grid modernization, including communication system upgrades; structural and electrical hardening; selective undergrounding; barrier island feeder ties; distribution automation; electric fusing; new substations; overhead circuit reliability and

resiliency, which includes vegetation management; and distribution automation technologies.

The flood-mitigation efforts took up the majority of those investments, because of course both Irene and Sandy were major flooding events. The EDCs were required to do a report on their substation flooding after Sandy, and 69 stations were identified as having been affected. All 69 of those stations, after approval from the Board, received flood-mitigation projects and, you know, I am happy to report that during Ida, none of those 69 stations flooded. Ida resulted in far less outages and for far shorter time period than we had seen, you know, in previous storms. And, even some of the duration of those outages was really due to the flooding and work that had to go into fixing homes before they could be re-electrified, but not due to flooding of the infrastructure itself.

The Board has also improved enhanced vegetation management plans to help reduce the number of tree-related outages, and to develop a program with the EDCs to track information such as outage causation; proximity of the tree vegetation to electrical facilities; the last streaming cycle of a circuit that experienced the outage; and other pertinent information. We are also now exploring the use of LiDAR -- which was mentioned earlier -- to identify what we call *danger trees*, and begin to take those down. Vegetation management in New Jersey I think is trickier than other states, because, frankly, we have less trees and people care about them a great deal. And, so, it is a balancing act between the utilities, the Shade Tree Commissions' municipalities to make sure that we're doing everything we can to protect the grid but also to protect the trees that people love.

The Board has also approved advance metering infrastructure projects for all four EDCs now, and those are being implemented. That's expected to improve the efficiency of the EDCs' restoration process by eliminating unnecessary truck rolls and dispatching restoration crews only to actual outage locations.

And, finally, I'll wrap up with one of the many resiliency strategies we're investigating, is the Micro-Grid Program. The Board has invested a total of \$3.8 million to seven municipalities and counties who are participating in our town-center distribution energy resources micro-grid program. Micro-grids are designed to cluster critical facilities within a town -- hospitals, police, fire -- and these things provide other resources, so that when the grid goes down, they can remain up and running. And, as we improve this technology and expand this program, you know, these will also be where emergency shelters can be set up for folks to go get water, rest, these types of things. So, that's a program we're invested in and continuing to explore.

And, with that, I'll wrap it up. But, I just want to say, as President Fiordaliso so often says, it is unlikely we will ever get to the point where we have no outages; there will always be vulnerabilities in the grid. But, we are proud of the work we've done over the last decade to harden the grid, to increase resiliency. We've come a long way, and we will continue every day to work to strengthen those things and improve.

So, with that, I'll turn it over.

ASSEMBLYMAN KENNEDY: Thank you, Chance, for your testimony.

Next, we have Chief of Staff Justin Davis from New Jersey Transit.

JUSTIN DAVIS: Thank you, Chairs; good morning, members of the Joint Committee.

My name is Justin Davis, I am the Chief of Staff and the Senior Vice President for Regulatory and Government Affairs at New Jersey Transit.

Thank you for providing New Jersey Transit with the opportunity to speak today, as we approach the 10th anniversary of Superstorm Sandy, one of the worst natural disasters to hit our region, with devastating damage to our transit system's infrastructure, facilities, vehicles, and shutting down segments for several weeks.

Sandy made two things perfectly clear: The storm reinforced how vital our transit system is to the hundreds of thousands of New Jerseyans who depend on our services every day, to the State's economy, and quality of life and mobility. And, it also showed how vulnerable our transit system is to extreme weather events. To give you a sense of the challenges we faced in the aftermath, tens of millions of gallons of corrosive seawater inundated our transit yards and vehicular tunnels. Track beds were completely washed out and thrown out of alignment. Uprooted trees and branches destroyed overhead wires system-wide. Bridges were battered and badly damaged. Bus garages and other New Jersey Transit facilities were flooded, damaging equipment and vehicles.

Hindsight is always 20/20. The impacts of Sandy exposed the vulnerabilities of our transit system, but it also taught us valuable lessons. To that end, New Jersey Transit has fundamentally transformed the way it thinks about resiliency and how it prepares for severe events. We've done so

with the understanding that every storm is different. Some storms bring significant storm surges and flooding. Others are primarily wind events, and still others are ice and snow events during the winter. All with the potential of grinding services to a halt.

Those storms may differ, but our general approach to them does not. It is strategic, thoughtful, and always all hands on deck. We have developed comprehensive plans and procedures that are triggered well before the weather event makes landfall, and continues until we have fully resumed service.

Following Superstorm Sandy, New Jersey Transit developed its own comprehensive emergency-management plan. This plan includes storm preparation; mitigation; restoration actions across every organizational business line; and includes coordinating with external partners such as the New Jersey Office of Emergency Management, State Police, counties, and municipalities. We review and update the plan annually, ensuring its evolution and comprehensiveness.

To assist our weather-event planning, we've incorporated an inclusive, predictive weather service to remain up to date with the best weather information available. In partnering with Rutgers University, we're testing an additional enhanced surge-warning system to supplement the information we've currently received. We built a state-of-the-art emergency operation center in Maplewood, staffed with representatives from every organizational business line in an emergency, to ensure a coordinated response.

Importantly, New Jersey Transit responds to all emergencies as informed by the National Incident Management System, the standardized

approach to incident-management development from the U.S. Department of Homeland Security. This process, performed under a formal Incident Command Structure, or ICS, is supported by our New Jersey Transit Police Department's Office of Emergency Management, which works with all internal and external partners.

As of today, thousands of New Jersey Transit employees, including community and partner agencies, have received ICS training through the Texas A&M Engineering and Service, or TEEEX, a recognized leader in emergency-response training. Since Superstorm Sandy, New Jersey Transit's operational thinking has evolved significantly. When severe impacts to the system are predicted, we no longer run service until the last possible moment. Instead, we begin an orderly shut-down of service when conditions are predicted to restrict us from safely operating. This allows us to do two things: Communicate to our customers with the goal of providing up to four hours of advanced notice so that they can get to stations and terminals in plenty of time to return home before service is suspended, and safely and strategically position our equipment in garages, terminals, and yards so we can resume service as quickly as possible after a weather event.

Part of New Jersey's overall State Emergency Management Plan, New Jersey Transit serves as an evacuation partner when local resources have been exhausted. For example, New Jersey Transit provided evacuation assistance in Atlantic City, for Atlantic City residents, during Superstorm Sandy. These initiatives highlight how New Jersey Transit has transformed its preparation and response protocols internally. Externally, New Jersey Transit has several billion dollars in Sandy resiliency projects currently in construction or going through the procurement process. They include

completing the first phase of the \$284 million long slip project in Hoboken, with the entire length of the canal being filled, protecting Hoboken Terminal and the City of Hoboken from water intrusion.

We are beginning construction on a \$421 million Delco Lead storage and inspection facility in New Brunswick to provide a critical safe haven for rail vehicles during extreme storms, and allow rail cars to quickly be inspected and returned to service once the weather event has passed. Our Signals and Communication Resilience Program that is hardening our vital signals and communication systems against extreme weather events. This has been completed on our Raritan Valley line, and two or three sections of our Hudson-Bergen light rail system, and it continues on our other commuter rail lines. We're 62% complete with phase one of our Raritan River bridge-replacement project, which is the sole rail link for 17 of our 20 stations on the North Jersey Coastline.

I'd also -- because Dan brought it up earlier -- I'd also like the Committee to know that we were also exceeding FEMA guidance by a foot and a half above the recommended base flood-elevation levels for inland areas. And, 2 1/2 feet above coastal locations.

New Jersey Transit's focus on resiliency extends well beyond our Sandy resilience projects. I can only speak to my experience at the agency, but there has been a transformative shift in the culture at New Jersey Transit when it comes to how we think about resiliency. 2017, we only had \$60 million in hard-money construction projects out on the street. Since 2018, we've advanced more than \$4 billion, and another \$8 billion is projected to be in procurement or construction over the next three years.

Resiliency is a key element in consideration in all of these projects. We simply do not design infrastructure today without first asking would this withstand a weather event similar or greater than Superstorm Sandy? We've made great strides over the last 10 years to better prepare for and mitigate against, respond to, and recover from disasters. But, there's always more to do. With your continued support, New Jersey Transit will continue to further improve our preparation and response to meet an ever-changing weather landscape.

Chairs, thank you very much for the opportunity to speak today.

ASSEMBLYMAN KENNEDY: Thank you, Justin.

Next, from the EDA, we have Chief of Operations Officer Bruce Ciallella.

BRUCE CIALLELLA: Thank you.

I am Bruce Ciallella, I am the Chief Operations Officer for the New Jersey Economic Development Authority. I also oversee our Office of Recovery, which deals with our disaster-type event programs that we have within the Authority.

Sitting next to the Colonel, I will make sure I have the green light the whole time. (laughter)

Also, we provided written testimony, too, so I will be very brief; I will go through this quickly, but, if you have any questions please, I am here to answer them.

We talked about the devastation that Sandy had across the whole state, and this included municipalities as well as businesses. In a coordinated effort, as Dan talked about, the EDA really was charged with a couple of specific type of projects. The first being the tourism campaign,

which was, “Stronger than the storm,” to get people to realize that the Jersey Shore was open and let’s get people back there. And it worked. If we look at the tourism impact from March 2014, there was actually an increase and it was a record over what we saw in 2012. We immediately stood up within two weeks -- or two days, excuse me -- of HUD approving our action plan, the Stronger New Jersey Small Business Grant Program that offered \$50,000 grants to businesses that were impacted as a result of the storm.

Shortly after that, we launched the Stronger New Jersey Business Loan Program, which was meant for companies that needed more than \$50,000 -- up to \$5 million of interest-free, no-payments-for-two-years type of loans. There also was the Neighborhood and Community Revitalization Program. This was meant for municipalities to build parks, to drainage -- to do the streetscape projects of those towns and areas that were impacted, and to bring them back to life again.

We also had, as Dan mentioned, the New Jersey Energy Resiliency Bank, or what we call ERB. This was the first in the nation to ever use HUD funding, and what we did was we targeted those wastewater facilities, as well as critical-care facilities, like our hospitals, to make sure that if there was a storm again, and they had to go off the grid, they would be able to not have to rely on fuel delivery, which was a concern in some hospitals as well as-- In a lot of hospitals they had to shut down, you know, critical -- they were able to keep the operating rooms and ERs open, but there was sections of the hospitals that had to be shut down. And, having conversations with those hospitals, if we remember in that October timeframe, there was almost a snowstorm a couple days later that occurred. If air conditioning was needed in the hospitals because it has a lot of-- It would have been a lot

worse of what we would have seen, but they didn't need to run the air conditioning units. This will provide more resiliency in those situations.

And, then, we had the retail fuel stations. Some people may remember there were long lines to get fuel. And, the reason for that, was because there was no power. So, the pumps weren't working. So, this program was formed in order to provide generator-type services along evacuation routes -- routes for these gas stations so that they could operate when power goes down.

So, those are the programs that we did, and we've administered them and almost 85% of that funding out. ERB is taking a little bit longer; they're complex. As you can imagine, hospitals during COVID, you know, they dropped -- they had to put their pencils down for a little bit during that timeframe, just to get through that. But, what the EDA realized through that process was, it took a while to get this funding out. And, a lot of it was because Federal funds just take time. But when COVID hit, a different disaster, but a disaster in the aspect of that it really impacted small businesses across the state. We were able to quickly stand up a program. To date, we've given out 77,000 grants to businesses for over \$590 million. We were able to take our lessons learned and develop programs and get money out on the street quickly.

Same aspects when Henri and Ida hit, we were able to, within two weeks, stand up a new program and get almost 1,000 businesses \$3.4 million. Anyone that needed assistance, we were able to help in that program.

So, that's what we are looking for in trying to get funding out quickly to try to help these small businesses. Because it's not just the business owner that you're helping, it's all the families that work for that business

owner, and I tell my staff that all the time. It's just not that business owner; it's the person that works there; it's the child that that's their mother that works in that facility. So, that's what the EDA is -- that's how we are trying to make this process better for the business owners.

And, with that, I will turn it over -- I still have the yellow light.
(laughter)

And, I'm more than happy to answer any questions.

UNIDENTIFIED SPEAKER: I'm glad Bruce brought up the "Stronger than the storm." If you're like me, you have that little jingle that goes off in your brain that will forever be there, "Stronger than the storm."
(sung)

UNIDENTIFIED SPEAKER: Totally. (laughter)

ASSEMBLYMAN KARABINCHAK: OK. First of all, I want to thank everyone for testifying today. It was extremely informative to see a few different things.

First of all, I just want to state what has been stated numerous times already, to thank all of the tens of thousands of first responders and the administration and all the employees and everybody who helped in this matter during this disaster in New Jersey. That being said, as I previously stated, that the whole state came together here. And, that shows what New Jersey is about.

The next thing is, you know, during this disaster, it was a phenomenal learning curve that all of your different departments and the State went through. And, from that day, for what you had to deal with to that day to here, 10 years later, to what you've implemented in the state to further protect everybody in the state and also help everybody in the state is

-- I can't thank you enough. But, as was stated, we still have more to do as a legislative body. We want to be able to move forward, and even do better and, I hate to say for the next storm, but for the next storm.

I just -- I had a few questions, and I am just going to be extremely broad, so, whoever wants to answer, I mean-- We had a lot of money disbursed through all the different departments, as we testified here, to different levels, if I could say it that way, from the money coming in from the Federal Government to us and then from our different departments here that have testified, to the municipalities and then from someone from the municipalities to the actual constituents -- or from the State directly to the constituents.

I believe that everyone has learned different things during this process, so is there, in your opinion, a better way to control this? Because I, in my original statements, thought that there would be a better level of accountability, responsibility, and to make sure that the money is being used properly and correctly for the people that are absolutely in need of this, these funds. I can't say enough about what you've created in your departments to further protect the public, but it all comes down, eventually, to the money, and to that single family that needs that help -- how to get that help, and to get it in a timely manner. Months later doesn't help.

The other part that was discussed with our infrastructure -- if I could call it that -- or sewage-treatment plants, our water plants, our trains, our transit, that will move people and protect what everybody doesn't think about every day when they flush a toilet or turn a spigot on to get a drink of water. Everyone was affected, every single one. And, what we had to do as a result of that storm, we all had to bite our cheeks and just do it. And, it

still took years to get out of that mess that occurred, especially in some of the treatment plants, the pump stations, that took years to remediate and fix.

And, also, account for the potential of the next storm so that doesn't happen again. I know I'm rambling here, and I apologize, but I just wanted to see what you professionals have as ideas to move the stuff forward and, collectively, this Committee and, I'm sure, the Senate and the Assembly will also be looking at this to try to move legislature forward to make sure that this gets even stronger and better for everyone at the departments, and especially for our public.

MR. KELLY: Chair, I'll touch on the oversight piece a little bit, and that is a big portion of this -- protecting this Federal money that comes in, and making sure that we don't misspend it.

I'll say this: I was involved heavily with this post-Sandy. We were subject to what would oftentimes be referred to as, like, a hostile level of Inspector General activity. In the year or two years post-Sandy, we had approximately 30 active Inspector General audits of our HUD money, our FEMA money, our Health and Human Services money, NJ Transit's money. We know you get -- when you accept the money, you accept the burden of, you're going to be questioned and second-guessed by auditors -- not by individuals, but by auditors who are very strictly interpreting rules.

Luckily, we did manage to fight off a lot of those audits. But, we have controls in place, particularly with -- you really can't compare Sandy to any other storm that's happened -- nothing is on the level of Sandy. It most closely compares to COVID, in terms of the Federal money that came in from a variety of different sources, with a variety of different rules that were attached to it. What we do-- In addition to what the departments already

do through their own internal audit oversight and the annual signal audit that the State goes through, our office has implemented what we call the Integrity Monitoring Program, where, in addition to what these state entities are doing for certain higher-level programs, we have a pool of integrity monitors -- financial and accounting firms of the world -- a pool of them -- that state agencies tap into to come in and really be that neutral outside party saying, "What are you doing with this money? How are your programs being run? And, what are the federal rules and regulations that apply here to make sure that we're not getting tripped up?"

It's really, sort of, an early-warning audit, if you will, to say, "Hey, if you need to course correct, we'll do that." And, the findings were all put out there publicly on our website for that transparency aspect of this that, hey, we're not hiding anything, to the extent we're making mistakes, we're going to fix them, and that's really our approach to oversight to not running afoul of the Federal rules.

Now, of course, the counter to that always is, the more oversight we have, the slower programs move. Some of that we're not totally in control of -- case in point is the Ida money, that we've received from or been allocated from HUD. We have \$228 million that we were given for Tropical Storm Ida relief from HUD. We don't have access to it yet; we didn't even get notified of it until May. We had to engage in a Public Action Plan process over the course of the summer to solicit public feedback; conduct a couple public hearings; and submit our action plan to HUD on September 28, Sam?

MR. VIAVATTINE: Yes.

MR. KELLY: HUD then has 60 days to review, reject, approve, edit anything. And, we understand, they take the full 60 days, so our earliest

case scenario with even having access to that HUD money is Thanksgiving. Which, if you're doing that, that's a year and three months post-storm. It's too long. The Federal Government understands it's an issue; we're beholden to that process. We've had homeowners scream at us, "Go faster! Why are you taking so long?" We don't totally control that process.

Candidly, I think it's a Federal solution to really make that money go faster and not wait on Congress to appropriate it, and HUD to have some pretty arcane rules associated with it. That process is sort of is a little bit what it is without a Federal solution.

ASSEMBLYMAN KARABINCHAK: Thank you.

I am going to open it up to the Committee, if there's any questions for the panel.

Someone?

ASSEMBLYMAN McKEON: Sure, thanks. And, thank you both, Chairman, for putting this together. I think it's so important for our state, and I respect you both.

And, thank you to all of you. We talk about heroes -- maybe the Colonel is used to hearing that because it's more in the traditional sense -- but, all of you and your respective departments and persons that had worked on this for many years to deal with resiliency are in my view no less heroic than the officer or the fireman that run and put themselves in harm's way. So, I thank you for that.

But, to bring this out and question or what have you -- you know, Sandy, right, 10 years ago -- all the work that you did; Ida was one year ago. So, there's nine years of work; \$95 billion of damages from Ida. It's

unsustainable, particularly in a state that's so -- we don't think of it this way, but is on three sides surrounded by water.

And, I'm just disappointed, because as much as we've got the most esteemed panel that we can, I don't see Commissioner LaTourette here. And, you know, when it comes to it, the Governor, back in January of 2020 had indicated through an executive order that there was to be new broader rules, and here we are, shortly to be three years later. I know COVID, in between, you know, was more than a valid excuse not to go forward with business as usual, but three years, or soon to be. And, in this very chamber, when the Commissioner was here, as I said, as a member of the Budget Committee, I raised this back in April, and he said, "Don't worry, May." And, then, we heard June. And, then, the Chairman had a joint hearing with Senator Smith and to quote the Commissioner, "Developers telling falsehoods and running around with their hair on fire because DEP changes the rules."

So, I kind of think that's what's going on here. And, you know, just to do a 2-foot rise along the waterways -- not that you can't build there, it's going to be practical, but similar to some of the beach homes that need to be up; replacing flood maps that are decades old; taking into account the effects of climate change; knowing about stormwater and how that's going to be managed. We've got to do this. We've got to do this a year ago.

So, I guess, you can only be as good as you can be, you know, but these rules are probably the most important tools. Anybody been down to LBI lately, or the barrier islands from Point Pleasant to Seaside? And, you can speak about Atlantic City, forgotten more than I know in that area. But, there's building on every inch. And, again, I just note -- and bigger than ever.

So, I just note my own frustration. And, I'm hopeful that we're going to shortly see the water rules that will help all these great professionals be able to make things better. I don't know if that's a question, or I'm happy to hear comment on that.

Thank you.

ASSEMBLYMAN KARABINCHAK: Thank you.

MR. KELLY: I'll speak briefly to that.

I know it's DEP and it's an ongoing process, but, just to mention here, from the Governor's perspective in planning, we talk about projects a lot here. Planning is a huge component of that, and I know there is the frustration with the rules. That process is ongoing, and I think we've spoken to it; we understand the frustration.

But, yes, it's an ongoing process.

ASSEMBLYMAN McKEON: Thank you, and I don't-- Listen, we all live in homes, so we need developers and building them for us, right? So, I don't mean to make them the devil incarnate, but when it comes to it, it's kind of profit in the short-run for a few versus what we all need to see happen.

MR. KELLY: Understood.

ASSEMBLYMAN KARABINCHAK: Thank you.

Is there any other questions?

Yes, Assemblywoman.

ASSEMBLYWOMAN GOVE: Thank you. And, again, thank you both for having this.

This is more of a statement than a question, because when I was listening to all this, the memories of all what you said-- We've come a long

way, and we did it. We didn't know-- You folks were wonderful; everybody worked together, like you said, and that's the most important thing. Out of something negative came positive -- that people can work together, and you're seeing that in Florida.

The big thing is, we have come-- When I heard all about the EDA, I was down there when the EDA came and tried to get people involved, to get people -- everybody was there. Yes, did we make mistakes? Absolutely. But, we learned from them. And, I think we're getting there and having this whole hearing is another learning project that we have to do this more often -- not that it -- the banter, the communication of where we've gone, where we've been, and where we're going.

So, I'm sorry to take up the time, but thank you, all. It did bring back some positive memories, and some not-so-positive.

ASSEMBLYMAN KARABINCHAK: Thank you so much.
Assemblyman.

ASSEMBLYMAN GUARDIAN: Thank you, and thank you for assembling us today to talk about Sandy.

I want to talk about my--

UNIDENTIFIED SPEAKER: Microphone.

ASSEMBLYMAN GUARDIAN: I can keep pressing it. It's kind of like when I try to vote. (laughter)

UNIDENTIFIED SPEAKER: Thank you.

ASSEMBLYMAN GUARDIAN: So, I live on the barrier island. Luckily, 30 years ago when I bought my present home, the first question I asked of it was 12 feet above low (indiscernible) tide, which it was. So, I was in the home because of the duties I had at the time running an improvement

district. I made it through the storm. I can tell you right now, 12 feet is nice in the house, but at high tide, for those three hours twice a day, I didn't have a canoe to go anywhere, so I was in my house.

I just want to make sure everyone understands what happens after a storm, because I was there. So, the first point is real important. The State Troopers that block the entrance to Absecon Island were good enough to let about 50 of my employees through, because we needed to clean up. But, before we started to clean up, I had to go to a casino restaurant and ask to borrow the laser meat thermometers. And, we walked along the beach, on the bay, in the low-lying areas where most of our low-income families live, and every time we hit 98 degrees, we knew someone was still alive and the fire department could get to them.

So, that's what you're doing in a storm, before you're worried about eating or drinking or clean water or flushing your toilets. Then, you have to worry about all of the people that decided that they should stay instead of leave, and not think that in two or three days they would need dialysis and had no way to get there and needed the fire department to walk through a boat to capture them and bring them down to the medical center.

Now, eventually, we got to everything else, and here's what I'd like to say, having seen what it was. And, again, this isn't 1944 storm, or this isn't the 1962 nor'easter where we threw up our arms and we said, "Oh well, Mother Nature." We know we can do something about this.

So, one, I am so excited that we have a state infrastructure bank right now. I hope my colleagues will support a federal infrastructure bank -- \$5 trillion. We haven't had it since Roosevelt and Lincoln, the last two presidents. We're the only country -- developed country -- that doesn't have

a Federal infrastructure bank that we need because the State does not have enough funding to deal with these emergencies.

I want to make sure that as we move forward, we have the beach replenishment, we have the bulkheading. But, the bulkheading right now that's going on in Atlantic City is not consistent. All you need is one person in your neighborhood not to have it, and the rest of your bulkheading doesn't do anything. If the municipality doesn't have bulkheading, it's no good for the rest of the block or the two blocks, or if they're not meeting the standards that the State has set and they're 2 feet less than everyone else.

We know that we suffer from nor'easters. The only way we get rid of water on a barrier island is through the bay. A nor'easter comes, the water never settles from the last high tide, and, so, it continues to increase, and the bulkheading does nothing but keep the water on the land. And, so, the need for infrastructure to include the pumping stations -- there is nothing better than the Blue Acres Program. I was able to take advantage of it in Toms River for a quarter of an acre or more of land that'll never be built again, because it shouldn't be.

If you're rich enough, you can afford to raise your home. You put in an elevator, you have a million-dollar home that you now spent \$3 million. But, that's not the people in Atlantic City, where poor people can't afford to raise their home. They're barely making it through their property taxes now. So, we do need to find a way, and there can't be anybody in this room that hasn't gone to Home Depot in the last year or two and tried to buy a 2x4 or a piece of plywood that wasn't realizing the effect of inflation. And, so, with all of the fundings that we're providing now, we need to take

inflation into that account. We need to take the effect of a cost-of-living adjustment each year as we prepare for our next storm.

And, for Colonel Callahan, without getting anyone in trouble, I think you can agree that after a storm, municipalities and their law enforcement is not sufficient to provide for the safety that we need. It was the State Troopers that had to come in. I want to make sure that we have enough funding, and you have enough people involved, so that in the next storm you'll be able to continue providing safety for our communities and get businesses back up so they're paying sales tax, they're bringing people back to work, all of the logical choices.

So, I think that is most of my point. And, although I want to represent the more than 100 miles of seashore we have, I also am concerned about how we deal not only with a Hoboken but -- I won't mention other cities -- but we know that they are low-lying areas. I wish 200 years ago we kept Hoboken as an island with Dr. Stevens on top there, but we didn't; now we need to protect the people that are there.

And, same in Atlantic City. No one should have built-- 150 years ago, if I was here, if I had the guts, I probably would have prevented the development and just let us enjoy the beautiful shoreline the way the Native Americans, the Lenni Lenape, had done before us. But, we didn't, and, so, I think it's very important now that we pay attention to people that can't help themselves. And, that's really the lowest income people that are living there now.

So, I thank all of you. I do think that we do need audits. This is New Jersey, everyone is trying to cut a deal and trying to work the system, and, so, we need to make sure that we're not abused and the funding we're

providing isn't abused. But, ultimately, we do need your help. And, so, I thank you. I just want to make sure that we're prepared. We know what happened, now, with Sandy; we know what happens with each nor'easter, and there are very positive-- We went through six days of rain, and the only thing I can tell you is every city is clean, because you washed all the dirt into the streets, into the sewer systems, but that's about the only positive things we have.

So, I just ask, let us know the funding that you need, the resources that you need, because I think we're all committed to doing the right thing. I just think we all need to be working together, and I know my colleagues on both sides of the aisle that are here today, for the last year of what I've seen of them, all want to do the same thing.

I thank you for letting me go over my five minutes. (laughter)

And thank you for your microphone.

ASSEMBLYMAN KARABINCHAK: Thank you, Assemblyman.
Assemblywoman.

ASSEMBLYWOMAN HAIDER: Thank you, Chairman Kennedy, thank you Chairman Karabinchak, for this hearing. And, thank you gentleman, for your testimony.

I have a comment and a question. My comment is, Mr. Kelly, you said that part of the problem of the delays for Ida have been the Federal Government delay in sending the money to the State. But, is there anything the Assembly or we, here, can do to ensure that the process in the state takes place in a timely manner, so people waiting for Ida -- I believe they're scheduled to get their money not until Spring 2023 -- that can be moved faster?

And, my second question is, I have friends who lost a lot during Ida. And, my one personal friend had such a hard time with the forms and the paperwork, and she was fortunate her son is a lawyer and he walked her through it. She was actually in tears at one point, talking to me, that, "I just don't know what to -- how to do this." From the constituents and from the residents' point -- from the victims' point-of-view -- is there anything that the forms and the things can be made easy to understand, easier to do, so that I don't need to go to my lawyer son or my, you know, government brother, or somebody, to get help for it? That everybody who is in need should be able to get the help they need?

MR. KELLY: In addressing your questions in two parts--

UNIDENTIFIED SPEAKER: Microphone.

MR. KELLY: In terms of the timing, what we've done-- There's a Federal delay that we don't control.

What we can control, though, and what Sam and his team at the Disaster Recovery and Mitigation Division bring to the table is, we have the programs ready to go. We know how to rebuild peoples' houses; we know what policies worked post-Sandy; we know which ones didn't; we know how to guide people through that process. It's just that we can't even start it until we get this HUD approval. So, Sam and his team are ready to hit the ground running. It's Thanksgiving Day that we get approval; we're accepting applications the next day.

That's the level of dedication and expertise, really, that Sam and his team have in terms of these homeowner rebuilding, rental assistance, buyout programs, local infrastructure, and emergency-response costs. So, that's how-- To the extent that we're in control of it on our stateside, we're

up and ready to go. If you recall, post-Sandy, a lot of our Sandy programs -- Sam didn't exist post-Sandy; him and his team weren't there. We hired -- we paid a lot of money to consultants to make us experts. We are now. We sort of run on our own, and that's where *we* can be helpful in making the State process moves as quickly as possible, recognizing everyone wishes they had their money a year ago.

And, now, in terms of the process for helping people guide them through that-- And, I think what you're probably speaking to now is the FEMA Individual Assistance Process, which is, it is a Federal process that's run by FEMA directly. They do -- and the Colonel's team interacts frequently with FEMA on getting the word out, getting resources to people. FEMA does have helplines available. I'm not going to vouch for FEMA, sometimes you wait for a long time on those helplines. FEMA, as you can see in the news, is quite busy between being down in Florida, Puerto Rico, and always, of course, being in New Jersey.

They are great partners, though. It is a frustrating process to the extent people need help and housing resources and guidance, we can reach out and try to help on an individual basis. But, yes, there is that paperwork. And, it is -- there is a bureaucracy involved to make sure the Federal Government and the State is getting the proofs it needs -- because there are bad actors out there who will take advantage of these systems. And, even with the controls we have in place, we know there's fraud, waste, and abuse. Part of that frustration that your mother and friends are going through is the counter to that, "Hey, we need to protect these taxpayer funds," and, candidly, sometimes you torture people a little bit in the paperwork that's required.

But, FEMA does do a good job in terms of helping people guide them through that process to get what they need. But, there is -- it's an inevitable push and pull between, you know, tight controls and getting money to people that you try to balance right but you don't always get it perfect.

ASSEMBLYWOMAN HAIDER: Thank you.

MR. KELLY: No problem.

ASSEMBLYMAN KARABINCHAK: Thank you.

Assemblyman.

ASSEMBLYMAN VERRELLI: Chairman Karabinchak, Chairman Kennedy, thank you for convening this Committee today. Thank you for all the testimony from everybody that gave testimony.

Sandy was a difficult time for a lot of people. We all came through it in one way, shape, or form, touched by it. It affected me personally not being down at the shore but being up here in the 15th District, in Mercer County, you know, with wind, power, trees down -- we suffered a great deal of property loss up here as well.

But, talking about resilience and recovery in projects, my question would be for Mr. Davis. Your Sandy resiliency projects that you spoke about -- that the panel has spoke about -- a lot of it got done, and I'm sure you still have some on the books that are looking to move forward. But, are there any shovel-ready projects that haven't been started, if you're aware? And, of the reasons being why, after nine years, they haven't been started.

MR. DAVIS: So, we had 12 projects total for the Sandy resiliency projects that were funded. There is only one project that hasn't gotten started. We changed course in the manner of what we were doing. It is actually in the middle of a procurement process right now.

ASSEMBLYMAN VERRELLI: Thank you.

ASSEMBLYMAN KARABINCHAK: Thank you.

Mr. Assemblyman.

ASSEMBLYMAN SPEARMAN: Yes, thank you.

My first question is for Mr. Viavattine, Deputy Director. You had said that we needed to have funds and then, I guess, Mr. Kelly referred to it a couple seconds ago -- we needed to have funds in place so that people can start getting relief until Federal funds become available.

Do you have-- And, you mentioned that we received \$228 million in CDBG funds for Sandy, I believe it was. Do you have any idea how much money it would make sense to have in reserve to address these type of emergencies, so that we can immediately start providing relief for people with, you know, directly after the storm happens?

MR. VIAVATTINE: Thank you, Assemblyman.

So, \$228 million was awarded from HUD for Ida relief; \$4.1 billion for Sandy, from the same source through HUD. I think what Dan was alluding to is that gap from FEMA to HUD, you know, storms across the country, that gap is different; the duration is different.

In Sandy, Congress acted relatively quickly, and money from HUD was received within months, not over a year. Ida, we see a different timeframe, and I think with the multitude of disasters that are occurring across the country, we can't predict what our gap is going to be. How much assistance is dependent upon what type of assistance we want to provide in the interim.

The assistance I was alluding to is -- we have the benefit of Sandy still being relatively an ongoing process in DCA. Had it been a few years

from now, all the staff that was in the Disaster Recovery and Mitigation Unit potentially would be gone, because they are solely funded with Federal funds. To keep that staff operational, I think, would be beneficial for us. And, there's an annual operating cost, and I can get you the numbers of the Division, but to go further than just staffing and being at the ready when the funds are awarded, we do offer services through our HUD funds for housing counseling and legal services to assist with our HUD-funded programs.

So, the technicalities and the difficulties that some may encounter in filling out applications, we are funding housing-counseling agencies and legal services to assist applicants with limited English proficiency. So, there's a chance that we could assist with funding for folks that have those challenges in the FEMA process, but, I don't believe that that funding is available at this point.

And, in order of magnitude, we've spent nearly \$10 million in housing counseling for Sandy over the last eight years. We're allocating another \$2 million for housing counseling and legal services for Ida recovery in our action plan, once it's approved. But, again, until it's approved, I don't have access to that money to provide assistance for folks, and if we did have it now, we could technically help folks with FEMA; we could help them with contractor fraud; we could help them with filling out applications. But, until those resources are there, we're at a standstill.

ASSEMBLYMAN SPEARMAN: OK, so it sounds like you need about \$12 million to have available if we have an emergency moving forward. Just so that we can respond immediately. That's what I just heard. Or, did I misunderstand you?

MR. VIAVATTINE: So, I don't think I gave you a number of what we need to fill the gap because, again, it's dependent upon the duration of gap from when FEMA comes in and then the long-term recovery assistance from HUD.

On the housing counseling we spend, annually, close to \$1 million on the Sandy side. And, again, on the staffing side to keep the division operational, I can get you a number on what those costs are.

ASSEMBLYMAN SPEARMAN: Thank you.

Next, for Mr. Lykins. You mentioned that you spent some time -- you spend a number, a lot of money, on hardening the electrical systems. Exactly what does that involve? How do you harden our electrical system so we're not losing as much power? I know it's getting -- you mentioned getting rid of trees that are endangering our power lines, that's one of the things we do. What else do we do?

MR. LYKINS: So-- And, thank you, Assemblyman, for the question. And to some extent, I'll have to get back to you on some of that, because President Fiordaliso would have those answers. I do not.

But, it does consist of using different technologies. So, for instance, instead of -- and I'm forgetting the technical term -- but where in the past, fuses have been used, that the company started deploying more like a circuit breaker so that if a tree hits a line, instead of the fuse blowing, the circuit breaker would turn off for a few seconds and then come back on to see if it was a permanent problem or not. That's just one example of different types of technologies that are being implemented to determine where the problem is.

The AMI program is another one, where, you know, prior to AMI and currently where AMI is not in service, you have to call your electric company and let them know your power is out. Once AMI is in place, that will no longer be the case. They will know instantly that it doesn't necessarily harden the system, but it allows them to react more quickly and to send crews only where outages truly exist. So, those are a couple of examples, but I can get back to you with more detail.

And, I think I did forget to mention in my race against the red light that I did submit written testimony that goes into more detail than the remarks I gave. But, I'll also follow up with more information on what we mean by hardening.

ASSEMBLYMAN SPEARMAN: Thank you.

My final question goes to Mr. Kelly. So, you said you received 30 hostile audits -- your words -- on how we used our Federal dollars? Question: Were there any findings?

MR. KELLY: Yes, the -- so, the Inspector General, and a *hostile* level of auditing was probably -- a little hyperbole, but, of course, *aggressive* level auditing where really, the programs are going, and auditors are asking questions.

And, there becomes a question of, auditing DCA -- who is trying to help homeowners -- but they're also working a full-time job trying to manage these audit requests which, oftentimes, for one of our larger audits, was tens of thousands of pages of documents produced.

But, yes, there were findings. Inspector General, frequently, will come in and make findings. Say, "Hey, the government may have misspent."

It's always a hundred million dollars, a billion dollars. There was potential fraud involved.

There's-- I'll give Bruce credit here. He had the only audit that did not have a single finding. The finding was that there were no findings. Every audit that comes in will make findings. There's a process that occurs after that audit finding, which is really, sort of, administrative court within the Federal agency. For instance, HUD's Inspector General might come in and say we misspent and didn't require enough proofs of residence in our resettlement program and we think we should deobligate \$180 million. Ultimately, the judge in those situations is the Federal agency -- HUD, in that instance -- will look at the finding, look at what the State did, and ultimately determine whether what we did was reasonable or not; whether it was a violation of the rules or not.

And, of the \$4.2 billion we received for Sandy, the only audit findings where we did have to pay back some money -- and there was always a check to be done -- I believe we had some plants missing that they found, that we couldn't account for in some of our housing resource centers. And, there was one program where we set the threshold for low- to moderate-income slightly above -- it was a human technical error for one of first-time homeowner buyer programs, the income threshold was set at the neighboring county accidentally, so inevitably it let more people into the program to get first-time homebuyer programs. The auditors were right there; we messed it up. Frankly, I'll stand by that; we gave people more money out there. But, hey, that was a check we had to write back to the Federal Government to pay for that.

In terms of total findings on \$4 billion-plus, it was less than \$1 million in total findings, and, frankly, our largest program -- the REM program, the homeowner rebuilding program which was more than \$1 billion -- that was audited and it resulted in no findings, which is an impressive feat.

So, again, it is -- you have to expect to be aggressively audited, I think is the right term, and you have to be ready to really defend what you've done, because the auditors themselves aren't always right.

ASSEMBLYMAN SPEARMAN: Well, a million dollars in repayment -- what did you say, \$4 billion in funding? That's not bad, and kudos to EDA for no findings.

Thank you.

ASSEMBLYMAN KARABINCHAK: Assemblyman.

ASSEMBLYMAN STANLEY: Thank you, Chair.

This question is for the EDA. You talked about the grants being given to the small businesses. Of those dollars that the grant is given, is that for to fix what happened from the storm, or is it also a pot of money for preventive maintenance and upgrades for future storms that they can use that money for?

MR. CIALLELLA: So, the grant program itself was really meant to try to get the doors back open through working-capital type of assistance. So, payroll, rent, mortgage -- just to get those doors back open. \$50,000 wasn't going to go a long way for some of those businesses. That's where the loan program came in.

So, the loan program, that more of the hardening piece of it, and a lot of that was predicated on, you know, they had to meet the minimum flood requirements. So, if somebody had to elevate their business or flood

harden in some way, shape, or form, they had to perform that. We utilize DEP to do those reviews for us, to make sure that they were meeting all of the Federal standards, as this was all Federal funds.

So, I want to say it's a combination. So, at first the grants were, let's get the doors back open, let's get people working again. And, then, if you needed more money for the hardening piece of it, that's where the loan program would have kicked in, and we would have made sure that all of that was present.

ASSEMBLYMAN STANLEY: So, do you have any programs there where new businesses that are coming into these flood zone areas, they're opening up, do you have something there that gives them provisions to help them do the preventive maintenance or do the due diligence to make sure that their business doesn't get flooded in the future? Do you have any programs like that open right now?

MR. CIALLELLA: So, outside of the Office of Recovery -- so that would be more of our traditional type of programs. We do have programs that are for startup, for Business Lease Improvement Grant. We actually just launched a micro-loan business program today for newer businesses.

All of those things would be eligible for expenses. The one piece of it is it depends on the amount of, you know, assistance that's going to be provided, right? So, to a larger business, a \$50,000 loan may not be enough for those type of pieces. But, we do have programs. I wouldn't say that we have programs directly specified to say, "Hey, this is a flood-hardening program," or, "This is to raise your business." We allow for those expenses

to be used with our proceeds, but it doesn't necessarily mean that it's a specific program just for that.

ASSEMBLYMAN STANLEY: Got you.

Two more questions. One is, I think there's a common theme which I heard throughout the testimonies, is that still after 10 years, homeowners and businesses are still having problems applying for the application process and going through everything.

What is the reasoning for that? Is there some way that we, as a State, can make improvements to the infrastructure? Is it a technological sub-standard issue, or is it something we can improve on to get the application process at a quicker basis? Because the homeowners and businesses have already suffered; they're already out of their homes, out of their businesses, and yet they have to go through an unending process, practically, to apply and get the relief.

Is there anything that we can do to improve anything further?

COLONEL CALLAHAN: Thank you, Assemblyman.

I just know that in the wake of Ida that our Emergency Response Bureau representatives literally had, to the Assemblywoman's point, we had iPads and we went door to door to door. And, unfortunately, sometimes, it is that one homeowner at a time. But, we got great feedback on that, as well as those disaster-recovery centers where people have the ability to drive to a high school or the church parking lot, and us just having those iPads -- I struggle with technology at times, I can imagine somebody, a senior citizen, struggling to get on and work their way through that.

It was even brought up after Ida, the FEMA Administrator Deanne Criswell came and heard that in the wake of those tornadoes and

flooding, how do we make this process streamlined? And, technology, I think, is the huge key to that, as well as having that human touch that is so important -- that expert that sits there and knows which ones to click and just walks right through that.

And, I think we have a way to go, but I think in the wake of Ida we saw tremendous success with our Emergency Response Bureau staff.

ASSEMBLYMAN STANLEY: Thank you.

One more question. For the Blue Acres Program, I presume that properties have already been identified throughout the state that fall within this program. How many have been bought so far, and how many are outstanding that need to be bought?

And, if New Jersey -- the State of New Jersey -- is to look into buying all these properties, how much money would we need to be allocated for that?

MR. KELLY: So, I'll defer on the Blue Acres Program. It is -- it is a DEP-run program, and they know it best. To date, there has been a thousand offers made already on 800 properties, so there are some in the pipeline, but there's no preset map of here's where we're doing additional Blue Acres buyouts. It's a voluntary process that involves, one, a willing homeowner; two, a willing town to lose the ratable; and, obviously the State coming in, helping provide either State or Federal funding. And, it's a year-by-year process. The FEMA process that's out there now, a lot of towns apply through NJOEM for maybe three or four towns and they say, "These ones have just got to go, the homeowners are ready."

But, yes, so, there's no pre-set map; it's homeowner willingness. Homeowner willingness goes up, usually, in the aftermath of a storm, not

before. But, I think there is a lot more awareness every time a storm happens, saying, "Let's not wait until my home is destroyed before I get out of here."

ASSEMBLYMAN STANLEY: And, is the value of the property that is paid for, towards homeowners, is it market-based value? What is it based on?

MR. KELLY: Yes, the basic process is they come to an appraisal of the home the day before the storm event, typically, or whatever money comes in with it.

So, it's not the value, typically, of the home when it's destroyed; it's the day before it's destroyed. If you're doing ballpark math -- and this is for elevations, too -- I always assume, depending on the house, of course, it's about a half million dollars per buyout to buy it fair market price and demolish the home. And, when you're doing elevations, you're in the \$150-200,000 range -- depending, of course, on the complexity.

I don't have a full number of the number of buyouts and elevations we have to do across the state, but that's kind of the very rough back-of-the-envelope math that I work with in terms of Federal funding employed there. Sam may disagree, but that's my very loose math when we're calculating elevations and buyout funding.

MR. VIAVATTINE: I don't want to disagree with anything Dan said, I do want to clarify one point, that the multiple funding sources involved in buyouts do mean that there are different rules associated with each.

One of the major requirements of the HUD CDBG-DR funding is, one, that 70% of the money goes to low- to moderate-income folks. Two, on the buyout side, we have different sets of rules and criteria, so, in our action plan submitted to HUD last month was, we were going to be

appraising at pre-storm value, which in damaged instances is less than what they would have gotten at fair market value pre-storm.

But, we are providing incentives for folks to move to safer areas. So, the post-storm value, plus an incentive, gives the homeowner enough money to move to a lower-risk area. Ultimately, essentially, getting to the same point that a pre-storm value would get to.

ASSEMBLYMAN STANLEY: So, eventually, who winds up owning the home once it's bought out? Is it the municipality, is it the State, county? Who winds up taking care of the site property--

MR. VIAVATTINE: The State.

ASSEMBLYMAN STANLEY: The State.

MR. VIAVATTINE: In coordination with local governments.

ASSEMBLYMAN STANLEY: OK.

One last question. Now, sitting up here and you've all dealt with Sandy; you've all dealt with Ida. In the 10 years that has passed, seeing the improvements you've gone from Sandy to Ida, can you just briefly -- real briefly, quickly, for the sake of time -- just give this legislative body up here your thoughts on what it needs to be improved, to go forward and make a better process, to improve.

What other improvements must be needed, and what we can, as a legislative body, do to help make those improvements a reality?

MR. KELLY: I'll start just with the high-level points.

I think it all really starts -- it's a mundane topic -- but it all starts with local planning. You know, each town, each county, each region, needs to have its own plan in place. You can't just say, "Hey, we got hit by a storm, we need money in." There needs to be a set plan saying, "Hey, here's this

great infrastructure project that works for us and will protect all of our neighborhoods.”

And, for a place like Hoboken which we’ve discussed, that makes sense. It’s a very densely populated area. Difficult to build in, but it protects the densely populated population.

And, I’ll use Manville as the example post-Ida. We’ve had public hearings there. There’s no great infrastructure project that *just* protects Manville. The Army Corps looked at it and they basically said, “It’s not feasible to build something here, certainly not at any kind of reasonable cost or from a mechanical point of view.” The solution in Manville is some combination of elevations and buyouts, but each town really has to determine that themselves.

We are a home-rule state. The State is not going to come in and heavy foot any town and say, “Here’s what we’re building, and we don’t care what you say.” There’s that cooperation and partnership with the local government, the State, and, as well as the homeowners involved.

So, I would say yes, the one thing we really need to -- and I think DEP does a great job of this, NJOEM mitigation, and FEMA do a great job with this -- is figure out what your plan is and work toward it. It doesn’t get solved in one year; it doesn’t get solved in 10 years. But, every year, you get a little bit, a couple drops in the bucket of a couple elevations, a couple buyouts, money for a larger infrastructure project.

I think that, to me, is the key to, Number 1, continuing this progress and eventually getting to a point where we are more resilient.

COLONEL CALLAHAN: I would just add to Dan’s point, I think if we had more Federal set-asides for the State’s mitigation efforts, I

mean, we do, as I said, third in the nation. But, each one of these projects is protecting homes, protecting businesses. I think that would help.

And, I think we've had a lot of discussion -- a lot of those FEMA programs are reimbursement programs, and that's tough. And, we've talked about advances over the years, if municipalities spend a million dollars on debris removal knowing that they're at 75-25 (indiscernible). Do we give them half of the 75% they're owed? And, there's risk in that, but, if we're trying to get not only towns but homeowners back on their feet, how do we do that in a way that balances what Dan has spoken about, about quality control, integrity monitoring, while at the same time getting people back on their feet?

And that resiliency-- I know everybody talks about resiliency as bouncing back. I've had colleagues tell me it's really bouncing forward. We can never go back to where we were with where we are with water and storm management. We need to bounce forward and get away from those old mindsets of what recovery and resiliency looks like.

ASSEMBLYMAN STANLEY: Thank you.

ASSEMBLYMAN KARABINCHAK: OK, thank you so much for your testimony. We really appreciate it, it was extremely informative.

And, thank you for the Committee, for your questions.

If I can, I'll bring up the next set of professionals for the next panel.

Thank you.

MR. KELLY: Thank you.

MR. VIAVATTINE: Thank you.

UNIDENTIFIED SPEAKER: Well done, Mr. Kelly, thank you.

ASSEMBLYMAN KARABINCHAK: OK, if I could ask the following people to come up to the desk.

Jeanne Herb from Rutgers, Lisa Auermuller from Rutgers, Professor Hajj from Stevens Institute, Jody Stewart from New Jersey Organizing Project, Eric Vaughn, and, also, Joe Mangino.

J E A N N E H E R B: Shall we start?

ASSEMBLYMAN KARABINCHAK: Thank you so much. Thank you.

MS. HERB: Thank you for your leadership on these issues. Thank you for your support of our work at Rutgers. And thanks for having us here today.

My name is Jeanne Herb. I run a Center of Research and Practice at the Bloustein School at Rutgers, and I also Co-Direct the New Jersey Climate Change Resource Center.

I am joined here today by my colleague, Lisa Auermuller, who is going to get us started and loop back to me.

L I S A A U E R M U L L E R: Thank you for the honor to be here today, and for the opportunity to share the community resilience work that Rutgers has been undertaking for 10 years.

My experience on this topic comes from working and living in a small coastal community in southern Ocean County, where I am the Assistant Manager of the Rutgers-managed Jacques Cousteau National Estuarine Research Reserve, and a coastal resident.

As Rutgers staff embedded at the coast, we are trusted sources of science-based information and anchors in the community. It is through the shared lived experience and decades of relationship building with coastal

decision makers that Rutgers staff and scientists provide over 65 coastal communities with direct technical assistance following Superstorm Sandy.

While Jeanne will talk to you more about Rutgers' ongoing commitment to not only maintaining but building that trusted relationship, I would like to share with you what working directly with coastal communities over the past 10 years has taught me about community resilience.

I was on the front line of that work, and here are three lessons that I've learned. One, we quickly forget. Two, action requires sustained investment. And, three, we need to know where we're going.

On lesson one, it's easy to forget. Ten years later, homes are higher, and plans have been written, but people are forgetting. While there is now an increased awareness of coastal hazards, it is much easier to go back to life along the coast as if Sandy didn't happen. In many cases, the higher and newly rebuilt homes mean not only a false sense of security, but mean increased property values in areas that are now at even more risk with 10 years of additional sea level rise added to the previous flood levels.

And, it doesn't take a storm to have flooding. Sunny day flooding events are becoming more and more frequent. In Little Egg Harbor, where I live, school buses are commonly diverting their routes to accommodate student drop off and pick up on flooded roads. It already happened twice this week. Higher homes alone don't make a community more resilient, and municipal planning alone doesn't make a community more resilient.

Which leads me to my second point. Planning is the easy part; taking action is what requires a sustained investment. All the planning for

resilience now needs to be put into action. Additional technical assistance to municipalities funded through Sandy disaster funding needs to become part of permanent programs aimed at getting local governments and economic and educational resources that they need to turn the words into projects. Capacity-limited municipalities need hands-on, sustained help to navigate the world of resilience grants, guidance, and continuously updated science. New recognition of the mental toll that coastal disasters bring to residents and practitioners alike need to become part of the conversation. Our most vulnerable and historically underrepresented populations need help even getting by day to day before we can expect them to prepare for the future.

And, finally, we need to know where we're going. We need an inclusive vision for the future of the coast of New Jersey. The one-off approach does not equal a resilient New Jersey. Evacuation routes and storm surges do not begin and end at municipal boundaries. To be resilient together, we need to vision together. It should not be a one-size-fits-all vision; in fact, it should be as unique as its regions we have in New Jersey. The vision can still honor the past; it can preserve the culture of the shore; and, it can aim to create a future New Jersey coast that continues to adapt to an ever-changing coastal environment.

In summary, resilient New Jersey communities mean the whole community. It means homes; it means infrastructure; it means businesses; it means visitors; it means the natural environment; and, most importantly, it means the people. It means not just bouncing back from a future Sandy, it means bouncing forward, actually, like the Colonel just said. And, being prepared to embrace that ever-changing future.

And, with those thoughts, I turn it back to Jeanne.

MS. HERB: So, the work that Lisa led after Hurricane Sandy was a great foundation for the rest of us at the university to be able to build more expensive effort. Our aim is to bring the research, the skills, the expertise of the academic community to advance resilience and preparedness at the coast and statewide.

A second goal of ours is to prepare students to be the problem solvers of tomorrow. For today's hearing, I am going to highlight a couple efforts, but I would be remiss in not pointing to some work led by some of my colleagues at the university -- including some things that were mentioned by the previous panel, such as our engineering school that's using laser-scanning technologies to collect more accurate building footprint data to inform disaster preparedness and recovery efforts.

Other members in our environmental science program who are looking to develop guidance for Blue Acre properties, for restoration to maximize their ability to restore floodwaters. We have colleagues who are working and engaging small businesses to understand their needs with regard to long-term preparedness. We have colleagues who are looking to better understand the connection between extreme weather events and housing insecurity; colleagues who are looking at the municipal finance impact and impact to property values with changing climate conditions; and other colleagues who are working with urban communities to use green infrastructure to capture stormwater before they enter combined sewer systems.

In 2020, the Legislature passed a law creating the New Jersey Climate Change Resource Center and housed it at Rutgers, and I have the great, good fortune to co-direct it. The mission of the Resource Center is

really unique, nationally: It's to create a service center at an academic institution to bring the power and expertise of the academic community to problem-solving. And, we do this in four ways.

First, we bring the latest science and evidence to bear for our colleagues in state agencies. Examples include working with the Office of Emergency Management to develop tools that they can use and that local hazard planners can use to better prepare for planning for future natural hazards. This also positions them to be better prepared to apply for and receive Federal funds. We work with the State Planning Commission and the Office of Planning Advocacy to support towns going through the plan-endorsement process: We work with the Department of Transportation to develop guidance that its staff can use to assess vulnerability of projects that might be in flood-prone areas; and, we work with the Department of Environmental Protection on many things, including development of guidance for considering environmental justice as part of local hazard planning; assessing scientific consensus for future sea-level rise in New Jersey; developing a training for local hazard planners on how to better represent underrepresented populations and decisions; assessing options for monitoring ocean acidification, which has the potential to seriously affect our fishery industries; and conducting research on best practices used in other places to inform DEP's reform of the Blue Acres Program.

The second thing that we do is we develop practical guidance and tools that are used routinely by municipal, state, county hazard planners; local health agencies; local officials; elected officials; nonprofits; community-based organizations; floodplain managers.

I have to take a quick pause here and-- That traffic light, I will live in fear of that thing. I have to take a quick pause here to highlight an aspect of our work that's widely used throughout New Jersey every day. Over the past several years, we've developed a portal of key data that's needed by local decision makers, state agencies, to better understand climate futures and impacts of natural hazards and future climate conditions on their communities. We call the portal NJADAPT. It's free; it's easy to use; and it intersects local climate data with data about natural hazards; with data about people, and communities; and about critical assets, natural resources. Our job is to make others' jobs easier by identifying and assembling this data.

NJADAPT assembles this data in a way that's not just taking data and slapping it into a portal. What is important for me to stress to you is that we take tons of authoritative data, but we also create tailored applications for those end users. We have a municipal snapshot, so anyone can come in and quickly access the data at a municipal level. We have the New Jersey flood mapper, too, that allows anyone to quickly come in and assess coastal flooding in New Jersey's coastal zone. We have an application that we'll be releasing in the next week or two that we worked with OEM on, that's called HazADAPT that's specifically designed to create the data and deliver the data that local hazard planners need to be able to prepare for Federal funding.

And, then, in the next month we'll release a new application that we're calling HealthADAPT, that intersects data about health outcomes, climate, and social determinants of health. We know the data are well used. In 2021, they had more than 52,000 hits with almost 34,000 unique users. We recently finished a breakneck pace of tailored virtual trainings on these

tools that included trainings for public health officers; reporters; county planners; green team environmental commission members; floodplain managers; and, coming here today makes me think we should do that for legislative staff.

In addition to these trainings, we're working with OEM, DEP, OPA, DCA, to develop a climate-resilience, one-on-one, in-person training for the first time in two and a half years that will be offered in the first quarter of 2023 to anyone who wants to register.

The third thing we do is we provide direct technical assistance to communities, including any communities you want to point us to, to better understand their vulnerabilities to extreme weather events and changing climate conditions. We form what we call the New Jersey Climate Corps. It's a cohort of highly skilled graduate students who are working one on one with municipalities to provide technical expertise and technical assistance to those municipalities, particularly municipalities who don't have a lot of capacity to hire consultants.

And fourth, we conduct research that can be readily applied. We're just finishing up preparing a heat-vulnerability index that will provide a relative comparison of vulnerability to extreme heat at a census tract level based on physical characteristics such as the proportion and the census tract of impervious cover, as well as socioeconomic factors.

This past spring, we updated the New Jersey State of the Climate Report, which provides the latest climate science and trends and projections that's available for use by local decision makers, as well as state agencies. This spring, we're going to be convening at academic institutions throughout New Jersey who are doing research -- applied research throughout the state -- on

climate, to be able to build a community of researchers to be able to fill gaps on science data and technology.

OK, let me add a fifth item here, and I'm getting to my close. Five years ago, Rutgers launched a nationally innovative program with funding from the National Science Foundation called the Coastal Climate Risk and Resilience Program, C2R2. The program is designed to prepare graduate students in different disciplines -- engineering, community planning, environmental science, geology and geography, public policy -- to address the wicked problems that are associated with building sustainable solutions to natural hazards. Our students are trained to think outside of their disciplines, because what we hear from various employers -- including in the public sector, and in the private sector, and in the nonprofit sector -- is that they want students who are not just thinking about engineering, who are not just thinking about geology, but who can really look at problems and look at overall holistic solutions.

We're planning enhancement of this program now, where we'll build in all-climate hazards and not just coastal hazards, and to also tie the students' experience to offer service to New Jersey by having them do a round of duty through the Climate Corps.

So, with all of that, I want to offer three things that I've learned. One, is -- and you've heard it from Dan Kelly, and you heard it from Lisa -- we've learned that preparing our communities for natural disasters is a wicked problem, it deserves holistic strategies. Long-term and sustainable solutions cannot be piecemeal. Wetlands here; affordable housing there; historic preservation over there; building codes there; transportation there; public

health there. We need to think holistically, and we need to understand the impacts of our individual decisions in each of those sectors.

Two, we know that here in New Jersey the issues are not so much about whether residents believe in climate change. The 2021 Yale Public Opinion Polls indicate that 65% of New Jerseyans are worried about climate change, and 71% of us believe that it'll harm future generations. We know from our engagement with hazard planners; local officials; local elected officials; public health officers; floodplain managers; and others, that they're well aware of the impacts that natural hazards and climate change have on their communities. Our collective challenge is about putting the systems in place that make it easy for leaders to make informed, sustainable, and holistic choices.

And, three, we've learned that underlying social inequities -- structural racism and discrimination; under-(indiscernible) in certain communities; exclusion of marginalized populations, including populations that are socioeconomically challenged, results in a reality where risks and opportunities are not equally shared in our society. Our work has involved engaging community leaders to identify climate-resilience strategies that ensure opportunities are directed to the people that are hardest hit by climate change, and we hear a consistent response from them. By ensuring equitable access to the conditions that allow us all to live happy and healthy lives, affordable housing, well-paying jobs, healthcare, vibrant communities will build resilience for everyone for generations to come.

Before I wrap up, I'm compelled to mention that I wear another hat at the university, which is to facilitate a network called the New Jersey Climate Change Alliance. For a dozen years, the Alliance has operated as a

cross-sector network of diverse organizations that have shared a commitment to science-informed climate action in New Jersey. In terms of the focus of today's hearing, I urge you to review several products of the alliance, including 2014 recommendations on actions needed to build resilience in New Jersey -- some of which are still pending. The Alliance's 2020 review of policies and programs in four other states, and its recently developed outline of options for legislation to advance preparedness in New Jersey. We will provide you with our written testimony later today, and it includes links to those four documents.

Bottom line: We've learned that advancing bold solutions on complex climate-resilience issues demands guidance, funding resources, technical assistance, and training. And, we believe that that is where the university can offer tremendous resources. We hope that you will view *us* as a resource to *your* work, and that you'll call on us into the future to provide assistance to the leadership that you're providing to the whole state.

Thank you so much.

ASSEMBLYMAN KARABINCHAK: Professor.

DR. MUHAMMAD HAJJ, Ph.D.: Thank you very much for the invitation.

My name is Muhmmad Hajj, I am the Chair of the Department of Civil, Environmental, and Ocean Engineering at the Stevens Institute of Technology, as well as Director of the Davidson Lab. The Davidson Lab is a renowned lab in marine engineering and coastal engineering. We always responded to problems of national interest, from a technological point of view. We on the design of sea planes, maneuvering ships, submarines during World War II, and then we transformed all of our work into coastal

engineering to support what's happening in terms of predicting storm surges, and so on.

Let me start by talking about two modes of operation: The recovery mode. When we-- A hundred years ago, we didn't know a hurricane was coming; we just waited for a hurricane to happen; it happened; losses happened; we took care of things. Now, we can operate in a preparedness mode, as well as in recovery mode. That preparedness is essential to reduce the time and cost of recovery. Preparedness is essential at the State level, like Assemblyman Guardian talked about, you know, troopers' preparation, like we talked about shutting down a highway or shutting down a system, or an airport -- or even as an individual, as a citizen, I could move my car to a higher ground if I know a flood is coming and save myself a lot of headache. So preparedness mode should be an important part of it.

I want to tell you today about what we do at Stevens to support preparedness. I will tell you about a system called Stevens Flood Advisory System. That is unique; that I wish Texas had it; I wish Florida had it; I wish many other places had it. We predict 24/7 storm surges on the coast of New York and New Jersey. We do that by taking weather models from the United States, from Canada. We take all of these weather models, we put them together, we generate our own perturbation of weather models, up to 125 perturbations. We do what's called a super ensemble, and we predict, we put this model into the ocean dynamics, we move it from the ocean to the coastal areas, we add to it, the watersheds and the hydrology of the river flows to predict flood levels along our coasts here in New Jersey. No one else has that in the nation, and probably in the world.

I'm not the one who developed it, by the way, I should be clear here, it was developed before my days, but it's an impressive thing. I advise everybody to visit it. That's Stevens Flood Advisory System, on our website.

You know, what we're doing with this is high-resolution flood-level. You know, we provide all of this stuff, actually, to the Port Authority to operate many critical facilities. And, we provide it in a way that not a lot of people know about, you know, but we provide a lot, like up to a foot or a meter of resolution of how the flooding is going to happen in these critical facilities.

I, you know, over the summer we did an exercise, and many New York and New Jersey agencies were there -- DEP was there; EDA was there; the Police were there; and so on. We did an exercise over a period of eight weeks with the Port Authority and NOAA on how to prepare for the hurricanes. The way we do it, four days in advance, this is what we expect; three days in advance, this is what we expect; two days in advance, this is what we expect; one day in advance, this is what we expect. This is important. I mean, we see lessons in real life. Ian changed direction and changed intensity very fast. We need to be able to do that, and we need to be able to do it with our eye towards the models, and so on, and that's what we do at Stevens Institute of Technology, with all of these things.

Our information is provided to over 1,400 subscribers; many of them are entities and many of them are State agencies. We are willing to share the data with anyone. We're willing to share the information with anyone. Actually, three days ago, I wanted to check flooding in my neighborhood, and I wanted to check Middletown flooding, and there we go, they're giving me Stevens information to predict flooding. I was proud of

that. I sent it to my colleagues. However, it didn't say Stevens Institute of Technology; it said Stevens only, which is fine, not a big deal.

So, let me talk a little bit about what we need to recognize for the future. We need to recognize that low-probability events are real events; they happen. We talk about 100-years return -- that's a 1% probability of something happening. If it is a high consequence, 1% is still a high probability. If we look at engine planes, the probability that an engine on a plane will fail is 2 in a million, or 2.5 in a million. But, when we talk about 1 in 100, that's significant when we talk about the high-consequence event. And, that was our message to many of the, you know, agencies, and many participants in the summer. When we talk about climate change, we need to recognize the uncertainties. Because, you know, what's today 1% could be 5% in the next 10 years, or the next 20 years, or the next 30 years. So, we need to recognize this as an important part.

As we do planning, we have the tools to assess what's going to happen to our shores and our coasts. You could use -- we *are* using machine learning to predict what's happening, you know, on our shores. If we want to build a sea wall, if we want to put a deployable barrier, if we want to do anything, we could put this hypothetically, see what's going to happen, and those specific conditions, or under hurricane conditions, or under a nor'easter. We could do that. We have the technology. We have the tools. We have the software to do it.

Finally, what I want to say is that, today, we have the ability to prepare, go to prepare this mode as well as into recovery mode. But, to prepare better, we need to be able to work on a system that brings all of this information together. If New Jersey Transit wants to analyze the impact of

a certain flood level, we can have the digital side of infrastructure to do that. You know, they could input things on the computer and figure out what's going to happen. We cannot just keep doing it the old way. We could connect the energy sector to it; we could connect all of the industries to it. How long is it going to recover? We could connect all of these things together, I think, what I would think -- a digital side of infrastructure that gives us more information and enable us to prepare better.

I am sorry that I (indiscernible).

Thank you very much for your time.

ASSEMBLYMAN KARABINCHAK: Thank you.

Jody.

JODY STEWART: Hi, my name is Jody Stewart. I am a Superstorm Sandy survivor, and an organizer with the New Jersey Organizing Project.

I would like to have my colleague speak first, Joe Mangino, then Eric Vaughn, and then we'll come back to me.

ASSEMBLYMAN KARABINCHAK: OK.

JOE MANGINO: Good afternoon, I am Joe Mangino. I am the Co-Founder and Board President of the New Jersey Organizing Project -- also a Sandy survivor.

I lost a home; I lost a business; and I lost a second job. I have been involved in Sandy recovery since the moment that the floodwaters receded -- so much so that my gutted home became a relief center for a grassroots organization I co-founded called START -- Stafford Teachers and Residents Together. In the following months of the storm, we gutted over 800 homes in southern Ocean County, saving taxpayers roughly \$3-4 million in cleanup costs. While that was going on, I was also trying to get my family

back home. We were displaced for six months, and when I finally returned home, I ended up living in a gutted home for quite a while, and we were basically doing indoor camping. I was washing our dishes in our bathtub upstairs.

It was two years after that that we realized recovery efforts were going horribly wrong; we were no closer to getting home than we were the day after the storm. It was then when the idea for the New Jersey Organizing Project came forward. It was nine people that met in the basement of the Stafford Township Library, and our goal was to get Sandy families home and make sure that they could afford to stay home. We identified the issues that were impacting people; we realized that relief money wasn't getting out. We saw that the rent program wasn't working -- I was one of those people that was trying to get in there to get money to raise my home so I could get my family home.

We pushed forward rental assistance, that we found that that was one of the main issues that was impacting families, and here we are, two years after the storm, and we're expected to pay a mortgage on a home we can't live in and also pay for a rental. We were successful in getting that done. We also asked for a mortgage forbearance, because the forbearances that were being offered by the banks were the kind of boilerplate 90 days and pay us back in full. That doesn't work for someone that is displaced and has no money.

The other thing we advocated for a few years ago was the supplemental fund. Again, we had people that were close, but they were out of money; they just needed a little help to get across the finish line. That was a great achievement. And here's where it gets difficult -- it was one of our

members, Nancy Caira, who advocated for that. She was at the Governor's press conference when he signed that, getting the supplemental funding. Nancy Caira died before she could get home. That's a broken disaster recovery system, to me.

So, here we are. We know that we learned a lot of lessons. Have we implemented them? No, we haven't. I mean just ask people who are going through Ida right now -- they have to wait until June until they get money to rebuild. And, I understand that's not the State's fault, necessarily, a lot of that comes from Federal. But, again, the work we do, we do it at the State and we do it at the Federal level because we know we need to work together. This disaster-recovery system remains broken and, you know, these are the changes we have to make.

One of the main reasons I am here today is yes, I am home. It took me three hard years to get home, but I am not whole. I am someone that was in the rent program, that received the grant, and now the State is trying to claw my grant back. In my situation, if you recall with the program, there were three pathways: A, B, and C. I was in pathway C. Pathway C meant no money came out of my pocket -- which was great, because I was broke, my insurance company also ripped me off. But, that means I didn't get to choose my contractor, so the State chose the contractor; the State paid the contractor. They want to claw back money from *me* because they said I received -- the contractor received an "over disbursement" of funds. Which is fine. But, why do I have to pay for it? The State paid the contractor, so that should not come out of my pocket, and that's something I'm pretty damn adamant about.

The other reason for clawbacks are also a duplication of benefits, which relates to the SBA loan, and we have a lot of members and people throughout the state that are also dealing with that.

So, immediate action that could be taken is-- You could end my nightmare right now. We have a bill that is waiting to be posted, that deals with clawbacks, that will grant clawback forgiveness to Sandy families. We just need it to move. I mean, you could make the 10th anniversary for me a dream by having me sit next to the Governor, who signs that bill forgiving clawbacks. Ten years, how long does someone have to wait? How long do you expect them to wait? Nancy Cairra, she couldn't wait; she died. I know so many other people.

I took this recovery personal, because one day I was standing in the street, my whole street was empty, and I'm looking, and I'm like, "What good is it if I'm home if I'm not surrounded by friends and neighbors?" And, I think we lose that sometimes. We're so busy talking about the numbers, and this, and that, and how can we do better? When we do better by empowering the people that are in the streets, that are us. We're the experts; I learned a lot of lessons. I consider myself an expert in Sandy recovery because I was in the floodwaters; I was in the meetings with Assemblywoman Gove, who, LD9 have been a blessing to us; they're always there. She's probably sick of seeing me, but oh well. (laughter)

So, and, that's where we're at. I appreciate the opportunity, but, like I said, if you can do something to move this clawback, that would be a blessing to me and my family, and I can close this horrible chapter that is Superstorm Sandy.

Again, I appreciate your time. Thank you very much.

ERIC VAUGHN: Hi, my name is Eric Vaughn. I'm a resident of Manville, New Jersey, a recent victim of Ida. I sit before this panel today 13 months later, living in an RV with 3- and 5-year-old boys, still not back home.

You know, on September 2, 2021, my whole life was destroyed by that water. And, my now ex-fiancé, because of the stress of the whole situation, broke off our engagement. I have now become a single father to those boys. She was at work at the time. Manville did not notify us; they did not come around and evacuate people. It was about midnight when I finally called the Manville Police Department to find out whether we should evacuate or stay. I have the Raritan River flood gauge on my phone; it was projected at 27 feet. I knew at that point I had to get out, we were going to get water.

I was home alone with three kids, two dogs, I probably packed up a minivan of just stuff that we can use, and proceeded to knock on all my neighbors' doors to let them know they needed to get out. Again, the Manville Police Department did not do this -- I had to do it. And, my neighbors had just bought that house three months prior to that flood. I had my house on the market five days before that flood happened. I had a family in my home the day of the rain, looking at the house, ready to make an offer.

I ended up in my father-in-law's house in Basking Ridge, driving around abandoned cars from the flash flooding, and we couldn't stay there too long because, you know, we have a large family -- two dogs, and I eventually had to get a hotel, which, I was told there was programs, vouchers for that from FEMA. It was a full-time job, on the phone with FEMA, Red Cross, Salvation Army, 2-1-1. I was self-employed at the time. I could not make an income because my whole day surrounded around trying to find out

where my family was going to live. And, it took me, actually, writing an email to Channel 12 in frustration, because I wasn't getting help. They interviewed me the same day, in my hotel room.

Wouldn't you know it, the day after, I got a call from Red Cross that they were going to take care of my hotel tab. I had to literally fight for things that were supposed to be given to me, as somebody who's going through a natural disaster. President Biden was in my town doing the wave; Governor Murphy was in my town doing the wave. Here I am, 13 months later, I'm still not recovered -- not even close.

What the HUD program is forcing me to do is keeping me in limbo. I want to start with my insurance money to raise that house, to start the project, and they're telling me if I do that, that I will be disqualified from the grant program. So, I had money from the insurance company that I was going to take to start the project, and then once I get the grant money, finish the inside of the house. They said, "No, no, Mr. Vaughn, you can't do that. If you do that, you're going to be disqualified for the program."

So, I'm living -- for a second winter -- in an RV, on my driveway, with my two toddlers, no closer to being home than I was when this first happened. It's a sham. You know, a lot of smooth talkers came up before me -- the panel, Dan Kelly, all those guys, Sam Viavattine -- a lot of smooth talkers. But, talk is cheap; what I need is action.

And, so, a lot of my neighbors were forced to rebuild as-is and cross their fingers that while they're waiting for the elevation grant that they don't get flooded again in the meantime. I refuse to rebuild until my house is elevated. I'm not going to refurnish my house; I'm not going to buy new appliances. I have no flood content in my policy -- I had no content in my

flood policy, I was not aware I needed that. And, FEMA gave me \$8,000 towards, I would say, maybe \$60-70,000 worth of everything I lost. It was not enough to even make a dent in what I needed. The program -- the system is broken. I need money now, *now*.

And, so, I can hear these guys talk about all this stuff up here, and I was at the Manville meeting. I was one of the residents who spoke at that meeting. And, I'm here today not just on behalf of myself, but there's many more residents of Manville who have been forgotten; who are still not recovered. There's many people paying a mortgage and rent. There's no forbearance -- I mean, it's ridiculous. And, actually, I wondered, if you learned so many lessons from Sandy, why does it take longer for Ida survivors to get CBDG grant money? It's taking longer for us to get the money than it did for Sandy, you know. The process is broken, and I need help.

So, I am here to share my story, put a voice -- a face -- to what was seemed to be forgotten; I seem to be, like, a forgotten -- we seem to be a forgotten lot when it comes to recovery. And, it's been really difficult. Most days, I have to continue to keep on top of people. I'm sure Governor Murphy's office knows me very well. I'm on the phone with all the congressmen. And, the sad part is when we have our meetings in NJOP and we have Malinowski come on, and these congressmen come on, I leave those meetings with less hope than I did going into the meeting. I don't see any path for me to recover. Because I don't have the money I need to do so. And, I was told we were declared; so that means we're supposed to be getting funding. It should not take almost two years for me to be made whole.

And, so, I'm here to voice my struggles, my frustration. I'm sure all of you guys at the panel here have a home to go to, right? You have a

nice, comfy, cozy home, no issues, no floodwater. And, we need to light a fire under this Committee to do something, to make sure that me and my boys have a home. I'm on the verge of losing my house, because I can't keep up with the mortgage company trying to harass me for-- I'm not paying the mortgage; I refuse to pay a mortgage on a house I can't live in. I need help with that, too.

So, my question to this Committee is, what are you going to do moving forward? Forget-- There's another storm; it's coming. We've had, how many, six or seven natural disasters countrywide after Ida? It's not a matter of *if*, it's a matter of *when*. And, the fact that they forced my neighborhood to rebuild as-is, with their insurance money, we just had four days of rain. I had to be on call, by my trailer, to make sure, and look at the gauge, to make sure I didn't have to up and move my trailer and everything to higher ground, because we were close to getting flooded again in Manville with the four days of rain. A rain storm might flood us.

I need to be elevated; I need the money to do so. And, I need to know what this Committee is going to do to make this happen. And that's (indiscernible)

ASSEMBLYMAN KARABINCHAK: Thank you.

MS. STEWART: Thank you, Joe, and thank you, Eric.

The reason Eric is in here -- and I know it was a Sandy function -- but to show that the system is not fixed. It's by far not fixed. And, Eric, I'm sorry you still have to live how you are.

I want to tell you a little bit about how my story went before I go into some things that we know can help. The storm was upon us, and I had nowhere to go. I had to set up my attic to shelter my husband, myself,

and my three cats. I went through my checklist: sleeping bags, solar lights, water, food, medicine, and whatever necessities my cat liked. I had it prepared. But, I was lucky, I didn't have to go up there because someone called me and said, "Hey, come stay with us, you can stay in our basement." That was one of the biggest blessings I had.

Within hours, we lost electric. The next day, that basement flooded, too. My cats, my husband, and myself ended up in a 12-by-10 bedroom. I don't have a lot of memories of the storm, because I received a picture from a neighbor who did sit out the storm. And, that picture showed that the water was already up to my windows, and the storm wasn't even here yet -- the eye had not passed. At that point, I went blank. The next thing I remember is the storm was finally over, and I walked down the street of my friend's house and saw a boat hanging off of electrical wires. I could only imagine what my house looked like.

We were finally allowed in our neighborhood, which is in Little Egg Harbor -- Lisa knows it well -- and it looked like a war zone. I opened up the door to my house, and everything I loved was destroyed. There was mud on my kitchen counters. My grandmother's fragile china cabinet was the only thing left standing. We walked out of the house and said, "We'll deal with another time," the pain was just too much.

I was fortunate. A couple of friends came over and helped me remove every possession I had in my house. Imagine seeing everything you own and love in your front yard. That was the beginning. It took me six weeks to get myself home the first time. After that, the rent program was developed. I was offered the \$150,000 to elevate my house. Let me also say, my flood insurance only paid me a little over \$50,000, and I took that money

without argument, because we needed *some* way to repair our house. We felt like a beggar. There was no Red Cross for me; there was no help.

But, once I was in the rent program, that's where my real nightmare began. The program was broken. Rules changed every day. Finally, *finally*, in 2014, the summer, I was able to elevate my home. I was out for 10 months again, homeless once again. I got home in 2015. That's just the beginning, and, as Joe said, he's clawbacked. I was clawbacked for \$20,000 due to a mistake that the State made and, luckily, had to fight it and got it rectified, or I don't know where that money would have come. It cost over \$200,000 to elevate my 1,300-square-foot home.

So, now, I stand here with NJOP members saying what we know we need to do. We know we fought for rental assistance; we know we fought for a mortgage forbearance not once, but twice, and got it passed. We worked our tail off with LD9 -- thank you Assemblywoman, you were right there with us all the way. And, now, we have almost 2,000 families being clawbacked by the State of New Jersey -- the same grant program that got them home is now saying, "Give me money back." Two thousand families. We have a 79-year-old woman, retired woman, from Ventnor, being asked to return \$35,000 that she did not take to spend on a vacation. It wasn't her fault the mistake was made. She never heard of duplication of benefits. We followed the rules. Where's that money coming for this woman?

So, we do have the bill up that was introduced by LD9, it's the S1700 and the A723 that we are fighting our tail off to get posted and read. The Sandy anniversary is in a few weeks -- we need support on this. And, then, I want everyone to remember, yes, there was two major hurricanes that just went through, but everyone is forgetting about Ida. That was just last

year. Eric, and hundreds and hundreds of families are in limbo because the money is not here. And why isn't it here? Because every time there's a disaster, Congress has to pass a bill to get Federal money to the states. See, it's not really the State, it's the Federal Government. So, we have a bill in Federal Government, the Reform Disaster Recovery Act. We've got it through Congress; we need to get it through the Senate. That would make it so money can get to the states immediately, not a year later, not two years later.

So, stand with us. We're working our tails off to make changes to help the State make changes.

Thank you, again, for listening to us. We appreciate it, and I hope we learn lessons and get people like Eric home.

ASSEMBLYMAN KARABINCHAK: Thank you so much.

Is there any questions from the Committee?

Assemblyman.

ASSEMBLYMAN GUARDIAN: Professor, I want to thank you for allowing many of us to tour the Davidson Lab and Stevens.

If I recall correctly, you said that you have around four days notice on the impact that we're going to have on the coast of New Jersey, specifically New York City and, of course, Hoboken.

From the 10 years since Sandy, do you have any better communications you can pass that information on, so that we can actually do something with it?

DR. HAJJ: Yes, we do. We can hold a training, you know, to the agencies to anyone, like what kind of information is coming their way so

that they can decide how to prepare better for it. We did it with the Port Authority, and many agencies attended.

The other one is that anybody could sign to receive warnings about, you know, a storm surge or something like this.

ASSEMBLYMAN GUARDIAN: And would that be based on their ZIP code? How would--

DR. HAJJ: Well, I mean, on the Stevens Flood Advisory System, we have many stations. They choose which stations they would like to follow. So, like, in my neighborhood, we have one in Keansburg, one in Sandy Hook, one in -- I could choose these ones that are close to my home to figure out how to receive it. And, we have it for the whole state.

ASSEMBLYMAN GUARDIAN: And just, for Rutgers, I think in point five you talked about some Federal funding for the program. What is your budget, and where is the funding coming from, for the type of services that you discussed?

MS. HERB: So, with all of your leadership in 2020, you passed a law creating The Climate Change Resource Center. The Resource Center received this past, this current State fiscal year, an appropriation of \$1 million.

We have more than doubled those resources from bringing in outside funding, whether that's from the Office of Emergency Management or the Department of Environmental Protection.

I would say that the areas where we see more need than we can address right now is one-on-one technical assistance to communities. And, then, also, being able to-- We know that our data tools, we know that Stevens' great data tools and our guidance that we've put together are only

as good as the hand holding that goes with them. And, that means being in community doing the kind of work Lisa did after Sandy. That means hosting free trainings -- whether it's for a hazard planner, or a public health officer -- to understand how to use these tools. For them to sit on a shelf is nothing.

So, I would say that that's the area where we know we need to put more effort. So, right now, we're operating under that State appropriation, as well as leverage funds that we've been able to bring in. Lisa, I don't know if you want to add -- OK.

ASSEMBLYMAN GUARDIAN: Thank you.

MS. HERB: Thank you.

ASSEMBLYMAN KARABINCHAK: Is there any other questions?

I would just like to ask if Rutgers and Stevens would be able to share any of the information that you spoke about today with the Committees, that would be extremely helpful to have it in writing, too.

MS. HERB: Yes, we'll definitely send that to you in writing.

And, I think, also, for some of the guidance and tools, we're happy to come to Trenton and show that -- whether it's to you, or come to your district offices, or come to your communities that you represent. We've become very proficient on Zoom, and we're happy to also have these conversations over Zoom.

There is a lot of information there now. It's a matter of getting it in the hands of decision makers, and that's our focus.

ASSEMBLYMAN KARABINCHAK: OK. Thank you so much.

MS. HERB: Thank you.

ASSEMBLYMAN KARABINCHAK: And Jody, Eric, and Joe, I have to say that I appreciate you coming here today and sharing your personal lives here, and what has occurred in the years and months of what should have been taken care of.

I have to say that I'm sure that everybody sitting at this dais is feeling a lot of emotions beyond what you shared with us today. I can assure that I will be looking into it, and I'm sure that everyone here will be doing the same. I'm sure when people see this on video or livestream this, I'm sure it's going to be a big surprise to people, and it shouldn't be.

That was the first panel that was up -- they have come a long way from different storms to where they are today. But, this is the points that I think a lot of the Assemblymen and Assemblywomen up here have asked, "What can we do to make it better?" And, this is absolutely on the top of the list.

So, I can't say enough about how I feel about this beyond thank you for coming and sharing your personal dilemmas with us. I can assure you, we're going to be doing something about it.

MS. STEWART: Thank you very much.

ASSEMBLYMAN KENNEDY: I'd like to take a minute and just make a comment to you.

I grew up in a family of seven on a street aptly named River Road -- 607 River Road. And, once my parents had the last two, after they realized that, as Catholics, that rhythm wasn't working too well, we wound up in the basement of the house -- my brother and I. Which we thought was great, because we had our own back door, and, at 11 years old, I thought this was neat; I could go to the store around the corner and nobody knew it.

But, I also remember in that house, you know, waking up in our bunk beds -- which we had to lower a little bit because the ceiling in the basement was too high -- I was on the bottom bunk, being the younger one, and waking up and the water was reaching the bottom of my bed. So, I know what it's like to live in a flooded area. Interestingly, along the Rahway River there, something has changed, because it doesn't flood the way that it used to. But, we do notice that other parts of New Jersey, from over-building, and building in places where everybody wants a million-dollar home on the beach, but it might not be the best place to be; it might be even worse behind the bay.

So, there's really, you know, a consciousness here that has to be recognized of looking at where we're building and why we're building, you know. Governing bodies-- I was a mayor for 20 years, and everybody-- The guy before me was there for 20 years and he lost because property taxes had increased, they doubled in one year. And, trying to keep those prices down, municipalities in densely populated states like New Jersey with, you know, infrastructure the way that we have it, is incredibly expensive to do.

So, we really have to have kind of a -- come to a moment and realize that we just can't build in all of these areas. And, maybe the mission should be more of a remediation effort, looking at how do you buy back some of this stuff? It would take Federal assistance, I'm sure, but it just doesn't make sense to keep rebuilding the same things over and over.

So, that's my two cents.

ASSEMBLYMAN KARABINCHAK: Thank you very much for your testimonies.

UNIDENTIFIED SPEAKER: Thank you

UNIDENTIFIED SPEAKER: Thank you so much for your leadership.

ASSEMBLYMAN KARABINCHAK: Next, we have our fifth panel. Christina Farrell, NJUA; Tim Dillingham, American Littoral Society; and Zoe Baldwin from RPA.

Oh, and we have two others: Alex Ambrose, NJPP; and Doug O'Malley from Environment New Jersey.

And, last but not least, Elizabeth Semple.

CHRISTINA FARRELL: I will start first, if that's all right.

Good afternoon Chairman Kennedy, Chairman Karabinchak, and the other Committee members.

My name is Christina Farrell, I am the Senior Director of Government and Public Affairs with the New Jersey Utilities Association. NJUA is a statewide trade association for New Jersey's investor-owned utilities that provide electric, natural gas, telecommunications, water, and wastewater services to customers throughout the state. I appreciate the invitation to speak today on post-Sandy communication and infrastructure improvements.

When Superstorm Sandy made landfall here in the state, it caused widespread damage and outages affecting residents throughout the state. The damage to infrastructure throughout the state was devastating, and restoration work included things like responding to hazard locations such as downed wires, clearing of trees and vegetation to make repairs, installing new utility poles, new transformers, new wire, and dealing with flooded equipment and substations. Utility workers were engaged in round-the-clock emergency restoration efforts, including line workers, forestry teams, call

center representatives, and other support personnel. Through the lessons learned and the feedback received during these restoration efforts, the utilities identified opportunities to reinforce their systems, as well as how to help customers and communities manage through extended outages.

Alongside our collaborative work on these important topics, our member companies have continued their commitment on investing and modernizing infrastructure so as to continue to deliver safe and reliable service to customers. You had heard earlier from the BPU today about their more than 100 directives to utilities following Superstorm Sandy and Hurricane Irene. The utilities have also undertaken various enhancements under these BPU orders, as well as on their own initiatives when it comes to improving storm preparations, communications during these events, and restoration efforts. And, just given the timely restoration that we've seen with some of the more recent storms -- I know you've heard some of the BPU data earlier -- infrastructure resilience investments and improvements that were planned have garnered tangible benefits.

So, just, as far as communications, NJUA member companies have comprehensively updated how they communicate with customers and local officials during storms. These include updates on the number of affected customers; the crew response; as well as providing more accurate and timely estimated times of restoration. As far as the customer-facing communications, the NJUA member companies have revamped their ETR communications to provide more accurate and timely estimates for customers. They're using social media to disseminate timely information. They're employing call-back and text-back technologies to identify customers who remain out of service during restoration efforts. The NJUA member

companies have established enhanced customer communications and are continuously developing plans for enhancing those efforts.

As far as the local officials, NJUA member companies have focused on efforts and challenges that are most important to the county executives, the mayor's counsel members, and state, county, and local Offices of Emergency Management. They're responding through their coordinated meetings prior to, during, and after storms, to update these officials on the progress of storm-preparation plans and restoration efforts. Like with each aspect of storm preparedness, our member companies are continually improving their communications with customers and the elected officials. Our companies will continue to seek feedback from both audiences to improve their communication practices, particularly during times of emergency.

As far as infrastructure, in the decade since Superstorm Sandy made landfall, the utilities have invested billions of dollars in strengthening their systems. Investing capital and improving protections at substations and the completion of flood-mitigation projects initiated after Sandy prevented future flood-related damage at some of these same substations. I know you heard about the 69 earlier, from BPU.

After Sandy -- just to give you some examples -- after Sandy, one of our member utility companies moved to increase the height of resistance at a key water-treatment plant. The plant handles nearly 150 million gallons of water a day. It's their largest water-production facility, and a regional source of potable water supply for approximately one million people in parts of seven counties in central New Jersey. Investing \$37 million in the project, the utility raised the height of the facility's floodwall by 4 feet. Last year,

when Tropical Storm Ida hit our state, the heightened floodwall prevented flood water from cascading into the facility and disrupting operations. Had these improvements not been made post-Sandy, that facility would have most certainly sustained major damage and service would have been interrupted for hundreds of thousands of customers. Similarly, post-Sandy investments in additional backup power generation have helped keep treatment plants and pumps operating during storms, limiting potential service interruptions.

Another utility had a total of 215,000 customers lose power during Ida, compared to more than 2 million who suffered lengthy outages during Sandy -- that's a big gap. This utility replaced and modernized low-pressure cast iron gas mains in or near flood areas, protecting 90,000 customers from the risk of losing gas service due to flooding. And, other gas utilities made tremendous investments to ensure greater reliability of their system. The same goes for all the other utility sectors. This utility has also recently upgraded lines, and installed more redundant circuits, so that if a portion of a line does get damaged, an outage is prevented by using another electrical pathway.

Areas served by the new infrastructure, critical facilities like hospitals, water-treatment plants, and other essential providers had their outage times dramatically reduced since employing this strategy. One electric utility upgraded 20 substations by installing flood barriers and walls, raising equipment, and installing real-time monitoring devices. With the storms in the past 18 months, such as Tropical Storm Henri and the once-in-a-century rains associated with the remnants of Hurricane Ida, these systems were definitely tested. In those storms, not a single one of that company's customers lost power due to flooding at substations. This just goes to show

how important the infrastructure investments were made in these substations.

This same utility invested in mobile substations, which are positioned on the barrier islands, and ensure communities during summer months and hurricane season. This allows them to restore power faster following a major weather event. Utilities like this one are also utilizing more resilient construction techniques, which would include 50-foot poles to better stand up to floodwaters and debris, and redundant feeds that provide electricity from multiple directions, reducing the number of customers affected by an outage.

These examples highlight the improvements that we're already seeing across the board for NJUA's utility members thanks to infrastructure investments that were put in place by our members post-Sandy. And, I have numerous other examples of these types of post-Sandy investments; however, I recognize that I am limited in my time today, but I could share with you.

But, I just think it's important that given the successful restoration efforts after our most recent storms, and, although we do recognize that more work needs to be done, we are moving in the right direction regarding storm preparedness, resiliency, restoration, and communication. You heard a little bit earlier from the BPU about efforts on vegetation management and the utilities' increase in spending on tree trimming. These efforts have helped increase power line reliability during storms. For us, just allowing the EDC more leeway to manage certain vegetation located on private property would help increase grid reliability during future major storm events.

And, then, just to give you guys another example, we've seen firsthand benefits to investments made to our grid infrastructure through the deployment of advanced metering infrastructure -- AMI. For example, with the Christmas Eve winter storm in 2020, looking at reports of one of our member companies who deployed AMI, that company's restoration efforts were accelerated. This company's smart meter program enables customers' meters to communicate near real-time power usage data to the company and the customer. The smart meters also help accelerate storm repairs by pinpointing the location of individual customer electric outages.

So, it's just important today to note that New Jersey utilities have learned from lessons of the past, and we've taken direct action to help protect customers and enable recovery from severe weather impacts better, stronger, and faster than ever before; better access to information; stronger communications; enhancing flood protections. These are just some of the measures that have been taken. Our work together to prepare for these storms is an ongoing process; we recognize that. There's always room for improvement, and Sandy has illustrated ways that our utilities' systems could be hardened and made more resilient.

Thank you again for the invitation to participate in today's hearing, and to speak to some of the utilities' infrastructure and communication improvements that have been made since Sandy.

ASSEMBLYMAN KARABINCHAK: Thank you so much.

Tim, you're up.

T I M D I L L I N G H A M: OK. Thank you, Mr. Chairman; I wasn't sure whether you were going to go right or left.

So, my name is Tim Dillingham, I am the Executive Director of a coastal conservation organization called American Littoral Society. We're based in Sandy Hook. "Littoral" means of or along the shoreline, so our work focuses primarily on the protection of marine life, its habitats, coastal areas like marshes and beaches. We are Sandy survivors in a sense, in that our office was -- we were displaced out of our office by the storm in Sandy Hook for more than a year. It was, you know, part of the gypsy life, I guess, of trying to find housing and places for 23 people to stay and work, and continue to work.

I want to thank the Chairman, in his really early opening comments, about stressing the urgency of addressing this. And, you know, the power and the pain that we heard from the last panel, I think ought to motivate us all to find the answers to make sure that as these storms continue and as they get worse, as we anticipate, that we have the best mechanisms in place we can to keep our fellow New Jerseyans from having to go through those experiences. So, thank you very much for the opportunity to do this.

We historically have lost a lot of the coastline. Bad land-use practices, we fill a bunch of wetlands, and really had not treated it very well. And, I think Sandy, in many ways, exposed the vulnerabilities of some of those bad decisions. Chairman talked about places that folks ought to live; places that folks ought not to live; and all of that is just going to get exacerbated by climate change and the sea-level rise. And, some of the impacts that we -- we have a pretty good handle on anticipating where they're going to happen because of the work that Rutgers and others have done. Although, I saw on the steering committee for the climate-change law that

Jeanne mentioned, and it really is an amazing forum for some of that; really good thinkers in this state trying to find ways to put things together.

Anyway, we have distributed to you a package of projects that my organization has done since Sandy around the idea of using nature-based approaches to increase our resiliency; to go back and build on those aspects of the natural coastline in particular that Mother Nature has given us. And, they have shown themselves to be very effective in risk reduction, as well as increasing the resiliency both of our communities, but also the natural ecosystems that are sort of the foundation for things like our fisheries, commercial fisheries, recreational fisheries, the tourism industry down along the coastline. You know, natural features, like wetlands in particular -- one of the lessons we learned from Sandy is that they can help reduce the risk of--

- The Nature Conservancy did a study that talked about the role the coastal wetlands played. They found that the presence of those wetlands, and their ability to slow stormwaters, contributed to almost \$625 million worth of avoided costs from damages that might have happened. They found that, you know, a 10% reduction in cost for areas that were close by.

Similarly, we know oysters and oyster reefs, dunes, and coastal forests, act as speedbumps, and sort of will give us a handle. So, in our going forward, as we're trying to anticipate how we live along the coastline in particular with storms coming, with storms getting worse and more intensive, we're doing a lot of work advocating for nature-based approaches like this to play a bigger role in our strategies. And, those projects that I gave you -- the handout -- are, in essence, demonstrations that we can build these projects, they can be done by a nonprofit organization working in partnership with

towns, with other private industries, with the government, at a fairly good cost.

So, I would just like to say that, going forward, I would suggest maybe the Legislature would look at-- I know the Shore Protection Program, the Shore Protection Fund, is under re-consideration for expansion. That, in addition to providing a match to the Federal projects along the Atlantic coast, that these types of other alternative, nature-based projects be concluded in that way, to expand our resiliency not just on the Atlantic coast but in the bays themselves, and the Raritan Bay, and along the Delaware Bay shore.

These approaches-- You sort of get the added benefit in our efforts to fight climate in that when you rebuild salt marshes in particular, they sequester carbon from the atmosphere, so we're mitigating -- and in certain ways, through missions that we've put out there -- at the same time that we're mitigating storm effects. At the same time we're providing foundation for better fisheries and the jobs and tourism to come along with them.

I would hope that the programs that the State officials talked about -- they talked about a lot of money going in a lot of different places. I would urge that we find ways to integrate these nature-based approaches into those funding programs, so they become an element of the work that New Jersey Transit does, or New Jersey DOT does.

I'll mention, we did a project in Fortescue, which some of you may be familiar with, it's a little town down the Delaware Bay shore. We were able to work with DOT's Maritime Resources Division. When they dredged the channel that comes into the fishing port that's there, we used that sand to restore the beach to create better barriers, to create a habitat for

horseshoe crabs and migratory shore birds, which is the foundation of the eco-tourism industry down in Delaware Bay.

And, the last thing I'll just say, I know there's consideration going on about how do we use the remaining American Rescue Plan dollars. We have a process that is ongoing that could serve those investments where we're rebuilding these natural features I've talked about to protect ports down on the Morris River to protect the oyster fleet; to protect, potentially, the future home of service vessels; and support of the wind industry. So, that's another opportunity the Legislature may consider to bring some short-term focus to advancing these ideas.

So, thank you for your time, thank you for the opportunity to testify. I'm happy to answer any questions about my comments or about the projects that I shared with you.

Thank you, Mr. Chairman; thank you, Mr. Chairman.

ASSEMBLYMAN KENNEDY: Thank you.

Are there any questions for the panel? (no response)

OK, seeing none, Elizabeth Semple, from Nature Conservancy.

ELIZABETH SEMPLE: Thank you; thanks for having this hearing, and thanks for sticking it out all of this time. You guys are all the troopers, that are left.

My name is Elizabeth Semple, and I am the Director of Adaptation at the Nature Conservancy. Likewise with Tim, I am also a member of the New Jersey Climate Change Alliance Steering Committee, that Jeanne referenced previously.

On behalf of the Nature Conservancy of New Jersey, I applaud the Chairman and legislative members for having this hearing today.

TNC is one of the leading conservation organizations in the world, with a presence in all 50 states and over 70 countries worldwide. Our mission is to conserve the lands and waters on which life depends by working in collaboration -- science-based manner -- with partners. In New Jersey, we have protected over 60,000 acres of open space to protect habitats for biodiversity; remove dams to restore riverine habitats; restore coastal marsh habitat; dredged sediment; and promote the use of nature-based solutions to produce the impacts of climate change.

Ten years ago, Hurricane Sandy rolled through New Jersey and caused devastating impacts, as many have talked about today. Those assets that were impacted -- people, homes, and natural features, and infrastructure, were all things that we all rely on. Over a year ago, Hurricane Ida took the lives of 30 New Jersey residents and crippled the state. Hurricane Ian just rolled through Florida, and it has become abundantly clear that what was once a worst-case-scenario storm is now more regular and normal in New Jersey and globally.

From our nation's capital, to our state capital, our leaders have acknowledged the growing impacts caused by climate change and have committed to making our cities, our towns, and our homes more resilient. Legislative leadership has allowed New Jersey to re-enter the regional greenhouse gas initiative. Governor Murphy took steps to address climate-change issues by issuing Executive Order 89 and 100, which led to the development of the New Jersey Climate Change Resilience Strategy and the Coastal Resilience Plan, and called for regulatory action to address projected precipitation, flooding, and temperature impacts. These are amazing steps in making our state a more resilient place to live.

Some areas where TNC New Jersey believes needs more attention are increasing the use of nature-based solutions. Much of what Tim said, I also agree with, and so does TNC. Prioritizing the resilience of vulnerable populations; making effective use of the unprecedented Federal funding that is coming our way; and legislative action to codify Governor Murphy's EOs to continue our state's commitment to climate change. With the proper prioritization, TNC believes that nature can be pivotal in reducing climate change impacts statewide. Prioritizing nature-based solutions as we make all of our communities more resilient has added benefits of maintaining valuable habitat; ensuring navigable boat channels; enhancing ecosystem and fishery sustainability; providing recreational opportunities; and sequestering carbon.

Since Sandy, TNC has collaborated with agencies and organizations with similar goals to expand the use of a variety of nature-based solutions supporting the planning and the implementation of on-the-ground restoration projects -- they are doable. And, as Tim mentioned, TNC had collaborated with the insurer, Lloyd's and U.C. Santa Cruz to estimate the value and the coastal-protection benefit of healthy marshes. After Hurricane Sandy, it was determined that over half a billion dollars was saved in flood damages in New Jersey and in the Mid-Atlantic. As our sea level rises, more and more property will be vulnerable to climate change, and these marshes have the ability to help protect them.

So, I think as Assemblyman McKeon said, now is the time to urge the adoption of the PACT rules that were discussed by Commissioner LaTourette, and it's time to move forward to regulate and target growth in areas that are more appropriate and that are less risky. And, we also need to

be making effective use -- some other states have put together panels, strategic plans on use of the Federal dollars, that are coming out in unprecedented ways. And, you know, we haven't necessarily seen that type of targeting and strategic planning for the State of New Jersey, to make sure that we're making the most use of that fund, those funds, for resilience and getting people out of harm's way.

Thanks very much for listening to me. After listening to people losing their homes, marshes aren't that sexy, but they can actually prevent that type of damage.

ASSEMBLYMAN KENNEDY: Thank you.

From RPA, we have Zoe Baldwin.

Z O E B A L D W I N: Thanks so much for allowing me to testify this morning. It is a very timely hearing, given the news of the last week, especially.

So, my name is Zoe Baldwin, I am the New Jersey Director for the Regional Plan Association, which is a 100-year-old nonprofit working toward better mobility, economic opportunity, and a more resilient metropolitan region.

You know, so, it's been 10 years since Hurricane Sandy, and just one year since Ida, and anniversaries are generally celebrations of longevity. But, this time, instead of remembrance, I hope you use this somber marker as a catalyst for substantial action to protect and enhance our communities. We can't prevent a named storm from barreling up the coast, but we can make changes to mitigate the damage.

Despite the many actions in the past 10 years, which we've heard a little bit about today, there hasn't been that much consistency, meaning

you have some communities are well ahead of the curve preparing for future storms, and others, still, remain very vulnerable. So, one of the most important things that New Jersey can do is to enact a comprehensive set of policies to improve flood-prone areas and reduce risk and social vulnerability.

As such, I would like to add a few programmatic suggestions I hope that this body will consider advancing in the near future. RPA is also on the Steering Committee of the New Jersey Climate Change Alliance, and I'll echo the earlier sentiment that we need to codify Governor Murphy's Executive Orders 89 and 100 just to ensure that, going forward, we have a dedicated office of climate-change resiliency and, especially, at the inter-agency counsel that it runs. They're really coordinating the long-term efforts of all of our state agencies, so that's a really low-hanging fruit, good to move.

Another one is, there's a bill I actually just heard in the Senate -- it doesn't have an Assembly companion yet -- S3110, actually requires certain flood disclosures from property sellers and landlords to ensure that residents are fully aware of their risk before they find out the hard way that their new home is in a floodplain; it requires flood insurance; or has been damaged in recent floods.

Beyond that, it's critical that we recognize the Federal dollars will never be enough, and that an ounce of prevention is worth a pound of cure. Much of our resilience funding has been focused on post-storm recovery, and we need to create proactive resilience -- resources for proactive resilience projects by establishing dedicated funding and financing options for both public and private entities. The Federal Storm Act has dedicated funding to capitalize a state-revolving funds for resilience. We need to enable, through legislation, a resilience program within the I-bank to take advantage of these

funds and help our towns fortify -- so, basically, that money looks a lot like how we all got water funding. So, the Feds opened up some money; we need to do that.

Separately, we need to have a dedicated EDA fund, specifically for private businesses. Water doesn't care about deeds; most of our work so far has been focused on public works construction, which is great, but private property owners are largely only able to get small loans that don't focus on resilience or, again, recovery funds once they've already lost everything. Additionally, we need to update and increase funding for successful existing programs like Blue Acres, the Shore Protection Fund, and DEP's planning assistance grant program, which is open to private entities, by the way.

Finally, we just have to put some guiderails around State investments and redevelopment of zone designations to ensure that our hard-earned tax dollars aren't washed away. So, in the coming weeks, we're going to have a lot of stuff about this somber anniversary. But, the only appropriate memorial for the people that are sitting up here, the people that lost their lives, is to take definitive action and past measures like those that will make sure that we're prepared for the next Sandy, and the next Sandy after that. This is our new reality.

So, thank you.

ASSEMBLYMAN KENNEDY: Thank you.

Next from NJPP, we have Alex Ambrose.

ALEXANDRA AMBROSE: Thank you, Chairman Karabinchak and Chairman Kennedy, for the opportunity to speak today.

My name is Alex Ambrose, I am the Transportation and Climate Policy Analyst with New Jersey Policy Perspective.

It is past time the State takes more action to secure the safety and well-being of our families, small businesses, and overall economic security. This month, as we've said, we honor the people who lost their lives in the deadliest storm in New Jersey's modern history. And, not coincidentally, just last month we honored the lives of those lost in the second-most deadly storm.

As someone who comes from a family of first responders, EMTs, police officers, firefighters, and more, I saw first hand the danger that these storms cause for frontline workers. And, fortunately, New Jersey is poised to be a leader in storm resiliency. First, we need to stabilize our current energy portfolio by reducing emissions; investing heavily in public transportation; elevating New Jersey union jobs in exciting new sectors like offshore wind and solar; and modernizing our grid. This will require a clean-energy-jobs bill, that will add not just jobs but careers in our state and it will help upload local standards for craftsmanship.

Second, we need to end the diversion of the clean energy funds that were started by Governor Christie and are continuing in this administration. Spending the funds as they are intended will open up more funding opportunities for projects that create a better and more resilient state.

Third, give the DEP full authority to regulate flooding on residential properties. As it stands right now, that authority is unclear, and it's clear that it needs to be affirmed with a Legislative fix.

Finally, as you have heard many people say, including Assemblyman McKeon, we ask you to join us in calling on the Murphy Administration to release the flood-zone rules and the New Jersey PACT rules

that were promised nearly three years ago. These rules will ensure that new development does not put families and small businesses in harm's way, just so a developer can make a profit. We need more housing in our state, and we need to make sure we don't repeat our past mistakes and wake up the day after a storm to headlines of people drowning in their own apartments like we did during Hurricane Ida. It is time to stop looking at the past for planning and look to the future on where to build.

I grew up in a house that was built in a 500-year flood zone, and one of my earliest memories is my father carrying my family through the waist-deep waters of Hurricane Floyd. We were fortunate enough to make it to my grandparent's house nearby before we faced imminent peril, but as you have heard, not all New Jerseyans are that fortunate. For too long, our state has been exploited by corporations that prioritize profits over people. We deserve a New Jersey that values those people over polluters.

After Sandy, you've heard some people say the motto went around, "We are stronger than the storm." I say we are also smarter than the storm. As we heard earlier, it's not a matter of *if* the next storm comes, it's *when*. So, let's be proactive now and plan for that future, and hearings like this are a great first step in that.

Thank you.

ASSEMBLYMAN KENNEDY: Thank you.

And, last but not least, Doug O'Malley.

DOUG O'MALLEY: Thank you; thank you, Mr. Chairman, thank you members of the Committee.

My name is Doug O'Malley, I serve as the Director of Environment New Jersey. We represent 80,000 citizen members and activists across the state.

And, I want to thank the many people that testified before me, as well as this esteemed panel of allies. We support strongly the testimony that you've heard.

I just want to take a moment, you know, we're here three hours into this hearing. But, you know, this is worth three hours. And the reason is quite simple. I think all of us can remember back to the days leading up to Sandy and the moments when Sandy was coming on shore and what that felt like for our communities, our families, and the people we know and love. And, I especially wanted to thank Assemblyman Guardian for his long-time role in leadership in Atlantic City, and as a municipal leader and former Mayor. AC was the bullseye of Sandy, and the shore was the bullseye.

And, after Sandy, as we just heard, we *were* stronger than the storm. But, it was a wake-up call, because there'd always been an assumption that there was going to be a big one, you know. Long-time residents of the shore will tell you about the Ash Wednesday storm that hit LBI hard in the '60s. Unfortunately, we don't have to go back to the '60s anymore. We don't have to go back to Sandy. You know, if you lived in Paterson in 2011, Hurricane Irene flooded your streets; it killed people. Sandy obviously didn't just hit the shore, it also created floodwaters in the Hackensack that impacted Bergen County in a way that created PTSD. And, I think that's one of the most important things to recognize here. There were billions of dollars lost during Sandy; there were lives lost.

Down billions of dollars lost, lives lost, but, literally, hundreds of thousands of people impacted and people are still not back in their homes. You heard from those people earlier this morning about what that feels like. Now, we have another decade. We have Ida, we have Elsa, Henri, we have, unfortunately, Ian. And, this is a moment where things *have* changed in the last decade, because you can actually see the storm surge come in. You can watch it on the Ring door cams. You can see what Fort Myers looked like; you can see what Naples looked like. And, that storm surge came so quick, and this is, I think, the scariest thing. George Santayana famously wrote, “Those who do not learn from history are doomed to repeat it.” And, in some ways, we are repeating that history right now. Because we *were* stronger than the storm, but we haven’t been smarter than the storm yet. We are still continuing to rebuild in those same vulnerable floodplains all across the state. And, as Alex Ambrose just testified, it can’t just be about getting ready for the next storm; it’s about taking action to reduce climate pollutants that are fueling these storms.

There’s a reason why people couldn’t evacuate from Ian. It’s because the temperature in the gulf had accelerated -- it sped up the storm. There’s a reason, obviously, Sandy hit us in late October a decade ago. We are seeing more storms, and that means that we need to plan for them. You’ve heard from countless people already, and Assemblyman McKeon spoke to this, countless testifiers, as well as the Commissioner of DEP spoke to this, about the importance of New Jersey PACT rules. And, Governor Murphy announced this with great fanfare more than two and a half years ago in Atlantic City.

It shouldn't go without notice that Atlantic City had to use their curfew horn earlier this week because of low-level flooding. A hearing on off-shore wind was cancelled in Ocean City because of flooding. Wildwood had flooding; you couldn't get off LBI on Sunday night because of flooding. And, that was, you know, not a hurricane -- it was the remnants, it was a nor'easter from Ian. But, you know, this is a reminder this is going to intensify. So, what we see with New Jersey PACT rules is an opportunity to do something about it; to plan at least, to make sure that we're not putting our communities, our people, our homes, our businesses, in harm's way. And, that was a promise of Executive Order 100; that promise is still not fulfilled. And, you'll hear later from Mike Pisauro from the Watershed Institute with a letter of close to 50 organizations across the spectrum calling on the Murphy Administration to act.

And, we would urge the Legislature to also urge the Murphy Administration to move forward. DEP has been working on these rules tirelessly; they started this process years ago. There were stakeholder meetings in 2020. There was flood data in 2020; we need more. And, what happened after Ida, that meant that the rules had to be altered -- ultimately strengthened -- because suddenly we were hearing the same thing that we heard after Sandy, "I've never seen the flooding so bad." More and more communities are saying that, and we know there's a certain amount of climate change that's already baked in, so we're going to be having to live with this.

The research from Rutgers University -- while it's sober, is alarming, a foot of sea level rise -- up to a foot of sea-level rise to the end of this decade. Up to 2 feet by the 2050s; up to 6 feet by 2100. That's going to change our communities forever, and we can't stick our head in the sand.

We can't just say this is a one-off; this is an Ash Wednesday storm; it's not going to come again. *It is coming.* And, that's why we need the Murphy Administration to move forward on the NJ PACT rules, on the flood hazard rules, to give us a chance to accommodate not just Sandy, but going back to 1999, the flood data is that outdated.

So, it's time to move into the future. It's time to learn from the past, and to make sure that we're not putting more of our residents and communities at risk.

Thank you so much, Mr. Chairman.

ASSEMBLYMAN KENNEDY: Thank you.

Are there any comments from the legislators? Questions?

Yes.

ASSEMBLYWOMAN PIPERNO: I just want to say thank you to everyone. I know some of the other panelists have exited, but it's fascinating, gut wrenching, and eye opening in so many ways. From the simplest questions of how do you help people fill out forms? I tend to be one of those that struggles myself, you know, so just imagine a senior or somebody in a different scenario.

To the element of is there need for better communication between services and groups, whether it's Stevens, Rutgers, all of your groups and agencies are trying to do back to these State departments -- how are we working in tandem to really facilitate and take action?

And then, you know, this, again, I speak from both sides of my heart in that I'm a new legislator, but I'm a working mom. I'm still in it as a regular person, and it doesn't make any sense to me to know that building residential communities are being built in vulnerable areas, or the repair is to

band-aid what is already existing and not kind of be, you know, just forward thinking of, “All right, everything’s got to go up or we just are so sorry, it seems like an inconvenience and emotional tear, but we can’t live here anymore.”

So, those are some tough conversations. We have great leadership with our Chairman and all of the colleagues on both sides here. We all take this very seriously and want to do the right thing, so I look forward to listening and learning and seeing what we can do.

Thank you.

ASSEMBLYMAN KENNEDY: Thank you.

Anyone else?

ASSEMBLYMAN KARABINCHAK: OK, thank you so much for your testimony, we really appreciate it. It was, again, very informative.

We have the last panel. I’ll state your names. Please come up to the front.

Eric Benson, Lori Kaufman, Jennifer Coffey, Ben Haggard, Michael Pisauro, David Pringle, and Allison McLeod -- I said it wrong, and I definitely apologize.

A L L I S O N M c L E O D: It’s (indiscernible), no worries.

ASSEMBLYMAN KARABINCHAK: So, unfortunately, I was just informed we have to be out of this room in a short period of time, so we’re going to have keep you to three minutes, if that’s OK. I apologize.

Please, Eric, start.

E R I C B E N S O N: All right, thank you.

Very open-ended question you had on the agenda today. I think you are a glutton for punishment. And you’ve been very gracious with the

clock, so, I don't get the bully pulpit often, and I do thank you for the opportunity to speak today.

I am Eric Benson, Clean Water Action. I want to state that we are in an emergency here. We have not learned our lessons from recent superstorms, and we are not ready for the next. And, we are certainly not doing enough to prevent them from getting any worse. Air pollution, climate change emissions, and flood zones are putting people's lives in jeopardy every day.

New Jersey is one of the most vulnerable to the devastating effects of climate changes when it comes to the cost of people and property. One year into Governor Murphy's first term, the IPCC issued a damning report. We have until 2030 to reduce global emissions by 50%, or else the effects of climate change will be worse and they will be irreversible. The Governor and his agencies acknowledged, you know, recognized the urgency and need for action in press conferences, in public appearances, and on social media. But, I'm sorry to report that the State's actions, to date, are not doing enough to minimize future harms.

Just today, we heard DCA, DEP recognized that we should not be rebuilding in some areas because of flooding. But, the DEP has failed to act to even propose rules and regulations to prevent new developments from being built in emergent flood zones.

Transportation is the Number 1 source of emissions in New Jersey. The Turnpike Authority has a \$5 billion plan to extend the 178 turnpike expansion. It's going to increase emissions, increase air pollution, and increase congestion. At the same time, New Jersey Transit has also been slow to electrify bus operations. Electric buses would reduce emissions to

provide cleaner air in communities they serve on day one. New Jersey Transit is also cutting off their nose to spite their face; building a gas plant in the name of resiliency.

The only way we're going to get out of a hole is to stop digging. There are five additional major fossil fuel projects proposed throughout the state. We need to stop these and any new additional major fossil fuel projects. We missed an opportunity this past budget; we could have minimally used a tiny fraction of the State's historic surplus this summer to restore this year's rates on the Clean Energy Fund and New Jersey Transit Capital Funds. Next budget season will be here before you know it.

I understand there is a lot more at play whether we meet this global challenge to 50% cuts. New Jersey is not the only one here, but we have too much to risk, to lose. And, we have the resources and the knowledge to stand out as a national leader. As you've seen from the effects of Hurricane Sandy, Ida, and countless unnamed storms, the cost of an inaction to property and lives is too high.

Thank you for the opportunity.

ASSEMBLYMAN KARABINCHAK: Thank you so much.

Lori.

L O R I E. K A U F M A N: Good afternoon, Chairman, Committee members.

My name is Lori E. Kaufman, and I am the Law and Policy Program Manager for the New Jersey Environmental Justice Alliance. The New Jersey Environmental Justice Alliance is the oldest statewide organization with regards to environmental justice created by and for people of color.

I am here to discuss the overburdened communities and their place at the table, as we discussed, the climate change issues they are, unfortunately, subjected to -- excuse me -- that is very hard for them because they lack the resources that they need to survive in this area. We would like you to remember to include them when you're having discussions about (indiscernible). Many times, people of privilege do not consider the overburdened communities. And, I will use three examples.

My former Mayor is one of them, as he is from the town that I grew up in. I was blessed in Sandy, when my mother and I were home -- my mother is now deceased, so it kind of brings back that memory. My area of Rahway does not flood; I did not take on any water. We did lose lights -- we never lose lights, because we are usually on the same electric grid with the prison, which (indiscernible) is not in Rahway. Because we are on that grid, we always had lights.

However, my neighbors on the other side of town were not that blessed. They were in rowboats. They were in rowboats again for Ida. They are dying -- and when I say dying, they are pressed for answers to come about, because when it rains in Rahway, particularly on that area of the city, it is a tragedy as to what they encounter. Rahway is an over-burdened community.

Elizabeth -- the people of I believe it's called Oakwood Plaza, were moved from their homes after Ida. They are not back. They were sent to areas that did not have public transportation; they did not have their support system there; they did not have their doctors there. Nobody considered that when so-called helping them.

The final group is the people of Monmouth County. I am a trial attorney by trade. I was representing parents and their children in the court

system at the time of the aftermath of Sandy. Not only did they lose their homes, there was no place for them to go. Because it was in the shore area, they could get seasonal housing, which meant I could house you from November to May. After that, good luck, there's no place for you to go. This is something that we must ask you to consider when you're looking at these issues, and please, think of these poor people, because they're in desperate need of help.

Thank you for your time.

ASSEMBLYMAN KARABINCHAK: Thank you.

Is Jennifer here?

No? Well, we'll just go on to Ben.

MICHAEL PISAURO, ESQ.: Good afternoon, my name is Mike PISAURO--

ASSEMBLYMAN KARABINCHAK: Oh--

MR. PISAURO: Policy Director for Watershed Institute. We are a watershed association working in Central New Jersey and throughout the state.

You've heard a lot-- Assemblyman McKeon referenced the Commissioner of DEP's statements at the August hearing. One thing the Commissioner said, and sort of going to the basic question of we're here today: Are we ready? The Commissioner said, loudly, clearly, and without hesitation we are not ready.

And that's a problem. You've heard from the people affected by Sandy; you've heard from tons of people. The problem is, we have some tools available to us to help us get ready. We are holding those. And those are those NJ PACT rules. You have in front of you a letter that was sent to the

Governor and others this morning as a follow-up. Doug mentioned 49 organizations that have signed onto it.

Let me put some, really, facts. You know, I attend -- when I was in private practice as an attorney, as an environmental and land-use attorney, I've attended planning board and zoning board meetings. I've probably attended hundreds of those; I was supposed to go to one tonight. The one thing that everyone talks about: Flooding. They are already flooding. Hillsboro, Manville, Montgomery, Rocky Hill, Cranbury, West Windsor, Lawrence -- they are all flooding. And these developments are going to make it worse. They're going to make it worse for two reasons: One, as was alluded to today, our rules are outdated. We use 106 years worth of data that ended in 1999. So, we have 22 years worth of storms and rainfall that we don't account for. That means our systems that we designed to manage stormwater are undersized and not doing its job.

There was a project that was supposed to go forward tonight that's over 537,000 square feet of building. Not including roads and parking lots, that was going to add, under our current rules, additional 2 million gallons of stormwater to Manville. But, because we undercount our storms, you can add another 330,000 gallons of stormwater that's going to run off our site, to places that already flood. We're already putting people in places that we know flood, because we haven't updated our maps. We can stop this; we can update this; but emergency rules are going to do that.

The second thing I would suggest this Committee and others should look at is we are highly densely developed. We continue to develop, and as Assemblyman McKeon said, we still need to develop. But, those developments are considered locally and not regionally, so the impacts on

one town are not considered. Assemblyman Verrelli, you have a project, and you commented on this in your district, that is on the verge of another district, another township that is going to send millions of gallons of stormwater and flooding from that site. But, those neighboring communities have no say. We have to stop thinking of our development patterns as one town by another, because those impacts are regional, and that goes against centuries and decades of home rule. But, we cannot afford the people you heard from today that are still out of their house cannot afford for us to continue to do things as we've always done. We have the tools, but we need to start to use them.

And, I thank you for this opportunity.

ASSEMBLYMAN KARABINCHAK: Thank you so much.

David.

DAVID PRINGLE: Thank you, Mr. Chairman.

Representing Empower New Jersey, which is a coalition of over 100 community religious, local, and statewide groups, focus on moving New Jersey as soon as possible to 100% clean energy economy with good jobs, offshore winds, solar, retrofits efficiency, etc. And, to stop making things worse in the meantime by permitting major new fossil fuel projects, poisoning the air, especially in overburdened communities.

Really, I want to thank you for this hearing. We cannot focus enough on the issues before us today until we get our act together, and we do not have our act together. I am going to focus my testimony on three points: Resiliency, mitigation, and assistance. In short, we have not learned enough from Sandy and Ida, and what little we have learned, we have applied even less. It's not even close.

The science is very clear: We are in a climate emergency, and it's only getting worse. Even if we don't emit more air pollution, we're still going to get sea level rises baked in for the next 30 years because of how long CO₂ lives in the atmosphere. And, the human race is responsible for this. Governor Murphy has said regularly, especially right after -- has confirmed this regularly, especially right after Ida -- New Jersey DEP Commissioner LaTourette spoke very powerfully about all of this at the hearing in Toms River before the Assembly and Senate Environment Committees in August. If you haven't heard that testimony, I urge you to listen to it; it's on your website.

So, resiliency. There is a lot we can't control with climate change. Obviously, even if we do our part perfectly on the air pollution side in New Jersey, there's still going to be climate change. On resiliency, we can control that. We can control whether we put people or property in harm's way or not. We've talked about it, there's a bunch of rules that are out there; Governor Murphy ordered them to be adopted two years ago to be proposed a year ago and to be opted and implemented eight months ago. As recently as May, they announced they were going to do emergency rules adopted and going into effect in June, and there's been silence. Despite legitimate delays because of COVID -- even with those legitimate delays, they keep promising, they keep promising, they say it's an emergency, and they're not delivering.

So, we urge you to push the administration to move forward. It's not complicated; it doesn't matter how good or bad the Governor's record is on other issues; these rules are ready. They're ready to go, the only matter is the political will. Are you choosing developers putting low-income housing where people die from drowning, and whether you're going to make DOT

build better roads that flood less? They don't want these rules because it's going to cost more, so they'll either build fewer bad roads or they're going to have to raise more money to build the same roads.

On air pollution, we need to do our part. We -- if New Jersey isn't leading, the country isn't leading, the U.S. isn't leading, you know, we're all screwed. So, we have to do our part perfectly. The solution also creates more jobs. So, it's not -- this one is a no-brainer; it's good for the environment; it's good for the economy. You need to push this administration to reduce more air pollution faster and to not make things worse in the interim by permitting -- currently pending before this administration -- seven fossil fuel projects that would increase emissions over 30% if they were approved when we're supposed to be reducing them by 50% by 2030 and 80% by 2050.

Finally, my third point on assistance, very quickly. I attended both hearings -- the DCA and FEMA hearings -- a couple weeks ago in Manville and in Newark. The stories flood victims told from Ida are heart wrenching. You know, we all complain about how slow and imperfect on a good day Congress is. Congress actually did something right on this one. Only a couple weeks after Ida last year, they appropriated billions of dollars for storms like Ida. DCA in New Jersey and FEMA have sat on their hands for the last year. Hundreds of millions of dollars are there to assist flood victims from Ida. And it isn't -- not only has not one penny been spent, but DCA is announcing that they're not going to spend any money for at least another six months, and there's nothing they can do. Talk about not knowing how to be an advocate.

People are dying, people are hurting. One story, just very quickly, from the Manville hearing: There's a guy who is in a Catch-22; he can't upgrade his house until he gets certain approvals. They won't get those certain approvals until he has the money to do it. So, he's stuck. So, what is he doing? He's living in an RV, in his driveway, with his two young kids. That's unacceptable. We need advocates to be pushing at all these three fronts.

So, thank you for the forum to do this. Please, do your part and be similar advocates.

Thank you.

ASSEMBLYMAN KARABINCHAK: Thank you.

Allison.

MS. McLEOD: Thank you, good afternoon, and thank you Chairman, members of the Committee. I also thank you for your stamina to hear all of this today.

My name is Allison McLeod, I am the Public Policy Director for the New Jersey League of Conservation Voters. But, today, I appear before you not only in that role but also as a New Jerseyan; someone who grew up at the Jersey Shore in the 11th District, Assemblywoman, and you know-- I could tell you all day, just like people have said more eloquently before me, about the personal stories of Sandy. I can tell you as the wife and daughter of a first responder the fear that you feel when these storms are coming.

But, other people have said it far more eloquently before me today. So, what I do want to say that nobody has brought up yet that I think is so important is that I wish I could say that after Superstorm Sandy, we did all the things; we were resilient; and we were ready to go for the next storm.

Because we know the next storm is coming. But, unfortunately, I can't say that.

And, what I can share with you, is that during Hurricane Ida, in the City of Elizabeth, all four New Jerseyans that lost their lives were in affordable housing. I think that bears repeating: Every single person in Elizabeth that died was in affordable housing. So, that's clearly a failure in policy, a failure in preparation, and we heard today about a lot of heart-wrenching stories. But, I think as the final speaker, what I want to leave you with is what can we do to prevent that and to be, you know, stronger than the next storm and smarter than the next storm, as other folks here have said today.

So, a couple concrete actions that we can take: One is looking at RSIS standards, as Mike mentioned, and making sure that municipalities have the legislative authority to go a little further, to be more protective, because they know their municipalities and the areas that flood very well. Obviously, carbon mitigation is the long-term solution, but in the immediate, the New Jersey protecting against climate threat flood hazard standards that are currently not proposed by this administration but have been talked about for a long time -- if those were to move forward, that doesn't tell you you can't build anything ever again. What it tells you is to use the most current data that we have in order to make smart, informed choices about where and how we build.

And, if what you read out of that is, "Well, I can't put my affordable housing here because it's going to flood," I think as a society we need to say, "Maybe you shouldn't be putting affordable housing there." We shouldn't continue to put vulnerable people in vulnerable places.

So, I ask you to consider those facts today so we are smarter than and stronger than not only the storms that came yesterday, but the storms that we know are coming tomorrow.

Thank you so much.

ASSEMBLYMAN KARABINCHAK: Thank you.

ASSEMBLYMAN KENNEDY: I'd like to thank you also as well. And, I guess that-- You have a question? OK. Just when you thought it was done.

ASSEMBLYMAN GUARDIAN: I'm sorry for the length that we're all spending today.

But, I can't leave here without addressing my thank you for specifically talking about people of color being the most negatively affected by these storms. I'm talking in Atlantic City, so I can't talk for the whole state, but I can talk for my city.

These are individuals who have bought their home. They're probably townhouses, they're 120 years old, they're worth \$100,000. They're barely getting through, but they're happy to be homeowners. With the \$150,000 from the State and the Federal Government, it's not enough to raise their home. And, a \$100,000 home is not worth spending \$200-250,000 raising.

But, we should not be putting poor people into public housing. We should simply be rebuilding the homes that they can't afford to do themselves, because they can afford to live there and they can afford all of the qualities that come with homeownership.

So, I want to thank you for bringing that to our attention. I think it's very, very important that all of these programs are helping poor

people. And, when you talk about poor people, unless we've got our heads in the sand, we know we're talking about people that are people of color more than not color.

So, I want to thank you, and I want to tell you, we just need to move forward in providing better housing -- individual housing -- for people and not putting them into public housing. And, I never go through a week that I don't hear terrible stories about how bad public housing is everywhere. It's great when it's new, but 20 years later, somehow, we can't maintain it. So, the government doesn't do a good job of housing; people do a good job of housing, but let's help them.

So, I thank all of you that have commented to that. And, thank you, I'm sorry--

ASSEMBLYMAN KENNEDY: Not a problem.

ASSEMBLYMAN GUARDIAN --for talking when we've been here for three or four hours.

ASSEMBLYMAN KENNEDY: Thank you.

And, last but not least, to quote the great Bugs Bunny, "That's all folks."

(MEETING CONCLUDED)