SANDY HOOK ADVISORY COMMISSION

FEBRUARY 15, 2013

9:36 AM

Legislative Office Building

Hartford, CT

SCOTT JACKSON, Committee Chair
ADRIENNE BENTMAN
RON CHIVINSKI
TERRY EDELSTEIN
KATHLEEN FLAHERTY
ALICE FORRESTER
EZRA GRIFFITH
CHRIS LYDDY
PATRICIA KEAVNEY-MARUCA
DENIS McCARTHY
BARBARA O'CONNOR
WAYNE SANDFORD
HAROLD SCHWARTZ

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AGENDA

I. Call to Order

II. Diane Harp Jones - Chief Executive Officer, American Institute of Architects - Connecticut Chapter

III. Connecticut Architects

Randall S. Luther - Tai Soo Kim Architects

Richard Munday - Newman Architects

Richard T. Connell - S/L/A/M Collaborative

Jim LaPosta - JCJ Architects

IV. Kenneth S. Trump, President, National School Safety and Security Services

V. Mila Kennett - Project Manager, Federal Emergency Management Agency (Infrastructure Protection and Disaster Management Division)

VI. Robert Mahoney - Executive Director, Emergency Management Group

VII. Other Business

VIII. Discussion

IX. Adjournment

(The proceedings commenced at 9:36 a.m.)

CHAIRMAN JACKSON: Thanks for coming out this morning. Thank you to the members of the panel for digging yourselves out and being here today. This is the meeting of the Sandy Hook Advisory Commission for February 15th, 2013, and I'll call this meeting to order at 9:36.

I would ask the members of the panel to introduce themselves so that the people in the audience and those watching on television know who we are. We'll start from my left.

COMMISSIONER FORRESTER: I'm Alice Forrester. I'm the Director of Clifford Beers Clinic in New Haven, Connecticut.

COMMISSIONER CHIVINSKI: Ron Chivinski, Newtown School District.

COMMISSIONER McCARTHY: Good morning, Denis McCarthy, Fire Chief and Emergency Management Director for the City of Norwalk.

COMMISSIONER SULLIVAN: Bernie Sullivan, retired Police Chief for the City of Hartford, former Commissioner of Public Safety and also had the pleasure of spending eight years up here as Chief of Staff to two Speakers of the House.

COMMISSIONER GRIFFITH: I'm Ezra Griffith. I'm a faculty member in the Department of Psychiatry at the Yale

School of Medicine.

COMMISSIONER FLAHERTY: Kathy Flaherty, Staff Attorney at Statewide Legal Services and Mental Health Advocate.

COMMISSIONER SCHWARTZ: Harold Schwartz Psychiatrist-in-Chief at the Institute of Living and Vice President for Behavioral Health at Hartford Hospital.

COMMISSIONER O'CONNOR: I'm Barbara O'Connor, Chief of Police at the University of Connecticut.

CHAIRMAN JACKSON: Scott Jackson, Mayor of the Town of Hamden.

COMMISSIONER SCHONFELD: I'm David Schonfeld. I direct the National Center for School Crisis and Bereavement, and I'm also Pediatrician-in-Chief at St. Christopher's Hospital for Children in Philadelphia.

COMMISSIONER BENTMAN: Adrienne Bentman, I'm a psychiatrist, and I'm the Psychiatry Residency Program Director at the Institute of Living, Hartford Hospital.

COMMISSIONER SANDFORD: My name is Wayne Sandford. I am a professor at the University of New Haven in Emergency Management and Fire Science. My background is in as Deputy Commissioner of Emergency Management and Homeland Security under Governor Rell and the Fire Chief in East Haven, Connecticut.

COMMISSIONER EDELSTEIN: I'm Terry Edelstein.

I'm Governor Malloy's nonprofit liaison.

COMMISSIONER KEAVNEY-MARUCA: I'm Pat Keavney-Maruca, retired special education teacher and member of the State Board of Education.

COMMISSIONER LYDDY: Good morning. My name is Christopher Lyddy. I'm the former state representative from the Town of Newtown. I'm also a clinical social worker, and I work for a company called Advanced Trauma Solutions here in Connecticut, which disseminates a model of therapy for children and adults with psychological trauma.

CHAIRMAN JACKSON: Thank you all. A few pieces of housekeeping. The first one you've all done. Remember this is being recorded so please use your microphone, and when you're completed turn them off so we don't get any feedback. One of the things that came up at the first meeting was that this process works best when you have a recorder helping organize some large thoughts into manageable chunks, and I'm happy to report that we have such a recorder now, Professor Susan Schmieser from the University of Connecticut Law School will be joining us and assisting us in this project.

Today is a day where the educators who lost their lives at Sandy Hook Elementary are being honored by the President of the United States. This is a good day to

continue our meetings. I want to thank Ron for securing the Newtown ribbons for us that we are wearing today in commemoration of this tragedy, but the tragedy gives us impetus to move forward, and that is what we are doing.

Today, I also want to thank Bob Ducibella, who could not be here. Bob helped coordinate today's panel, which is going to focus in on design issues as we construct schools and public spaces. It's certainly one of the elements that we need to address as part of this panel. So we have a group of qualified experts to come before us and give us some information on design and make some recommendations so that moving forward we can make sure that our schools and public spaces are as safe as they can be.

So with that I would like to call Diana Harp Jones, Chief Executive Officer of AIA Connecticut. Or not.

MR. CONNELL: Good morning. I'm speaking on behalf of Diana Harp Jones. My name is Rich Connell. I'm a current director and last year's president of AIA Connecticut.

As the Connecticut chapter of the American Institute of Architects, we represent the Connecticut architectural community and by extension all design professionals, architects, engineers and a host of specialty consultants who provide design solutions for

Connecticut Schools.

AIA Connecticut came together very quickly after the tragedy in Newtown and like so many others, considered ways in which we could assist in the dialogue on making our schools safer. We thank you for the opportunity this morning to share our thoughts on this very important issue.

We have four presenters here this morning, four architects who have devoted their careers to designing state of the art learning environments for Connecticut schools. They are Jim LaPosta, a principal and chief architectural officer at JCJ Architecture in Hartford; Richard Munday, a principal at Newman Architects in New Haven; Glenn Gollenberg, a principal at the S/L/A/M Collaborative Architects in Glastonbury; and Randall Luther, a principal at Tai Soo Kim Architects in Hartford.

Our agenda for this morning will cover five areas as we consider safe school environments beginning with an introduction covering the context threat assessment and creating safer schools while enhancing the educational environment, continuing with an understanding of situational awareness planning. Then we'll follow with the discussion on physical environment that delves into schools as centers of community and specific safe and secure site and building design principles. Considering an extension of these principles, we will look at examples of enhanced

protection that can be achieved through building systems such as secure walls, doors and windows. Finally, we will conclude with AIA Connecticut's recommendations related to a process for existing schools as well as new construction or expansion of existing schools.

And with that, I would like to begin our presentation with Jim LaPosta.

MR. LaPOSTA: Rich, thank you. Good morning, and thank you for the opportunity to present to you this morning. My name is Jim LaPosta. I am a principal and chief architectural officer with JCJ Architecture here in Hartford, Connecticut, and I have been involved in the design of school environment here in Connecticut for over twenty-five years. That's been my exclusive focus.

My role this morning will be to set some context around the conversation. As architects and design professionals, our world revolves around context. It's about understanding the impacts and the relationships between the built environment and the way human beings interact with them.

We want to talk a little bit this morning initially about the context of threat assessment, about the context of safe schools. As horrific and unspeakable as the tragedy in Newtown was, it's not the only hazard that we face in the school environment. There's some statistics

from the Department of Education and Department of Justice that do show that while in fact there is a one in one million odds of losing a child to homicide or suicide, the much more real threat has to do with bullying, with being threatened or injury in a school with petty theft, with lots of environmental issues that may be fire, may be hurricanes along our shoreline, and in fact, it may even be seismic events as we're finding out even in New England.

So we're going to cover a wide range of threats today. We're not simply going to focus on the most horrific, but we do, in fact, have to think about every possibility.

You can see the number of people that are in school buildings every day, quite literally, almost a fifth of our entire population as we speak with the exception of probably some districts here in Connecticut are actually in school right now. There are over six million teachers. There are some 53 million students. So this is obviously a critical issue. We're not telling you anything you don't know, but we always find that it's helpful to begin with some context setting.

One of the things we also know as design professionals is that every one of our school buildings, every one of our sites is unique. There really are no two buildings alike. That's especially true in New England and

the State of Connecticut where we have small towns, big cities. We have rural areas. We have urban areas. So there will be no one-size-fits-all solution, and that's something you'll hear repeatedly during the day today.

We also know that there's no risk-free environment. We can mitigate risk. We can delay risk. We can control risk, but there really is nothing we can do to guarantee a risk-free environment through either intervention on the social side or through intervention as you work through the physical environment.

What we can do, however, is we can engage in a threat assessment of our buildings. One of the things that we always concern ourselves with is learning from what happened before. We've learned from Columbine. We've learned from Paducah. We've learned from Virginia Tech. We've learned from many, many horrible events that have happened. We've learned from fires in our buildings. We've learned from other kinds of hazards, whether they be biological, chemical or bullying, as we mentioned before. And we learn a lot, but what we haven't learned yet is what's going to happen next, and we always run the risk of responding to the last event and not anticipating the next event. While it's very difficult to know what will happen, we have to play what-if scenarios and begin to think about in our buildings what can happen that we have not yet

anticipated.

One of the ways we do that is that we look at our buildings with what we would call a defense-in-depth strategy. This is looking at every component of the building and the site and understanding how we would both control and prevent hazards in those areas. We start with the edge of the site as you approach a public space or a school ground. How can we make that more secure? When you're on the site outside of the building, what's the security protocols and the ability to secure that part of the site? The perimeter of the building itself, the doors, the walls, the windows, the points of entry, how do we secure those? What can we do to make those much more secure? The internal circulations, the hallways, the stairwells, things can happen there, and then lastly, when we're talking about schools, the final destination, the classrooms, the gymnasium, the office, the places inside.

Now, we've listed these in order as if you were approaching the school building, but the reality is that hazards can arise in any one of these locations and move forward, backward, inside and out. We can't only concern ourselves with the person from the outside who is insistent on doing harm to our children or our teachers. We also have to worry about something that may originate within the building, and if it happens, how do we know about it? How

do we understand it? How do we respond to it, and how can we contain it? Whether that is a bullying incident or something as horrible as a student with a gun.

So we're going to talk today about various strategies and methodologies that not only will provide safe and secure schools, but also secure schools that, in fact, focus on learning. At the end of the day these schools are about education. These are about warm, nurturing, protective environments where our children can learn to become productive citizens of our country. How can we utilize protective design to enhance the educational experience? Clearly, if someone feels safe and secure and comfortable, one would think their learning will increase. If someone is feeling anxious and nervous and somewhat threatened, people focus on different things.

One of the things about learning is it needs to encourage open environments, conversation, cross-communication, all of the things that would seemingly fly in the face of security, and we're going to demonstrate today, we believe, some principles where we can provide both of these.

We need to engage the parents and the community. Schools work best, we know, when parents and the community are involved. Schools are more difficult to secure when parents and the community are involved. So how can we find

strategies to do all of that?

And most importantly, when something unexpected occurs, and something unexpected will occur, how can we manage that situation? How can we work with first responders to make sure that we minimize the harm that can be done in those environments?

It's a kind of a well-known premise within at least our profession and within many educator's professions that the environment that people are in is called the third teacher. The first teacher is that classroom teacher at the front of the room who is actually running the class. The second teacher are the children's peers. We learn from each other. We're learning today from each other in this environment. Students learn from each other.

And then the third teacher, and this actually comes out of the Montessori tradition and the Reggio Emilia tradition is actually the third teacher, how you feel in a room; the signals that it sends to a student are the things that impact how they learn and how they feel.

The two images that are on the screen each evoke I think in you a different feeling. If you look at the image on the left, which is a fairly traditional 20th Century classroom designed around a certain method and model of education, you immediately understand how you should behave in that room. It gives you a sense of how

you would feel in that room. Most of you can probably hear the scratching and screeching of those desks as they move around when you come in the classroom because we've all been in that room. We know how uncomfortable those chairs are. We know the way we're supposed to behave.

The photo on the right is, in fact, an idea of what a more 21st Century learning environment looks like now and will look like in the future. It sends a different signal about how we behave, how we feel. It has different characteristics. It has a different way of being secure, and we're going to talk about how both of these can provide both good learning environments and secure learning environments.

At the end of the day, the buildings we create really reflect the world we want to live in, and part of this conversation is about the kind of world our children will live in.

With a school building, the influence is even more important than perhaps providing a secure environment in a business environment. We're adults. We're certainly mostly formed. We have our world view by and large, and it changes, but it's not impacted as much.

When children are in their school environment from preschool through college, that's a lot of time and a lot of years in an environment. And how does that

environment impact them? How does the way they feel impact them? And what's the ripple effect for that environment as they move out into the world? How will that impact society 20 or 30 years from now as they become adults, as the environments we've put them in begin to form their world view and their personalities. That's something we're very concerned about. We know it's something you're concerned about, and it's a conversation about what our schools should look like.

We know how to design secure buildings. We've been designing secure buildings for millennia. This is probably the prototype of a secure building, but is it a school? Is it the kind of building that we want our children to be in every day? So the real question is, how do we fortify our schools without creating fortresses out of them?

This is a modern example now in a different culture, in a different context. This happens to be a school in the Middle East. It sits in a very different kind of situation with a very different social construct. There is a school behind that wall. It's a very secure school. There's a couple of things we could comment on. One is, it doesn't really say, welcome. It doesn't really say, we're a school. It keeps people out, but actually we've talked to some first responders about this, and they

have no idea what's going on inside. Not only does it keep people out, but if there's something happening inside, it keeps the help away, and it also keeps information from flowing.

There are other ways to go. We can make welcoming and open schools that are secure that have single points of entry that say, I'm a school, that say, you're welcome here, but can, in fact, in a crisis be closed down very quickly and can create an atmosphere of safety.

Excuse me. 21st Century learning is not about closed rooms and cells and doors. It's about openness and windows and classrooms that spill out into the hallway and learning that flows seamlessly from formal to informal settings. It's about buildings like this one that we're showing where students gather outside of rooms that have teachers that look out of windows, that have windows out to hallways that begin to allow for the serendipitous encounter and for students to begin to preview and understand learning in a way that's different from the lecture and recitation method of the 20th Century, more project hands-on, project-based learning of the 21st Century.

We need to think about outdoor environments. How do we secure children when they're outside? It's not about just being inside. Learning happens everywhere. Learning

happens on the playground. Learning happens in parks. Learning happens on the playfield. There are many, many hazards we need to think about outside of the school. How do we shelter them? How do we support them outside of the building?

So really what we're talking about is something we've called the educational ecosystem. It's about buildings for sure, but it's also about the people in those buildings. It's also about the technology that can support our need for safety and security. We need to really expand the conversation to include all of these elements.

And in all of these the key component of a safe and secure school is this idea of situational awareness. Can our buildings and can the people and can the technology in this ecosystem help us better understand what's going on? How do we assess the conditions that we're in? How do we know what's around the corner, and if something happens, can we delay it? Can we buy those two or three minutes it takes for a first responder to arrive? On average in Connecticut, first responders are on scene in two to three minutes. In a rural area, it may be five. In a city, it may be two. That's not a lot of time that our environment needs to delay a threat, and we can show you examples today of how we can do that. The threat can be delayed by seeing it happening ahead of time or simply by slowing the

aggressor down.

And then finally, how can we protect those at risk? And there are multiple strategies. Our buildings can help protect those at risk by providing secure places for people to shelter in place. It can also help to protect those at risk by providing the safe and quick escape route. We've been doing this for years in fire safety. We always have multiple routes out of a building. There's no reason not to apply those same principles to thinking about other threats in the school. Are there ways to quickly and easily move away from the threat to either a secure environment or off-sight under the direction and control of first responders?

We can't prepare for what we can't see. We've had several discussions with responders in preparation of this presentation and certainly as we design our schools, and there are many things about situational awareness, and most of it is about knowing what's going on. It's about previewing what's happening so that you know about it as soon as possible. It's about delaying the threat, as we talked about, from having any impact on the occupants of the building so that they can move away. If something's happening, it's when the first responders arrive on the scene. Can the building help them understand what's going on? Can they understand the event in progress? Can they

see with either their own eyes our technology in the building, and then can they be informed, and can they expedite their response? And the built environment can assist in all of these through both the people, the technology and the physical building itself.

One of the things we can do is to help first responders. We certainly are recommending and will recommend that we partner with them in the design of school buildings. We'll have more specific recommendations. All the first responders need to understand our site and school buildings. Certainly, the fire departments typically do. Police Departments it seems to be catch as catch can. And it's not just about understanding the physical plant. It's understanding where the kids are, what the schedule is, who should be in the building, the hours of operation.

There's a value of having multiple entry points to the school that are, in fact, known in advance to the first responders in the school district and are part of the operational planning. All of these are things that can be planned in advance with design professionals, with school districts, with first responders.

If we start with people, staff, educators, support staff in the building, they become really the first line of defense. If something looks out of place, if our buildings are designed so that they're -- people understand

when something looks abhorrent and behavior is abhorrent, that will help to give us the preview that we need.

Parents. Parents know what goes on in the town, in the community. Parents are a good source of information. Parents know what should be happening in their school, and parents will know when something is out of line.

But if you really want to understand what's going on in a building, it's the students. The kids know what's happening. They share it on the social network. They share it on their cell phones. They share it with each other. The question is, can they share it with adults in a safe and productive way, in a safe way. So leveraging the students and the students' intelligence gathering about their own community and their own school is an important component of this ecosystem.

Technology is certainly available. Technology is used. Technology often becomes a forensic tool as opposed to a preventative tool. It can extend the eyes and ears of the school personnel, of first responders, but very often it becomes a way to figure out after the fact what happened.

Voice communication is becoming increasingly important. We all remember growing up in schools with the intercom, with the phone in the classroom. Those days are

long gone. We have much more robust communications. One of the things we need to do in our school buildings is make sure that not only to radios work for school personnel and first responders, they need to be tested. They need to understand they work. We need cell coverage. Many schools as part of their educational environments are going to a concept called bring your own device. Students bring a tablet, a smart phone to school, and they're allowed to use it as part of their educational environment. They look things up. They engage in activities in the classroom.

One of the things that I've heard from many chiefs of police as we've talked to them is that that's also where they're going to get a lot of their information because if something goes wrong, the kids are going to pull out their cell phones whether it's against school policy or not, and they're going to start making phone calls to their parents, to 911, to their friends. So we want to make sure that we have cell coverage in the schools because while it becomes an important part of the educational environment, it also becomes a critical component to both responding to and mitigating any hazard that's happening in the building.

And then lastly on the technology side is this idea of a converged network. What we mean by that is as technology becomes increasingly sophisticated in our school buildings, we can tie the network, the communications to

the first responder network. There's really no reason that as someone rolls up to the school they should not be able to patch in to the video cameras in the building and have complete and utter control of the building from their cruiser. If you watched the Superbowl, you saw a commercial where a dog got the heat turned on remotely by his owner from his cell phone. We have the technology now. We can put it in our homes. There's no reason we can't begin to think about this technology in our schools where we begin to allow first responders and other personnel to really assess the situation using the tools we have and being able to see it on your smart phone, on your tablet, to control the building from an access point other than the main entrance that's preset and predetermined, but the technology solution is there to help us respond quickly and effectively to a crisis.

And then the last component and the one that we're going to spend the rest of our presentation on is, of course, the thing that we spend most of our time on as architects, which is the physical environment. And just to reiterate, the physical environment is not just the school building. We have many strategies that involve the school building, but it is also the playground. It's the play fields. It's the parking area. It's the drop-off area, and by extension, it's where the children are picked up by

the school bus. It's the walking routes to school. It's the safe routes that they have to get to their school campus. It's a very broad topic and a lot of areas that we can look at, but it is, in fact, a large component of what we can do to make our schools safer.

With that, I would like to turn the microphone and the podium over to Richard Munday, who is going to go through a variety of very specific and thoughtful recommendations about how we can make our physical environment safer, more secure and better for learning. Thank you.

MR. MUNDAY: Thank you. My name is Richard Munday. I'm an architect and principal of Newman Architects. We're a firm that has been designing for learning for over 40 years. I, myself, have been engaged in the design of schools since the mid-1990s and have worked almost entirely on that type of school.

I was, in fact, meeting with a principal at the -- on the day and at the time that the news first came out about the Sandy Hook killings, and it was of course a very, very sobering moment in that principal's office, and it has been a sobering time for all of us on the design side of the design and construction process moving forward and considering the impacts of our considerations and decisions on this very important question.

As Mr. LaPosta stated, I would like to go through some examples that are illustrative of the principles that relate to safety in schools. Firstly, however, it's important to note that schools are places that serve the whole community and not -- they're not merely places of education. They are much, much more. They are places that are part of the education of all of us. They are places where we develop social relationships, where we engage in cultural activities. They affect and touch us all.

Moreover, schools are very different in different places. A school in an environment that is rural or ex-urban is not like a school that is in a more built up or urban situation. Nevertheless, the same principles apply. The same expectations of schools apply wherever they are, and this principle is illustrative of the fact that our communities are not the same. They have different -- with different physical environments come different socioeconomic circumstances and cultural differences, but all are centers of community and all require that their designs be developed in consultation with each community. And the conditions that make each of those communities different in small ways will result in schools that are each different in their own ways.

Planning begins with the site of the school. This is a typical suburban site and school where the school

site itself is separated by woods from neighbors. There are attributes of that site that are very germane to the question of safety. Firstly, the perimeter. The more control we have over the perimeter of a site, the more time may be available to us to respond to a threat before there are any impacts as a result of that threat. So the circle shows the front gate or entrance to a school. Limiting points of access to a school are very important in terms of developing control and the ability to analyze what is occurring at the point of entry.

This shows three locations at a site that are also important at the front of a school. The parent drop off, the bus drop-off and the parking area. In the design of the front of schools, we look for regularity and safety in the process where people understand how to behave in a space. They develop familiarity with that, and in that process begin to recognize when something is not happening as it should. If, for example, there is a car in a bus drop off or if there is a truck at a parent drop off when parents are not dropping off their children, or located in a fire lane. These are instances that can alert us to the potential threat before they occur where such patterns do not exist -- we are not as aware of deviations from the norm.

The front entry. Having a clear point of entry

to the school at the front, an open plaza is both welcoming for people coming to the school for whether they're students or members of the community, but that place is also a buffer on the site separating the front door from vehicular traffic, also creating a place that is visible, a location for bollards and lighting to protect the front door.

This is a diagram that shows the need to have visible control of the front yard of the school from the office with a wide-angle view from one end to the other. This designates the desirability of creating very clear precincts around the school building itself as a buffer to provide places of protection in the event of a threat.

Focusing now on the school building itself, these dots indicate points of access for emergency response, the doors needed for fire access and to gain access to the outdoors for play and sport are also important points of access for responders so that they can enter in as many locations as possible and from as many sides as possible.

Inside the front door. Many incidents occur because no one is there to notice them. So having staff at the front door and creating entrances that are populated or that are designed as places of congregation send a signal to potential intruders that they will be observed. The diagram on the right shows the difference between the entry

into a school where there is no one, and that on the left which shows how much more welcoming on one hand, but also how much more intimidating it can be for those who should not be there.

Eyes on the street is a very well-known neighborhood watch principle. Clustering activities with windows near entrances to a school send a message that people are watching. And as we can see also here at this entrance bollards that provide protection to the front door from vehicles in the drop-off zone and also the light fixtures and even ballards provide places to sit. So even though the space is protected, it is also a place that is amenable to social life.

A welcoming front door promotes safety. In this plan, the administration office is at the front door where it is accessible for people coming in from outside the school, but also because administrators can watch the main entry, they can also screen access. So if, for example, after the school day has begun, and the doors are locked, people coming -- visitors coming to the school would be required to come through the vestibule and into the administration area for screening before having access to the school. This kind of configuration could stop and has stopped many unwelcomed visitors to schools.

In many schools today, students can be anywhere.

In such a school where students are learning in a variety of settings and group sizes, maintaining visibility is a key to control for educational purposes, but this also adds to the ability to see potential threats from many locations. The image shows a cafeteria on a lower level and a small break-out space on an upper level with adjacent study and teacher support rooms, all with visual contact of one another.

This diagram shows different types of teaching space found in some schools. On the left in color is a node arrangement with classroom sharing a common meeting space, and on the right, a conventional corridor model with no shared teaching space between the two. In the first case, the place of circulation is not empty during class time. It can be in use and visible to all. In the second case, during class time, the corridor is empty and it lacks surveillance. People do not have a sense of contact as they do in the first instance with the world around them.

So in this view, the corridor is wide and is used as a learning space, and it is at the center of a classroom cluster, and you can note the windows between this central space and the classrooms that border it, which provide visibility and contact between the spaces and the high sections of petition between the windows that can provide protection as well in the case of a threat.

This is a different plan type that creates connections between classrooms and the circulation space adjacent to them and also to the outdoor spaces. So the corridors can be seen both from inside and outside the school. The other diagram on the right shows a corridor between rooms that is concealed from view, both from within classrooms and from outside. So it's the ability to see between spaces that helps people to see and to understand what is happening in their larger physical environment. And so to make decisions that are based on knowing rather than on guessing, and I believe we are all aware from the documentation that exists that in situations of stress, the inability of people to know what is happening elsewhere in their environment can be extremely prejudicial.

This is a three-dimensional drawing that shows how open vertical spaces in schools can also improve visual connections and better enable people to read and respond to their environment.

Here are two other examples. On the left is a corridor where an administrator's office is located on a corner and providing eyes on the street and greater safety for students within the school, and is yet another deterrent to threat, again, where very often threats are caused by people who have familiarity with the spaces that they are in. Knowing that an interior school environment

has locations such as this where whatever happens can be seen we believe is fundamental to improving the safety within those spaces.

Then on the right, a classroom interior, which shows the view to the corridor for environmental awareness and the wall, which is a space for learning, for video projection, for student work and also protection.

Increasingly, schools are being designs as groups of smaller building units connected by links. This reflects the principle that students often learn better in smaller groups and in smaller environments that they can more readily identify with, but these groups of small building forms can be safer, and they are more easily controlled than buildings that are monolithic such as in the diagram on the right. And this is a view of a school that is made up of a group of smaller parts with connecting links.

Now, this floor plan shows how the building parts can be grouped together into learning communities with links that provide visual connection with the outdoors and permit the parts to be individually controlled. This then is an enlargement of one part of the previous plan, and it shows a self-contained small learning community with a cluster of multi-disciplinary classrooms that can serve a small group of students with its own point of entry.

This single point of entry can offer more safety for students than a similar number of classroom in a conventional school design with a common corridor. So if there is a threat, a small learning community can be separated from the rest of the school, much better for the occupants and for responders. And within these small learning communities, there are clear and defined limited lines of sight so that each community can be more easily evaluated and cleared in an emergency.

The classroom itself can become a safer place. This is a diagram that shows two classroom models. On the left, the L-shaped classroom, which differs from the conventional classroom plan on the right by creating multiple learning zones within the space to enable more personalized learning, which is a goal of many educators. And then on the right is the traditional, conventional classroom where there is one group, one focus, one task and one point of view.

This is a model of such an L-shaped classroom showing multiple learning zones. The arrow shows how the L-shape can provide a pocket of space within the classroom for students and their teachers to cluster in the event of a threat providing a view from the door of an empty room.

So there are some very simple ways of modifying classroom design to both improve the quality and range of

the teaching methods that can be applied, but also provide potentially more safety -- greater safety in the event of a threat.

So there's no one way to create greater safety in schools, but we have an enormous number of tools and adjustments in the physical environment that we can very readily adopt to provide safety while also creating more enhanced educational settings for students and for, indeed, the whole community.

I'll now turn it over to Mr. Gollenberg who will look at some of the systems that are available to support this model.

MR. GOLLENBERG: Good morning. My name is Glenn Gollenberg. I am a principal at the S/L/A/M Collaborative. I have been practicing school design in Connecticut for the last 25 years, and you know, as an architect, as a representative of the profession, I believe that what we do in the design process for schools really makes a difference, and it matters to both how teachers teach and how students will learn in the schools and in the schools of the future.

If we look at mission statements of many of the schools where we are practicing our profession, they are often containing the words about creating a safe collaborative environment for students to learn and learn

to be productive in the 21st global economy, and the technology that we implement within these schools, the materials that we implement within these schools, are a significant component of that process and the design process, and I'm going to talk just for, really just a few minutes about how we can address the use of those materials.

Really when you look at walls, doors and windows, you don't think of those as very exciting components of a construction project of a school, but really, it can comprise 10 to 20 percent of the budget of a school project, and because of that it really offers us the opportunity to delve into where we might enhance and contain -- excuse me. I lost my train of thought there. Where it will really enhance the ability of educators to secure a facility.

Whether a community is doing two schools in a decade or one school every year often has a significant impact on how they look at their schools as a whole. We have some sample guidelines within some of the school districts that offer us the opportunity to look at how others are actually already addressing an advancement of the review process for security within the schools.

This is really expounding upon the educational specification process that has already been established.

These communities have added information about verifying access systems into schools to providing intrusion protection to providing video surveillance, and most importantly, they have incorporated within their process a design review by which a project will be reviewed over the various stages of development.

Any time we're looking at the materials that are going into a project, and there are a vast number of options to choose from, we're always looking at these four main issues: How a product is going to perform; how is it going to be maintained by the maintenance staff; what is its long-term durability within the school; is it a sustainable product; is it one that is going to be cost-effective over the -- not just the first cost, but the life cost of the building.

When you look at the fact that there are over, well, about 1,200 existing public and private schools within the State of Connecticut, you recognize the scope of what's already in place that has to be dealt with, and when we think about the fact that the state approves -- well, look at 2013 as an example, 27 facility projects totaling about $510 million. If you do the math, it would potentially take a long time to address all of these schools. So one of the things that we want to be able to talk about in our recommendations is how we can possibly

address this particular issue.

All right. So starting with door assemblies is really talking about the arrival process to the school. As my colleague mentioned, you know, it really is before you get to the door. It has to do with controlling access point. We talked about the plaza and providing the materials that will withstand intrusion, whether it is the bollards or the doors and walls themselves. We can certainly design and address these issues starting from the drop-off point at the street.

You cannot probably see, nor do you necessarily need to see the intrusion detection devices that are mounted on the walls that are providing someone, if they are being monitored with a location of -- a central location that can access viewpoints around the building addressing all the entry points that are required by code into the building.

The door assemblies themselves. This is a pretty exciting document, I think. There’s a highly-technical aspect to all the products that go into a school. There are design guidelines that can address the level of security for doors, for certainly whether it’s just a residential grade to a detention grade. We can usually be certain that what we’re going to be putting into our schools, just because of the abuse factor that there is, is

going to be of a quality that will generally withstand intrusion. The hardware, the monitoring of the doors can all be added to those as a methodology of controlling entry points. When we do that, we are often adding costs to the project, but it is -- the technology is there to allow somebody that's sitting in a control panel when any particular door into a school has been opened, left opened or has inappropriately been accessed.

The wall systems are -- wall assemblies, much like the doors themselves, also come with a high level of standardization to them. They also have to meet code requirements for things other than intrusion. They have to be often fire barriers. They have to be acoustic barriers, and each of those components go into the decision-making process that has to be achieved when you look at what the wall assembly is going to be in a corridor or between classrooms.

There are acoustic requirements that are necessary between classrooms because children obviously learn better when they can hear better. There are acoustic requirements between classrooms and corridors themselves. Not always is the most secure material the best material for use. A masonry -- a 6-inch masonry block wall one would think is a really good deterrent and very maintainable, but it will not necessarily provide the

acoustic barrier that’s necessary between a classroom and a corridor. Likewise, this wall assembly that you see here has dry wall on the outside of it, and it has a wire mesh inside of that. It may not be the most maintainable and require constant maintenance and the cost associated with that over its life.

Likewise, with window glazing, I hope you can see that a little bit. There are a tremendous number of security and performance options with windows, the amount, the type, the orientation, the configuration. A window into a classroom can have a large impact on the energy usage within a school. We can design schools today that practically can be run without the use of artificial light within them during the school day just by paying attention to where we place windows, the window selections, the orientations of the building, and these are all important factors as we make our selections. The use of windows for security has been less of an issue except for perhaps in the urban areas where the first -- locating the windows on the first floor as laminated glass or security glass has been a consideration.

When you think about the cost of glazing, the cost of providing the monitoring of the doors in a typical classroom, it’s often between 3 and $4,000 per classroom to do that. When you think about the number of classrooms

that we were talking about, 1,200 schools, that would cost over $4,000,000 just to do one classroom in each school in the State of Connecticut. Looking at it in another way, if you were to take that $4,000 and be faced with the decision as to whether I'm going to put technology in a classroom for 21st century learning or if I'm going to provide security glass, laminated glass on the outside window, often the decision-making process is we need the technology in the classrooms if we don't have the funding to be able to afford both.

And then when it comes to the options and the amount of glass selections to be made, there are levels that can address almost any instance from vandalism through, you know, various weapons. It really comes down to a matter of what is the appropriate amount of protection, the appropriate amount of security, and the cost which it's going to bring to the project.

We have a very short video here that sort of exemplifies the process by which someone might have to go through to get into what might be deemed a very secure window. I don't think we want to talk about necessarily what this costs, but it just runs for a minute, and the time clock on the lower right will show you exactly how long this is going to take them to get in. It runs -- and like I said, it runs about a minute.

So we have the technology. We have the materials. I think what's important is to recognize that the decision-making process that architects and the building committees go through on each and every project, there has to be some level and some thought given to what is appropriate in each and every instance. So as that wraps up, Randall will --

MR. LUTHER: I have the enviable task of following a video tape. I have nothing quite as interesting in my presentation. My name is Randall Luther. I am a principal with Tai Soo Kim Partners Architects. I have been involved in public school education as an architect for over twenty years. I've also served on a board of education, and I have served on many school building committees. So I'm well-aware of the challenges that you all face and that all the districts in the State of Connecticut face as we try to deal with this challenge.

My colleagues have given you an overview of some of the many principles that are under the umbrella of school safety and security. So how do we implement them? Well, we believe any action plan to improve school safety and security should be a proscribed process, not a proscribed solution. Every community in Connecticut is different and unique. They each have different first responders, different programs and functions that occur

within their schools, and the school sites and building layouts are unique to every school.

The first responders vary widely in Connecticut from the resident state trooper with the -- from the volunteer -- from the resident state trooper and their volunteer fire department to our urban communities with their SWAT teams and fully staffed fire departments. With this variation in first responders come differences in capabilities, differences in training, response time, resources, and all these differences have implications on the safety and security measure that we would implement in any particular project.

Every school functions very differently. The programming requirements for a high school are very different from those of an elementary school. Schools today are no longer isolated silos of education as they were in the past. They serve many roles in their communities. The school on the top includes a public pool and recreation facilities. The school on the bottom has a public library as a component of its educational program, and every school has some unique characteristic.

The layout of every school and every site is unique from sprawling campuses in rural areas to multi-story buildings in urban communities. Each of these requires a different response. And the threats are indeed

very different. Inner-city high schools face very different threats than say a early childhood school in a rural area would face. No one predetermined solution can address all the individual circumstances to make a safe and secure school facility.

Our suggestion is to create a process that communities can follow that will yield the strategies that are most appropriate for the particular needs of the individual community. There would be two separate tracks, one for new construction and one for existing buildings. New schools in Connecticut begin with an educational specification. It's created by the local district. It's required by the state, and it outlines the components of the new school. The State Department of Education currently requires that ten specific areas be addressed in this educational specification. Safety and security is not one of those areas. We suggest that it needs to be included.

Currently, the State Department of Education through the Bureau of School Facilities monitors the school design process to ensure compliance with a variety of legislative initiatives. We suggest that at various milestones in the design of a new school project there be reporting to the Bureau of School Facilities on the school safety and security process being followed. This could

begin with submission of the educational specification to the state, which would include the safety and security goals for the project. Once a design team is selected and contract is awarded, there could be a submission to the state from the design professional acknowledging the process that needs to be followed and then a completion of the design documents when the state does their review to ensure compliance. There could be confirmation that, indeed, the process was followed.

Such a process would include meetings with the appropriate community stakeholders, and that would include first responders, staff, outside consultants and designated community representatives and obviously the design team. They would meet at times appropriate during the design to make sure that the standards that were established as goals are met and are adjusted as the design develops. And then finally, we would suggest a post-completion commissioning with first responders, design professionals and staff to confirm that the building security and safety measures will function as intended and to make any final adjustments to the school and community response plan for the facility as may be necessary. To a certain extent, this already occurs with local fire departments, but as was mentioned before, it’s not typically done with police departments and other first responders. We think this should change.

For existing schools we are more constrained in what we can accomplish. First, we suggest that there are periodic reviews of existing facilities that include the first responders. From those reviews there are many responses and actions that can be taken. We've listed a few up here. These are very simple, straightforward, most of which have no cost associated with them, and they're all things that can be done immediately in conjunction with the review with first responders. But of that list probably the most important is the last item on that list, that we need to encourage a dialogue for districts to partner with their first responders.

We also suggest that school districts report periodically to the State Department of Education on their safety and security planning. Currently, the state uses the EDO5O school facilities survey, which districts file periodically to track various aspects of Connecticut's existing school infrastructure. By adding safety and security evaluation criteria to this form, we believe this would be an ideal vehicle to assess where we are as a state in planning for safety and security in our schools. Perhaps more importantly, it will serve as a prompt to raise awareness and start a dialogue between our schools and their first responders.

Lastly, one of the ways that the state

demonstrates its commitment to any issue is with its dollars. Currently, there are 16 types of projects that the State Department of Education has determined are important enough to warrant state funding, and those are listed there to the right. If we are to wait until each school in the state is renovated under one of those existing categories, it will be decades before many fundamental safety and security issues will be addressed in some of our schools. Consequently, we suggest that there be added a new category of project, safety and security upgrades. This will provide communities with the resources necessary to address problems that they identify as a result of the process we're suggesting that they follow. These would be smaller, less-costly projects, and could follow an expedited review process, much like what is now done for reroofing projects in the state.

And there is precedent for this approach. The Connecticut High-Performance Building Standards mandates a process be followed for all state projects over a certain threshold to ensure that sustainability goals are established and met. Likewise, Connecticut's Tools for Schools Program enlists local communities with training and support from the state to evaluate their schools for indoor air quality and to take corrective action where necessary. Although this program is voluntary, it enjoys a 94 percent

participation rate among the state's school districts, and this participation rate is climbing.

So to recap, it is our consensus opinion that there is no one predetermined solution or solutions that can address all the unique circumstances to every school and community. Rather, we recommend a process be established that raises awareness and creates a dialogue that will result in safer, more secure schools that do not compromise the mission of schools to be both community resources and to educate our children.

With that, I think --

MR. CONNELL: At this point, we welcome any questions you may have.

CHAIRMAN JACKSON: Thank you very much for your very informative presentation here. I'll start off with our first question before opening it up to my colleagues here.

Some very important words were mentioned, standards, codes. In terms of mandating certain activities, codes become a requirement. Would you recommend or encourage any changes to building codes to incorporate these recommendations? The last program you mentioned was a voluntary program even though it does have a lot of support, but it's not mandated. Can you talk about mandating?

MR. LUTHER: I mean, I'm at the microphone. So I guess I'll take my first shot. I don't necessarily speak for everyone, but in general, I think that would be very difficult. I mean if you noticed a theme for us, it is that security is such a large and all encompassing issue. It would be very difficult, I believe, to establish specific requirements or specific thresholds or criteria that you could use and then codify in a building code.

Again, I think perhaps the building code is not the best vehicle, although I understand, you know, which is why we mentioned the Connecticut High-Performance Building Standards, which are not -- which are legislated by the state and are a requirement for all state buildings over a certain dollar threshold, so they would -- since virtually all public schools receive state funding on construction, something similar could be done, and again it could be a process that's mandated that you need to meet with first responders, that there needs to be an action plan, there has to be an emergency response plan developed, there need to be certain reviews done at certain points, and then there could be a list of criteria that should be considered. And I know you have someone from FEMA speaking afterwards, and they have some documents that list a lot of criteria.

So I mean I think that is a strategy that I think

would be more effective than trying to require that a certain kind of glass be used on a certain entrance or a certain locking device or a certain, you know, glass protection. Again, I think communities are so different. Their financial resources are so different, all those things that we've mentioned in terms of, you know, glass and doors are very expensive, and you know, we don't -- if you legislate that glass be bullet-proof, the response will be less glass. That's the reality, and I don't know that that's what we want to do.

CHAIRMAN JACKSON: Thank you. Anyone? Bernie?

COMMISSIONER SULLIVAN: I hear what you're saying. It's difficult to have minimums, but when we deal with schools we're dealing with two potential issues, the enemy within, the potential student, or the enemy without. The enemy without is probably the one more easy to protect against, and if we leave it wide open to just discussion, then we really won't have what probably is the best effort. Because don't you think the professionals should be recommending what's a minimal level, you know, the minimal level may be not to the level we do bulletproof glass, but is there a minimal level about securing entrances? Is there a minimal level of using a cheaper reinforced glass with a wire in it that's not as expensive?

We know we're never going to stop these attacks.

All we can do is slow them down and allow time for the responders to get there, but if we don't recommend certain professional minimums I think we're doing a disservice because I think the people out there in the school systems are not educated in the world of security, and I think there are minimum things that can be done and I, you know, I throw it back to you. I know we can't do everything. I know dollars are a very big issue in government and we'll never fund all the wishes and hopes that we have, but are there things that maybe don't rise to the high level of expense that could still be done at a minimal level that would help all the -- at least the enemy from without?

MR. LUTHER: I mean, the short answer is yes. Establishing what those minimums are and how we evaluate if, you know, is the money better spent on remote locking and video surveillance or is the money better spent on the minimum on bullet-resistant glass at the main entrance? It's a very difficult thing to score and to decide where the priorities lie, and that's why I think a lot has to do with first responders. For example, if I'm in an urban community, and I know I'm going to have a -- police response time is a minute and a half, then if I have to delay somebody at an entrance who is a concern, I only have to worry about a minute and a half.

Also if I'm dealing in a high school in an urban

situation, they may well have a school resource officer on campus. And so again, their response and how they deal with somebody at the door would be very different than if I'm in a rural community with the resident state trooper who may not be there for five minutes, so there, in that circumstance, protection at that entrance is very important. I might not have somebody for five minutes. So I need to -- so in that case, I would advise a district that you really ought to consider, you know, a bullet-resistant entrance, a sally port situation so that you could keep somebody at bay for an extended period of time.

Again, if I have a school resource officer who is waiting in the vestibule with the metal detector, maybe that's not where I want to spend the money. I want to spend it on a camera or something so I can detect somebody further out and get to them before they get to the doors. I mean, there's a lot of issues and a lot of ways to look at it and I think the individual circumstance play into that.

MR. CONNELL: From a building code standpoint, Connecticut has adopted the International Building Code, and there's an organization out there which periodically updates that code and updates are done in many cases based on fire safety and issues and events and tragedies that have happened around the country in response to that, and

so when something does happen that agency gets together and evaluates what can be done and what is appropriate in terms of making changes to codes, which inherently are interpretive and need to be interpretive based on the individual building in which you are doing a project. It would seem likely that that organization will probably look to begin to incorporate security measures, and that might be a good place to start.

One of the issues that design professionals always have is because codes are interpretive, if we do have state legislative mandates it begins to be difficult to apply those in the specific language in each individual school because of the variances of situations, and it also doesn't allow those legislative mandates to be updated periodically as the building codes are updated. So in some cases they can be out of sync with current thinking.

So our recommendation would be to take a look at the model codes and understand the direction that they may be taking such that possibly Connecticut could adopt some of those upcoming potential standards.

COMMISSIONER CHIVINSKI: There was some different terms thrown around, and I'd like to get some clarification if possible. I'm hearing glass glazing, bullet-proof glass, we saw a nice little video. Could you tell us a little bit about cost and some of the grades that might be

available for projects such as these if a particular school let's say, or if all schools wanted to reinforce their entranceways with these types of materials. Thank you.

MR. GOLLENBERG: Yes, the number of options for glazing is infinite, and the performance of the glass, as I was saying, has to meet not only energy codes and fire codes often, but there is security issues with it as well, and as you go through the different levels of glazing, each has an incremental cost to them. The higher-performing, and I'm not sure that I can put a number on it except the example of a typical classroom that is providing good, natural light into it is going to cost about $3,000 a classroom. So you think about a typical classroom that has 25 or 30 feet of exterior wall.

COMMISSIONER CHIVINSKI: Let's talk entranceways.

MR. GOLLENBERG: Okay. So anybody have a cost figure on an entrance? Okay. You know, it could run, you know, $15,000 or $20,000 for an entrance would be a number that you could budget for something that has security glass in it and has alarm detection, well, and most schools are going to have video cameras at all their entrances and exits anyway. I think one of the things the building committees are often faced with when looking at their budgets because doors and walls and glass represent such a high percentage of that 10 to 20 percent of your total

project cost, those are -- total construction costs -- those are often the areas that they're going to look at when they need to save money, you know. So a masonry wall that meets all the fire and acoustic requirements may become a dry wall that's two layers or a security glazing on the first floor of a school in an urban setting will go to a high-performance window and have the benefits of that rather than the vandal resistance because there also carries with it a replacement cost for many of those windows if they get -- if they are damaged. That is an ongoing expense as a mower throws up a rock, and it strikes it and cracks the glass. If it's going to be replaced, it's going to cost a lot of money or it's going to be left as it is and have something applied over it, and then it just doesn't perform as it's supposed to at that point.

COMMISSIONER CHIVINSKI: The 15 to 20,000, is that for replacing -- would that be for replacing windows in an existing school or are we talking new construction?

MR. GOLLENBERG: That would be for an entrance -- probably either replacement or new. That is not a discussion on the windows in the classrooms. That's more to the 3 to $4,000 number.

COMMISSIONER FLAHERTY: I'm just wondering for a full understanding because with all the recommendations and understanding that every project would be different and the

needs of very community are different, for an understanding of what happened in Newtown, would it be necessary for a design professional to look at that particular school to have a full understanding of that event and what happened there? Because I know that the criminal investigation is going on, but they might not know about what kind of glass was used and what -- the set up of that particular school. Thanks.

MR. LaPOSTA: It's my turn. One of the things is that we certainly have learned from all of the other tragedies that have happened. Whether it would be important for a design professional to do some analysis I think is an open question. We certainly don't know yet the full story of what happened at Sandy Hook. Certainly, if you read the Jefferson County Sheriff's report on Columbine, there's a lot of things in there that actually discuss the physical environment, and some of our recommendations and some of our observations actually were drawn from that. Some of that was ours, as design professionals, and many of my colleagues around the country have done the same.

It's our reading that the report of what actually happened, looking at the plans, the drawings, understanding the layout of the building, and some of our thoughts have been drawn from conclusions on that.

For instance, at Columbine, there seemed to be great confusion on the part of the first responders as they rolled up. The building layout was not necessarily conducive to understanding it quickly and understanding where people were in the building. There was a very confused situation in the parking lot where there were students -- you know, it's a high school. That's a very different situation than an elementary school. There were students everywhere moving in and out of the building in multiple locations. So you can begin to -- once you get the law enforcement reports, you can begin to draw from that.

Certainly years from now once we really do have the full story of what did happen that day, we will be able to look at that I think as design professionals and draw conclusions in terms of the entry points, the locations in the building, the location of the office, the layout of the site. Certainly, we know that he drove up to the front of the school and parked there. That was one of the things that was very obvious from news reports. That leads us to some thoughts about site design and site safety. We know the front doors already were clearly a weak link in that chain, but to what level we need to support those or harden those becomes I think the real question.

One of the points on the glazing of the glass,

and we do apologize for our jargon, glass and glazing really are the same thing. We fall into that trap sometimes as professionals. Currently, many schools along the shoreline in Connecticut already have reinforced glass in them because they're in hurricane zones. The image that we showed you of the shattered window in our presentation, it was actually a test for hurricane glass. That's a 2x4 thrown against the window at 90 miles an hour. If that's not penetrating, very little else is going to get through.

So some of our schools already have this as part of their budget. It is more expensive, but it is code-mandated in high wind zones, others don't. So I offer that as an example that some of this is already happening in response to other code-driven items. So it may not be always as far -- as big a reach as you may think in terms of upgrading glass and glazing on building projects.

COMMISSIONER SCHONFELD: Well, first off, I appreciate the presentations. It describes a thoughtful approach to how one can design a built environment that is both conducive to learning and safe. The issue that I find when responding to schools when there have been events such as this is they want to very quickly now retrofit their school to be safer. And those kind of thoughtful conversations about what are modifications that might create an environment that will ultimately be conducive to

learning and feel safe to students and also be safe are often not as well-informed by professional opinion, and are often driven in large part by understandable community sentiment to do something now to protect the children.

And so I'd like us to -- and having been in some of these schools after shootings, you will have some families feel very strongly that their children, often it is them as well, feel safer when there is a large sense of security presence through certain physical changes, and other students which then feel very unsafe in schools with lots of metal detectors and restricted entry, et cetera.

So what are your recommendations, or maybe this will come in another presentation, about how to do this on a shorter scale with a more restricted budget that creates a process that will be -- something we'll be happy with five years later?

MR. LaPOSTA: We had made an attempt at that in this exhibit, and we can certainly talk about these a little bit. Our first attempt was to think about immediate actions, understanding that sentiment that you've expressed, and were there things that could be done at little or no cost in the building. And these were some of the things that we came up, which had to do with walking around the building and understanding -- we find, as design professionals, one of the most difficult things to do is

enforce traffic and parking and control people who come on the site. Everyone seems to need to park in a fire lane. Everyone seems to need to drive right up to the front door. There are things you can begin to do I think outside the building that are visible in terms of a visible presence of restricting, painting lines, putting out cones, putting in barriers. We all know that planters tend to spring up, big concrete planters spring up after horrific events very often, but they provide a very real sense of security, and they're not necessarily that long lasting.

So if we can enforce traffic and parking rules, look at the building for site lines and obstructions. That is in fact something we can do very quickly. Very often schools get -- things accumulate over time. It's like any of us in our houses. Things accumulate, and you don't even notice it. So it's going back either with a design professional or simple district staff and making sure that all the site lines are open. Can the office really see what's going on in the building, whether it's the installation of a camera or simply opening up a window that may have been closed or blocked with furniture. There are -- lots of things get cluttered in classrooms and schools.

So these are very simple things you can do, looking at pathways. Certainly, door security and keying is a big thing that can make a lot of difference, blinds so

that in a lock-down situation you can open and close them. We've had differing conversations with first responders on this. Very often you want to be able to shut down from the inside, but I've talked to many chiefs of police who want to be able to see from the outside in in terms of what's happening. So you can certainly review those. Most schools tend to have pretty bad blinds and shades, and you can begin to do that.

Communication systems and communicating this with parents that these are things you're doing. If you do this, and you don't tell anyone, then probably you're not enhancing the safety and security feeling of the building, but if you go through a protocol of looking at all these items and engaging the parents and the community, we think that can go a long way.

The one that's really important, and I'm sure every district began doing this immediately, is the reinforced building policies and procedures. We've talked a lot about technology, about doorways, about many building systems. The most elaborate and secure building can be undone by one student who props a door open with a rock from the playground and a teacher who doesn't observe it. I mean, it really is, you know, and it happens in every school in every district everywhere. That's why it's so important to heighten everyone's awareness, including the

students about why doors need to be closed behind them and why things need to be locked. It would seem to us -- it would seem to me, that that would be some things you can begin to do right away would be to begin to make people aware that even simple actions have a big impact on the safety and security of their community.

Beyond that, I'm afraid as you get into other more physical changes, you get into costs. If you want to move an office from one location to another, it's possible there will be some costs. It may be when you look at a building, if it's in an older school where the main office is down a hallway somewhere and isn't at the front door, maybe there's an ability to swap a classroom that's at the front door, turn that into the office and find that classroom somewhere else. That will not be free, but it may not be as expensive as new construction. So there may be some things you can do along those lines. Again, every -- I know it sounds kind of redundant, but every school is so different, you would have to look at that particular situation.

COMMISSIONER SCHONFELD: Is it possible to have -- I understand that it's important to partner with responders, but not all responders in every community will have the same breadth of knowledge and experience in this. So if there were some way to put together some guidelines

about how to consider this in a thoughtful way, but in an expeditious way because, at least in my experience in this, sometimes the decisions are made very quickly, often not based on the same knowledge base and often based on, you know, people's concerns and worries, which are quite legitimate and understandable, but if there were some document or some guidance. I'm not necessarily saying that they have to be mandated or code, but at least some suggestions about what are reasonable steps to take that will improve school security and safety but still preserve an environment that's conducive to learning.

I think it would be very helpful as all of the communities struggle to try and figure out how to do something quickly that's also responsive to the need.

COMMISSIONER SCHWARTZ: It would seem that most of your presentation appears to be geared to preventing or responding to the armed intruder attempting to enter the school from the outside. I'm thinking about the situation in which the student or an employee or someone else may enter the school armed but unobtrusively, and I'm wondering about architectural responses to that. The only one that comes to my mind is metal detection, and I'm wondering if there are developments in metal detection that would allow it to be implemented both economically and unobtrusively.

UNIDENTIFIED SPEAKER: Do you want to take it?

MR. GOLLENBREG: Well, I'll start. Some districts actually do have a policy that is part of their purchases at the end of a project that includes metal detecting devices that are meant to be placed at the main entrance, but they're generally not placed in the main entrances when the project is opened because it has sent the wrong message, they feel, to the students, that is that this is not a safe environment. They are brought out of storage on occasion, and they are used on a, you know, just as a where are we at a point in time in terms of what is trying to come in the door. And to that extent it offers an option by periodic review with measuring the amount of weapons or -- not weapons, let's hope not anyway, but the possibility of threatening devices of any nature coming in the front door, and if students don't know when it's going to happen, it can be a deterrent.

COMMISSIONER SCHWARTZ: So I presume there's no way to build metal detection into door frames currently that would be unobtrusive and not send that message?

MR. GOLLENBERG: We have metal detection devices not just for schools or books leaving libraries, also for, you know, within hospitals in MRIs they do have metal detection to prevent various metals from entering any of those locations. They are not, I don't think, a standard that we're aware of at this point that looks like a door

frame and acts like a metal detection device.

COMMISSIONER O'CONNOR: I'm sorry. When it goes off, you still have to have someone physically there who is appropriately armed to deal with it.

MR. GOLLENBERG: Yes, and the level of detection has to be determined.

COMMISSIONER O'CONNOR: Right, right.

MR. LaPOSTA: Yeah, I mean, I do know that our office looked into this about two years ago for a large high school project because that was the exact request. Could we just have a series of doors when the students came off the bus they walked through, and you know, something would go off somewhere, and they wouldn't see it, and we -- I know two years ago we were unable to find something, and the weak link ultimately was the backpack, the bookbags. There was no device that would adequately and be sensitive enough to find everything that was in everything. So you still had long lines of students waiting to go through. You still needed a desk for some kind of adult or officer to be there to, you know, to deal with any situation or even just to keep order as the students were moving through.

So I can't say definitely that it's not out there, but I'm not sure that any of us have come across that yet or certainly not in an affordable way. I suspect

if that was available, it would be at airports, and it's not yet.

MR. LUTHER: The other concern is the false positive. If they don't know it's a metal detector, and if the idea is that it be indiscrete, then everyone comes through with their keys, their cell phones, all those devices which every student carries. So every student who goes through will set off the detector, and it will quickly become unworkable. I mean, unless they know it's there, and they can take out their keys and change then, you know, it's not really useful. And so it's a very difficult problem to resolve.

COMMISSIONER FORRESTER: Mr. LaPosta, your presentation was interesting to me because you were talking about the knowing what's going on as, you know, one of the key factors of safety in the school, and someone else later on mentioned the Tools for Schools as part of the EPA, environmental awareness and safety.

When listening to this, it feels like certainly there's architectural safety issues, but there's also a culture of safety that needs to be developed, and I was wondering if there were ways as we're teaching our children to recycle and to be environmentally friendly, turn the lights off, all of those things. Has there been any models across the nation that are talking about safety from that

model of environmental change? And would that be something that would be recommended both from a hard design, which we were talking about the Tools for Schools, I guess, as voluntarily 99 percent of the schools have volunteered, regions have volunteered to do that. Would that be something that would be a good model for us to be thinking about?

MR. LaPOSTA: I'm not aware of a voluntary program like that. That doesn't mean that one doesn't exist, and it certainly seems as though it would be a wise idea. I think culture is a key component. That's why we were coming up with this notion of this ecosystem where all these pieces and parts work together much like a natural ecosystem. It is the culture of the building, and the culture impacts the building, and the building impacts the culture. And I think if there were a program available to make students aware of what a safe environment feels like, of the things they need to do back to the rock from the playground. That's a very simple example of a culture where if a student saw that, they would realize that that was a threat to them and their community, and they would instantly, hopefully, deal with that and kick the rock back out into the playground.

MR. LUTHER: I think the Tools for Schools is an excellent model because it goes to your question earlier

about what about the districts and the communities that don't have the knowledge base to make informed decisions. The Tools for Schools programs, the state provides the training and the information and then enlists the local community with the training and support they get from the state to go in and look at air quality. And they involve the students, the teachers, facilities people. I mean, it's a very comprehensive program. It's very well thought out. Clearly, it's successful as the participation is almost universal in the state.

And the resources are available. We do have the experts that could set up a program I would think in short order to at least identify the principles that are involved, some of which we've talked about in safe school design and then reach out to the districts armed with that information. Then they can have those conversations with their design professionals.

And I will say that most architects who work in public schools, you know, over the course of many years, they bring a certain amount of expertise through the conversations they've had with first responders. And so just by prompting the questions for someone who may not have done a school before police department or police chief is frequently asking the questions, well, how will you respond, and do you need access? Is it better to keep

somebody out? Or is it better to allow you to get access in? Then they start to think through it and through those conversations, based on what they know with their staff and their capabilities, solutions frequently come out.

MR. LaPOSTA: One of the things that I would also -- it occurred to me as you were asking your question, the culture in a school that is a good educational environment that has a good learning culture, typically, I think would carry over into a good culture for security because what I've observed is at the schools we've worked with where the learning is evident and the caring for each other as a community is evident are also schools that feel safe because those are schools where students and adults have good relationships with each other, where the community feels good about sharing information both good and bad and where people take responsibility for both their actions and the actions of their friends and colleagues in the building.

So I think there's a natural crossover between the things we've been talking about where not only can buildings be good for learning, but I think the culture that's good for learning is also a culture that's good for safety and security.

COMMISSIONER GRIFFITH: I had one simple question to try to see if I understand this. The base rate of this

phenomenon is extremely low. Assume I'm the principal of a school. I have tremendous struggles with managing my budget. It would be far more interesting, I think, for me to be competitive in terms of educational activities and so on in comparison to my colleagues to put any money I have into promoting all kinds of human activities. I could give money to my track team. I could send them on tours to France or something in the summer. There are all kinds of things I could do with any little money I get. Why would I -- what sense would it make for me to be spending money on something where the base rate is incredibly low; nobody can tell me anything about when the next one is going to happen, which has to do obviously with the predictability, but even in a political sense, it doesn't make a lot of sense to me because it's not a frequent phenomenon.

So tell me how I really manage this in terms of responding to it because I can't really get my arms how to think about this in a sensible way except I understand the emotional pressure, and I'm not minimizing that. I understand the emotional pressure, the psychological pressure. Something's happened, and we've got to do something about it. But that doesn't help me manage my school, my theoretical school.

So tell me how you experts are thinking about that. Because even if you put in the fancy glasses you're

talking about, you know very well if somebody hits it with a baseball bat, I can't repair it next year. It's just too expensive. It's not high on my list. Why would I do that? So tell me how I think about it as a school principal because I still don't get it yet.

MR. MUNDAY: I might have to squeeze in here. I'm sorry.

The way that we have been seeing this question has been in terms of an integrated set of ideas related to creating an environment that supports better educational outcomes. A school that is safer is a school where people feel safer, and that sensibility, we believe, will support better educational outcomes.

The cultural aspect of this situation, which involves preparedness with understanding with children understanding the significance of a brick left in a door, those don't cost money, but the parts of a school design that in physical terms support safety support a wealth of other good outcomes, and so in terms of looking at the return on that kind of investment, it's a return that is found in many, many areas.

COMMISSIONER GRIFFITH: Well, let me make a follow up comment to further try and share my -- the way in which I view this in such a complex manner. I happen to know a number of schools which have sort of opted out, and

certainly I know many universities that have opted out of this partly because there's so many building around. It's almost impossible to set up a situation where it's impervious to communication with the community around it, you know, in other words, they're -- the pathways are part university, part belong to the town, that sort of thing. I mean this is all over the country and they've simply opted out. They're not going to do this for their wonderful museums. They're not going to do it for the dorms. They don't do it because it sets up a situation besides this being expensive and so on, it's just very complicated, and everybody conspires to say this just isn't going to happen here.

So and we know enough I think about Connecticut. There are a number of private schools I think that are following that sort of mantra. They spend the money, and they put up a drama building. They're not going to now put all kinds of fire walls around a drama building. The drama building enhances what they're trying to accomplish in the school context. So they're not going to do it.

Why are they doing that, and the public school system is slightly different? Are we conceptualizing it differently, or don't I just understand it at all?

MR. MUNDAY: We are suggesting that design to support safety doesn't only support safety. It supports

many other objectives, and that those -- that through integrating that thinking about safety into the other problems and the other goals, the other programmatic requirements of schools can enhance safety while not -- and therefore, reduce the likelihood of threat without necessarily costing a great deal of money, although it can, of course, cost a great deal of money.

MR. LUTHER: Can I add one comment to your comment? I actually kind of agree with you, but that's why we're suggesting that that be more of a process, and that you have that conversation with the district and say -- and they have to make the decision. The people in the community have to make the decision where they want to allocate their resources. Do they want to spend the money on this event that is very unlikely, but extremely tragic and horrific? Or do we want to spend our resources differently, or is there a middle path? Are there things we can do that maybe aren't as extreme but maybe get us to where we are comfortable and we think adequately address safety in our community.

I think it's a very difficult position to be telling communities they need to do this, this and this in your schools, and you've got to find the money and when the glass breaks, it's your problem, and we're not going to be giving you maintenance dollars. We all know how that

works, and towns are strapped. It's a very difficult situation they're in. So I think you really have to let them make the informed decision provided they have the training and the information to make an informed decision.

COMMISSIONER SANDFORD: James, you're on the hot seat. You had a lot of really good points that I saw. You mentioned about putting internet service in schools or making them accessible and making sure that because every child has one of these, and they're going to get more of them as we go through, I see them being extremely important. You mentioned having a system so that children could report when they see something going wrong like a see something, say something campaign, but within a school system.

The other part of it is I teach at the University of New Haven, we have a program called Emergency See Me -- See Me or See You. I forget what it's named. I probably shouldn't mention it on television, but anyway, it's a really interesting program, and no matter where I am on the campus, I just hit that button. It's an app in my phone. It automatically dials to local police, the University of New Haven Police Department, and they can listen and they can see -- if I can hold my camera up with the -- if I'm not being attacked, I aim my camera to what's happening, and the police department gets that video. If I'm the

person being attacked or whatever, if I hit the button, I just lay the phone down, they audibly can hear what's going on, and they know exactly where I am anywhere on that campus.

So having that internet access on the campus regardless if it's a building, multiple buildings or whatever, seems to me an important component that you raise that we definitely need to look at when we look at low-cost things that could be done on a campus, I think that's something that should be considered.

The other thing that I think we've missed is that when there's a fire, and you mentioned fire. And I'm a fire person at heart and background. When there's a fire, everything happens automatically. The smoke-detector sensors the alarm. It goes to a panel. The panel calls a service. The service calls the fire department, and a bunch of red things show up in a couple of minutes.

When something happens related to an intruder, a bomb, or any other type of law enforcement environment, there has to be a human intervention to make that call. You know, we need to look at alarm systems, I would hope -- maybe you're not the right people, but we need to talk to alarm people and find out what type of automatically-activated systems could call the police department and say, hey, I've heard a gunshot. You know, if the City of New

Haven can have sensors on the street to try to figure out where the gunshots are coming from when they happen on the street, well, geez, I think they might work in a school, and they might then preclude us -- take that human element out of the process of notifying that there's something going wrong in that school. I don't know what those sensors are, but they can't be that expensive. I'm sure they're available, and there's a system already in place to do that.

The other component you mentioned, and I guess I'm preaching more than asking, but I do have a question.

MR. LaPOSTA: I'm okay with this.

COMMISSIONER SANDFORD: But you really raised a lot of good points that I think we, as a panel, need to consider. The majority of the police departments in the State of Connecticut, not all, but the majority of them have a system that they, on a laptop, can see or get emails. When I worked in Homeland Security we would communicate to every police car in the state and notify them what was happening if we were looking for something.

In other areas of the country, you can be following a bus, a city bus, and if I'm a police officer, and I want to see what's going on in that bus, as I pull up to it -- when I get in a certain range -- and most of our city buses today have cameras on them, about a dozen, and

that police officer can see that camera. Why can't the police officer responding to an emergency call at a school be able to bring up the pre-plan of that school on his laptop and then look at the hallway or where that shooter is or where the noise is coming from and then look with his cameras going down there?

I mean wouldn't that really make a difference for our responding? We have the system in place. You mentioned it. The technology is there. It seems to me that taking it to the next step and connecting that school to the local police department is another low-cost option. If they do if for the first school, it may be a little expensive, but once it's done for one school, the cost from that point on I think would be relatively reasonable, and again it takes out that human element that someone has to dial 911, hey, there's a shooter in my school. We need to eliminate that for that process.

And then my last -- I guess on the rock comment, I think all doors should have a perpetual sounding alarm the entire time that they're open so when that student goes out and puts that rock -- or the teacher goes out to get the book that they forgot in their car -- I know it doesn't happen, but it just might happen, that there ought to be a very loud alarm that rings on that door perpetually until the door is closed again.

So that’s pretty much what I had to say. I just would add one more comment. When you talked about the process of existing schools and new schools, I think you should have gone a little bit further with your existing schools, and there’s a state law that requires every school to have fire alarms once a month, different times, different days throughout the season. A couple of years ago after 911, or after -- it was after Columbine, I think, we changed the state law in Connecticut, and we allowed schools -- principals to have two of those security-related alarms or activations to train the students on what to do.

I think what we need to do next is require that law enforcement be present at all of those alarms and fire departments to be present at all of those alarms. Having one group of people as you’re showing, the emergency responders, go through the school -- remember that every police department typically has four shifts. Every career fire department has four shifts. So you need to do it for a while to make sure that all shifts get that education.

We need to allow schools to open their doors after hours so that law enforcement can train in the school. Talk to law enforcement. Say, gee, I want to get in that school after hours, and we want to do SWAT training or we want to bring our dogs in and do -- you know, no way. We don’t want that in our school. We don’t want anyone to

see that that's happening, and that needs to be done to open that door to allow those police departments in to get that training. If someone told me to go down hallways 121, if I've never been in that school, I don't know 121 from 352.

So, you know, just some of my comments of what you made that I think some areas we need to go a little bit further.

MR. LaPOSTA: Thank you.

COMMISSIONER SANDFORD: I guess I didn't have a question. I'm sorry, Mr. Chairman.

MR. LaPOSTA: I believe we agree with everything that you had said, and certainly, there's more that could be done. We were trying to scratch the surface and give you some food for thought, which obviously, you've thought about. Thank you.

COMMISSIONER CHIVINSKI: Technology, we were talking about rocks and doors, specifically classroom doors. What are your thoughts on locks where you can lock the door from the inside of the classroom versus the -- only the outside of the classroom?

One last just a comment about BYOD, bring your own devices. Newtown is a bring your own device district currently, and there's positives, and there's potential hazards and negatives. For instance, during the lockdown

on 12/14, many of us had students, you know, that were -- they had siblings at Sandy Hook, and when you were in a lockdown for that extended period of time, you know, you could almost have a crisis within that limited space. So I think this conversation needs to be had probably in districts throughout, not only Connecticut, but the country because the initial reaction might be to confiscate the devices, but they're going to have to be managed in some capacity.

MR. GOLLENBERG: This is certainly regarding the locking of classroom doors post-Columbine as a requirement that we be able to do that. All new schools, I think, that we're doing, teachers are able to lock the door from the inside without having to go open the door and allow somebody else potentially access in. That also becomes a potential isolated project to go back into existing facilities and to do that.

COMMISSIONER CHIVINSKI: And I think that's the question on many teachers' minds out there --

MR. GOLLENBERG: Yes.

COMMISSIONER CHIVINSKI: -- that teach in those pre-Columbine structures.

MR. GOLLENBERG: Yes.

COMMISSIONER CHIVINSKI: You know, what would you recommend with those doors? Should every teacher in your

mind be able to lock their door from the inside in these types of situations?

MR. GOLLENBERG: I think it's a -- from the first responder standpoint, it's a desirable outcome that they be able to do that. I think there's precedent in some of what's been done in the past with handicap accessibility with making doors to classrooms accessible, this would be -- this would be no different from our viewpoint of creating that security project within the system that would be for exactly that type of a project.

COMMISSIONER O'CONNOR: Thanks. I just want to follow up on something that you said that I think is really important, and I don't want us to lose that concept.

So I want to tell you a little bit about my background before I actually ask this question. So I've been in university law enforcement and municipal law enforcement, but the last fifteen, sixteen years or so, I've been university police chief. One of the locations was University of Illinois, living there after the Northern Illinois University shooting, and Illinois went through a very similar process and came out for universities with guidelines and recommendations, which is really sort of what David is suggesting, and we can have these conversations about, you know, because I put in laptops in my officers' cars in Illinois where they could actually

watch the buses and all of that. The technology out there is just phenomenal, and it's almost hard to keep up with it, you know, you're chasing your tail with technology.

And you hit on a point that is individual school district specific. So what I think would be important is that, you know, this first slide you have up right now is to have some sort of general guidelines and recommendations, best practices, you know, and then developing teams within each school district that evaluates their schools with the stakeholders deciding, you know, what are the security technologies that is best for that individual place because, you know, when you focus on the low-frequency, high-risk events that a school shooting is, you miss out on a lot of other things in between, which is sort of the all-hazards approach. So even if we're training students for a fire drill or an active shooter, it's going to help when the tornado comes, and that's a real possibility now even in our area where you didn't think it was, and we're very familiar with those in Illinois.

But so I think to sit here and have conversations about specific cameras, glass on doors, et cetera, et cetera, is, you know, we could do that for months, but I think to sit back and say you made your recommendations, and one is you develop a team, and that they go through

this process. By the way, like we did in Illinois, here's the best practices, recommendations, and how you do that.

Is that -- and I think that's the question you're asking, David. Is that something that your group could do from a physical standpoint? And I'm also familiar with code because I over see the code enforcement team at Connecticut, and I know exactly what you're referring to, but that may take a while -- a long time before that comes, and Connecticut, we don't want to wait that long. I think that's one of the important things this commission needs to do.

But do you think you could actually sit there if we asked you, charged you or your profession with sort of best practices on how you go about doing that? And a process, not necessarily specifics on glazing, et cetera?

MR. LaPOSTA: I just polled the group, and the answer is yes, we could, and I would say we wouldn't do that in a vacuum though. We would be both happy and honored to work on a project like that as a group of professionals, as a community, but also to partner with and seek the counsel and advice of some first responders. Your member, Mr. Ducibella, who's not here today, actually works with all of us in our private practices as a security consultant on schools and we would probably seek his counsel or similar counsel and advice, but we could as a

group put together I think a series of recommendations from our profession that would be best practices.

COMMISSIONER O'CONNOR: Thank you.

MR. LaPOSTA: Thank you.

COMMISSIONER BENTMAN: In keeping with this discussion that we're now having, it seems to me that among the other things that you might consider including in your best practices is that your -- when there's a major threat like this, communities not only want to respond immediately but they want armor, and you're telling us, I think quite rightly, that there is no armor, for one, and you're asking us to think about much more flexibly about what constitutes the right response depending on the culture and setting and all sorts of things.

And you're also asking us to think rather counter-intuitively about some things. So, for example, visibility. Most folks think if it's visible, it's not safe, and you're asking us to think much more flexibly about a whole host of things, and I guess I would ask you whether it's possible for you to think about how various groups could have a conversation with parents about the more flexible ways that you're thinking about what constitutes safety.

MR. MUNDAY: I think the word counterintuitive is a very good word to use. It's how I think about this

issue, that it is counterintuitive to imagine that greater visibility can lead to greater safety, and that would be a conversation that would need to be had with all the groups that are included in this process, including the users of the buildings and the responders to have an understanding of what that means and how it works.

It is a very, very serious question in FEMA primers on the subject, on school safety, that question is discussed and there is an increasing point of view that comes down on the side of greater visibility. So clearly it's not a commonly held point of view, and it does need wider dissemination.

MR. LaPOSTA: I would also suggest that it gets back to the all-hazards approach that you were discussing that while -- all of these things go both ways. The communications as you've mentioned go both ways. The visibility can go both ways. So they can easily be good or bad, but when you're looking at an all-hazard approach, it's back to the likelihood of certain types of events, and while greater visibility may in fact for a particular type of event be a detriment for the broader range of hazards that one faces day-to-day in a school environment, it may in fact be a tremendous benefit, which is why that conversation is so important to begin to point out when it is useful and when, in fact, it may not be, and then how do

you control for those instances when it may not be.

COMMISSIONER SCHONFELD: As you're putting together these recommendations, which you've kindly agreed to do, so thank you. I'd also encourage thinking through easily implemented, broadly applied inexpensive solutions that can make a difference. So as an example, many years ago when I was working with Milford public schools under the first round of the REMS grants, the Readiness for Emergency Management in Schools grants, they had looked into the process of trying to come up with those plans that can be put onto -- that can be digitized and be readily accessible from laptops and police vehicles, for example, and because some of the buildings were quite old, it actually was more costly and time consuming than initially one would think. If you design the building in AutoCAD now, that's quite easy, but if you have to find up-to-date plans that have also been changed because of the renovations that occurred 35 years ago, this apparently is a more difficult process than one might think, and costly.

So they did partner with a technical college and try to get some of those plans done, but one of the things they did, which was a very simple solution, was they realized that one first step would be just to number all of the entrances and exits of the building in a standardized way. At Kent, it was debated about should it be clockwise

or counter-clockwise. So I don't remember which one was decided, but they used it for all of their buildings and all of the public buildings in the town. So that if you went to the -- if your child was at the mall, then if something happened at the mall, and there was a message that went out door 13 or door 21, then the police would know where to respond to that, and they were all color-coded the same way throughout the entire town. Very simple to do, and it also has multi-use because if you need to pick your child up at the mall, instead of saying, you know, the one near the Gap where the parent isn't going to know that, you can say, go to door 21. So it has a -- it's doesn't -- it's not just for security, but it's for effective flow, and it's very cost effective.

So if we can think of more of those solutions, I think that would be quite helpful because I'm concerned that if we rely too heavily on technology, the expense of the technology and the maintenance of the technology, and the unintended consequences. So if you put your school on the internet, someone can hack into it as well. So you also create vulnerabilities as we try and reduce vulnerabilities, but if we can think about also the low technology, low-cost solutions that work, I think that would be helpful.

COMMISSIONER FORRESTER: I'm sorry. We're

putting you on the spot, but I think, you know, I'm very reminded of the bullying legislation that went into effect probably ten years ago in Connecticut with really very little funding behind it, but most principals in schools had to address that as a direct, you know, sort of culture of safety, and I love the example of all-hazard approach so that I would be -- I work in a child mental health clinic that unfortunately has to deal with the hazards of the bad things that happen to kids sometimes in schools in the hallways or in the classroom itself, you know, depending on the environment, and so I think that whatever is created, and whatever tool needs to include that consciousness. When you were showing the classrooms, the L-shaped classroom, there was an area there that I saw by the lockers. I was like, oh, that's an area bullying or violence can happen on a child and, you know, I'm sorry, that's what I think about a lot unfortunately because of my business.

I feel that external worries are certainly few and far between luckily. It's the internal worries that we also have to consider in this change, and it might be an opportunity for the state to put some energy and some resources behind the legislation that's already in place around the bullying. So if we were looking at an environmental protection, if you will, and took into

account that area too, I think we would be putting some very valuable all-hazards work on the table. So you would have to have a child mental health person on your tool kit. So --

CHAIRMAN JACKSON: Thank you. I actually have a question for some of the law enforcement current or retired on the panel. When you saw the video of the glass, how much did you think wow, that's very safe, and I would employ it in my community, and how much did you think, well, I may have to force entry into that location, and that is going to be very challenging?

COMMISSIONER SULLIVAN: To be honest with you, it didn't impress me. It's good for hurricanes. For the things we're talking about, you know, I asked them a question earlier and they gave me an answer I expected that there's no real bottom line you could say this is the best way to protect the building. Protecting for hurricanes and so forth is fine. Breaching the building, we'd find a way. I mean there's going to be a door. There's going to be some way you're going to get in there. We have the tools. We have the fire power if needed. When the police respond, they respond, you know, it's automatic pilot. They're going to go in, and they're going to find a way in. If they have to find a way in through the roof, through a door, whatever, it works both ways.

So I don't think it's a real concern to the police. It's a protective issue, but it's still not going to protect against what we're trying to protect. I still think the holistic approach, you know, we talk about the all-hazard approach, we talk about the cultural issue. I think those are issues we need to focus on more than the physical protection because when you ask the experts how you do it, they look at you and they say, we don't really know, I mean, which is what they're saying. We don't really know what a standard should be. We don't know what a basic all-school system should be. It's something that has to work within that community that we probably need to focus less on those issues than some other issues that I think are more important.

COMMISSIONER O'CONNOR: I think it depends on the building and the use of the building. So I think it could have value, but I think I go back to the concept of delaying their entry, and we know at Newtown he shot out glass to get in because the school had good procedures. The door was locked. You had to buzz in. The office was in the front. So it might delay but I, again, think for us to make sweeping recommendations I think is misplaced. I think, I focus back on it's a community decision based on what's happening in that community, based on the known risks, the potential future risk, and so I wouldn't make a

one way or the other.

I do agree with the retired chief that we're going to get in. We all carry breaching equipment in the trunk of our cars, you know, so you're going to get in. If you're thinking, you know, geez, will it prevent the police from getting in in an emergency if they need to so a caution situation -- yeah, yeah. You know, we carry that standard breaching equipment in a post-Columbine world. So we would get in if we needed to.

I don't know if you could shoot that out. What would -- how long would it take with an AR15 with 30 to shoot that out? Have you seen tests on that?

MR. LaPOSTA: We have -- no, I don't think they've tested that. It would put holes in it, but it would, you know --

COMMISSIONER O'CONNOR: Yeah.

MR. LaPOSTA: I think you'd have to put a lot of holes --

COMMISSIONER O'CONNOR: Yeah.

MR. LaPOSTA: -- in it before you actually --

COMMISSIONER O'CONNOR: Yeah. I've heard of this concept of 3M film you can place over the windows, which goes to your point, David, you know, that if you want to do 3M film it's a relatively low-cost, which is going to do the same thing, right? It's going to be hard to shatter?

It won't?

MR. LaPOSTA: We have several districts now that are --

COMMISSIONER O'CONNOR: Yeah.

MR. LaPOSTA: -- asking us to look at that as a retrofit --

COMMISSIONER O'CONNOR: Right.

MR. LaPOSTA: -- for some of their entry doors.

COMMISSIONER O'CONNOR: Right.

MR. LaPOSTA: Again, it's about the concept of delaying.

COMMISSIONER O'CONNOR: Yup.

MR. LaPOSTA: If you can slow somebody down for three or four minutes to give you time to arrive. The point of the video was, you know, at about minute three, probably those guys are in the back seat of a cruiser at that point because it's, you know, you're not going to get 17 minutes to get into a building in that video.

COMMISSIONER O'CONNOR: Right, because we have analytic cameras that are laying dormant. So the moment they show up, it's ringing into the PD and they're responding.

MR. LaPOSTA: Or somebody hears that sledge hammer hit the glass and actually calls somebody.

CHAIRMAN JACKSON: Anyone else?

I want to thank the panel for that very informative and very thoughtful presentation. Obviously, the architects of the State of Connecticut take this very seriously, and we deeply appreciate your recommendations. Thank you so much for your time, and I will be in touch to talk about some next steps in terms of developing this Tools for Schools style program where we can try to provide districts of all sizes and all diversity at least a reasonable process by which they can analyze their facilities and determine what needs to fit their unique circumstances.

Thank you so much for your time.

PANEL: Thank you.

CHAIRMAN JACKSON: Next on the agenda is Mr. Ken Trump. He is unable to join us. He was traveling today. So we're going to take a brief break before we proceed. Actually, is Ms. Kennett here from FEMA?

Okay. She has not arrived yet. So why don't we break for lunch. She is -- she was originally scheduled for 12:45. So why don't we take a lunch break now and reconvene at 12:45 p.m. here. Thank you.

(Recess.)

CHAIRMAN JACKSON: All right. Thanks for your patience everyone. I think we're ready to reconvene. We have two presenters for this afternoon session. I would

like to welcome from Washington, DC from FEMA, Ms. Mila Kennett, who is going to talk to us about the standards for safe school design that were developed by that agency. Thank you for joining us today.

MS. KENNETT: Hi.

CHAIRMAN JACKSON: Hello. Oh, there's a button to turn that microphone one. There you go.

MS. KENNETT: I just want to first thank everybody for inviting us to this very important -- to present in front of this very important commission, and I want to introduce two colleagues, Bob Smilowitz, here. He's responsible for the part that deals in that manual that you're looking at, and I'm going to be talking a little bit for explosives, and Bogdan Srdanovic. He's a co-author of this manual.

First, let me say some things about the manual. First, the first manual for safe school was prepared by FEMA in 2003. This particular manual is prepared by the Department of Homeland Security Science and Technology Resiliency System Division. There's where I work. I used to work in FEMA. I started in 2000, but right now four years ago I moved to the HS S&T. So that's my right affiliation. I'm with the HS S&T, Science and Technology.

Again, thank you very much. This manual, like I said, it was put together by a large team. It's not --

there you go. This manual was put together by a very large team, and the team was formed by people with different disciplines. It was a multi-disciplinary team.

The things that I'm going to be talking about today will be really coming out from the manual, and I will be glad to send a copy to everybody. I only was able to bring a few copies because it was too heavy, but I promise you, Mr. Jackson, would let me know -- the mayor would let me know who wants copies and how many copies, and we would be very happy to send it to you.

Again, this manual, what it does is -- and this is pretty much what we're going to be talking about, about the physicality of schools. The basic principles are technology for school safety, and I just want to mention that in Chapter 1 of this, Mr. Jackson told me that he wants to learn more about this manual, and this is what is my intention to do today. And the Chapter 1, it talks about something that is very important, and we're going to be talking about, is risk-assessment, how we assess risk in schools.

Around Chapter 2 is more things that have to do with the site, how you control your site, the surroundings of your school. Chapter 3 is -- we have a chapter on school shootings, and we mention there -- we describe the events, and we describe the response, and then we make some

recommendation at the end of each of the case studies that we have included.

And then Chapter 4 is blast effect and design guide to mitigate hazards, and I just want to mention something. We think a lot about school shootings, but blast is really important. If we see, for instance, in Virginia Tech shootings, the shooter put a sign in the doors after he put some change and says you cannot come in because a bomb will explode, and that really delayed a lot the response.

In Columbine, a bomb was put to get first in the cafeteria. Thank God it didn't explode, but explosives were used, and throughout the roaming around the schools they were shooting all kind of bombs, homemade bombs. And then finally in Beslan in Russia, that was a terrorist act. That was a little bit different, but explosives were used extensively. So I would say that school -- in school -- besides school shootings, explosives are very important. That's what Bob is also here with me.

And then in Chapter 4 we have -- I'm sorry, in Chapter 5, we have -- we talk about toxic releases, which is another potential threat.

How we see school safety? We see three -- how do you design a good school? We see that three pillars for school design. The first one is high-performance. As you

all know that most of our buildings and our schools are designed for safety according to our codes and standards. And what school safety is, is that if something happens, an earthquake, flood or wind or anything happens, it gives you enough time to evacuate the school, but the functionality of the schools are not permanent, are not there after the event.

Resiliency, we may -- this is a buzz word now. Everybody is talking about resiliency, but resiliency for us for this program, is the capacity of any schools or buildings to perform and provide basic service after event, after hazard event. And another thing that is very important in this program is that -- it's an all-hazard approach. And why all-hazards? Because in reality, we cannot only -- if we design for only one thing, we lose money. Like I said, in schools we should be -- we should look at shootings. We should look at blasts. We should look at earthquake, flood and wind. We should look at potential hazards that deal with chemical, biological, radiological. We could -- it's a holistic design what we recommend for school safety.

Now, when we talk about all these things about making school very secure and doing all those things, I know there -- it could be a conflict in terms of what is needed for the learning for school, for the openness of

schools, and for an open environment for learning. And looking for the right balance where you don't get in conflict between what are the first things that you should do in terms of safety and what is the things that you should keep for a good learning environment is what I call a smart design. And we're going to be talking a little more about that here.

But some of the things for a desirable school design, I would say health, safety and security that is -- that the students and teachers feel comfortable with the learning program, serve as center for the community because the schools are always -- some of them function as shelters, other for any emergency, allow flexibility and electability to changes and protect -- this is a big one -- against natural hazards, protect against man-made hazards, use daylight and comfort control, design for durability and energy efficiency. Energy efficiency is one of the big recommendations right now. And also I would say, in general, the final design should be kind of a project that the community gets involved with the school authorities, and they come to a solution that is desirable for the entire community.

Now, I want to -- this is kind of the framework. I want to go to more into some areas of the manual. One of the big things that I'm here to talk about is about school

risk, and we have divided school risk in two, manmade and natural disasters. Again, I'm proposing a design for a school that is all-hazard. In the threats we have internals and external attacks. We have school shootings. It could be internal, external, explosive blasts, and CVR chemical, biological and radiological releases, and also we have some estimated perimeters for our risk analysis. One is 100 feet, 300 feet and 1,000 feet. When you are concerned with schools, you have to not only understand what is in the school, but what is in your perimeter and how you protect your perimeter. And this is a little bit more of that in the next slide.

And active shooter is for us in the manual is anybody that is armed and impose force against multiple victims, potential victims, and the active shooter who would be as we have seen a single shooter, like in the case of Virginia Tech, and unfortunately which had all the nation with a lot of pain what happened in Sandy Hook. It could be a team of shooters, what happened in Columbine; snipers, what happened in University of Texas. They could be in an elevated position, in ground position, hostage taking like happened in Russia, in Beslan, and it could be individual hostages or multiple hostages.

So here is another schematic representation again of the areas that we need to control, and just let me say

that the first layer -- we call it layers of defense, but it's perimeter control. The first layer of defense, sometimes the school or the potential school, whoever -- an existing one or you want to design has very little to do because it's outside of the perimeter, but we need to be aware of what is outside the perimeter.

The second layer is the one that we could control, and you see the schematic drawing on the bottom how to protect the front. How to block views and not let intruders sort of look inside. And the third layer of defense is the building itself, the school itself.

This -- from here on, we're going to talk a little bit about Chapter 3 in the manual, and the chapter highlights again, case studies of school shootings. And what I did is I went inside the book and divided this section in situations, vulnerabilities and then some kind of action, action plan. And in the situations, which are the ones we're going to be talking now, the difficulties that -- to protect school are many, and first I will say that the attacks -- any attack that involve children is very difficult to handle because children, unless you had a lot of exercises, they sometimes, when they panic, their reaction is a little bit different than anticipated. So that element increase the difficulties.

School shootings are, I would say, probability --

they are half low-probability, but the consequences are very high. There's no school shootings every day, but when they happen, the whole nation -- like in the case of Sandy Hook, you know, everybody is like so much moved with the events here.

One of the things, the characteristics of the events is -- and this is -- I'm talking remember about the physicality of the building. We will get there, but one of the things that we have to understand for when we talk about vulnerabilities is that the school shootings evolve very rapidly, and they don't last -- some of them don't last -- only last a short time, and when the first responders or the police arrive, either the event is over, or it is very difficult for those forces to intervene to do something effectively. So those are some of the difficulties that we are going to be identifying when we are thinking about vulnerabilities.

Another thing is that when finally the first responder or police arrive, it's a lot of confusion, and this is all in the manual. In the case, for instance, of Virginia Tech, the police thought they have more than one shooter, and the reason was because he was using different guns. So it was a long time between the arrival of the police when they finally got inside the building it was like two hours before -- after the arrival. Also, it's

very difficult to identify the position and location of the shooters, where they are, and also the location of the people that have been injured, or the students and teachers that have been injured.

In the -- I don't know if you remember, but there is also -- Westside Middle School in Arizona there was two kids who perpetrated that attack, 12 -- 11 and 13 years old, and what they did is they first pushed the fire alarm to get all the kids outside the building, and when they -- the kids came outside the building because they thought it was a fire, and they were trained to fire, the shooting started. And luckily it was stopped by some workers, but this is some of the difficulties, that the shooters can use different strategies to get the students to come together to a particular side.

Another situation that we found is that the shooters may commit suicide by the time when the police arrives, but however, the police doesn't understand the situation, and it may take them a long time still to be around.

And that also that most weapons used in the shootings are rifles and handguns.

This is a little -- the picture in the right is Beslan, and I want to talk briefly about it, but I got from the book some statistics that shows that between 1989 and

2009, 41 shootings occur resulting with 75 dead and 154 injured. In 2003 and 2004 -- between 2003 and 2004, the numbers of firearm incidents and explosive possession was 7,478 in 4,875 schools, and the number of incidents involving knife and sharp objects was 30,000, over 30,000.

In Beslan, as you know, the significance of this one is that it was a little bit different. It was perpetrated by terrorists. Also, there were demands imposed to the government for the release of some of the victims. The total was over 300 students, and very interesting, one of the problems is also that the community reacted to this event, and they came to the site with their fire guns and a lot of shooting was exchanged between the terrorists and the people.

The children, in the beginning, were used as shields, and they were put into -- in front of the windows so that the forces outside would not shoot the schools, and the whole event ended up three days after with a fire in the gym, and the destruction of that building as you may see it.

Now, I want to talk about something about the vulnerabilities that we were talking, and I would say that most schools old and new do not satisfy all what is needed for safety -- all the parameters that are needed for safety. When we’re talking about high-performance, they

are not there, and they are not there for two reasons. Number one is that money is a constraint, and to put safety in place costs money. Also to retro-fit or rehabilitate a school costs money. So that's one aspect, that why a school doesn't have all the safety parameters they need. Another problem is that sometimes we don't have all the knowledge about how to reduce risk, and this is something that I hope the manual would help.

Major vulnerabilities when a shooter come to a school is to really stop him from entering the school and roaming around. This is what really cause a lot of victims. Unguarded grounds and multiple exit doors provide easy access to the shooters, but they are also necessary for the students to escape. So again, we find those things that are in conflict may be in conflict.

One of the things also in all these case studies that we presented in the book is the lack of communication, the difficult communication first between -- first the police is alerted, and then when the first responder come to the site, it's another site of problems because it's difficult to locate the shooter. It's difficult to locate what is happening and the type of weapon, if there are bombs, if there are explosives. It's a very difficult situation, and that's another of the big vulnerability.

And for me, one of the things that -- and I think

this is really important, is the lack of places for the student to hide or barricade themselves, and there are many solutions for that. Maybe when we are designing a school, we need to think a little bit, but in all of the cases that we review, a lot of students were not injured or killed because they had a place to hide, and we may want as a society to look for -- think about safe rooms or look about doors that cannot be opened with a gun because that's what happened. You have locked door, but the shooter could impose themselves and open the door. So if we are talking about doors, doors need to be safe. Doors need to not to be easy accessed by the intruder.

We have -- I know specifically in Sandy Hook we have some new measures for filtering who comes into the school, and that's a great thing, but I believe, personally, that we need more than that. We need a second filter that sort of stops the intruder from going any further. Maybe classrooms needs to be designed at the end, far away from the entrance, but we need a way to stop if somebody is starting to roam in the school and is doing some violent act, how to stop that person because in the school's reality, after the intruder is inside, there is very little what can be done.

Here, I have some strategies how to -- about protective measures, and one of the things is that when we

think about designing or retrofitting in schools, schools are rehabilitated all the time. We need to think about a safety measures, something that is part of the design, not an aftermath or an afterthought, but something that when we think about making our school -- existing school stronger or a new school better, we need to think about safety like it's an essential part of design.

And I think the goal of this strategy will be to limit the shooter entrance to the school or limit the time they can spend searching for targets of victims because that's a big thing. After they are inside the building, there's very little control how they move around and they roam around, and we need to think about that when we are designing. And also, how will you allow teachers more time to evacuate to safe areas or seek cover.

Some of the strategies will be to provide inner doors of limit access to the -- to isolate or limit the access of the shooter. It ideally will be operated remotely. Again, I mentioned this before, and I would like to reaffirm the importance of strong locks on classroom doors. You cannot just put a lock and have this lock be sort of removed by a shooter with a gun. We need to think what type of doors we're going to be needing.

` Also in the case of -- in Columbine, classroom doors, the students, they didn't -- they just roam in the

hallway. They never went inside any classroom, and most of the shooters -- if the students were protected inside with a strong door closed, the students were unharmed.

Other shooters, of course, they have to shoot through the doors and have killed the teachers, but most -- that's why I'm talking not only common doors, but doors that will protect from an armed intruder.

Also, it's important to have a well-located administration area that somehow the school can control the entries, drop areas, lobbies and stairways and hallways.

And the chart at top and some of the -- this is in the manual and some suggestions, strategies, suggesting deterrents, detection, delay and expose investigation and consequences, and there are different techniques how to, you know, delay the potential attack.

Another strategy will be to -- a lot of students have been saved by jumping from the window, and we should make sure that we permit that to happen. In some schools, like in Beslan, they have barred windows, bars on the windows, and the students could not jump, but also we need to make sure that the area underneath of the building -- below the window is clear so that students can be -- jump safely to that area if they need to.

Parking needs to be visible, and should be under control for the school. And this is something that maybe,

you know, not everybody accept, but depending on the school, the size, the location and the vulnerability of the school, maybe we could consider intrusion detection such as cameras, access control measures, immediate video and other kind of safety measures that case by case we understand is important for that particular school.

I talk about a little bit about safe havens, a safe room where students can be moved in case of an attack. Also, I believe I mentioned that we have some inner doors that can be dropped and confine particular areas of the schools. And also, I believe, that it's important to have risk-reduction strategies and training and simulation programs.

Now, I want to talk a lot -- a little bit about what the manual talks a lot is about risk assessments, and we are a strong believer that to minimize any risk of vulnerabilities, you need to understand what is your risk, and this is something that I'm going to focus now, and if you have a threat of hazard, schools can -- you cannot control when things are going to happen or what hazard is going to approach. The Secret Service says that we don't have enough data to make any forecast reliable. So we cannot control the threat. The consequence is always going to be very great. We can minimize them perhaps doing some preparedness where the school -- as we do fire drills, the

children do exercise in case of a shooter. We could do that.

And in the vulnerabilities, again, which is the focus of this presentation, it would be more by adopting the appropriate protection and safety improvements.

One of the methods for minimizing vulnerability and risk in general is to understand, again, your threat, your consequences and your vulnerabilities, and that's what risk assessment does. Risk assessment should be -- we cannot make general recommendations for every school. It has to be school by school, location by location and place by place. And so it should be on an individual basis.

When we do a risk assessment, even if you think your priority will be school shooting, explosives or any other hazard that is important for you, I think if we design, we should design for all hazards at the same time. We should design for earthquake if you are earthquake vulnerable, for flood, for wind because a school needs to be a safe place for children.

To get close to a risk assessment in the manual that I provided that I'm promising to send more copies, there's in the Appendix F, you will see there is a checklist that identify all the risk of schools. It goes through one by one what are the major risk of vulnerability of a particular school, and it's a checklist for the

schools to understand their vulnerabilities and do precisely that, check which ones are the ones that concern them.

What the HS S&T has done is that we have right now we have a tool. It's called the IRVS, Integrated Rapid Visual Screening risk assessment tool, and it's free of charge, and this tool what it does is produce a risk assessment in a way that is very easy to prepare, it's accurate and it's friendly use. It doesn't have to be done by the professional. It could be done by a school administrator or a facility manager at school. And what it does is identify the most cost effective vulnerability and which mitigation measures -- how you should mitigate that vulnerabilities, how to reduce that vulnerabilities.

We have that tool available, and this is an example of the outcomes of preparing a risk assessment. As you see, in this case they have twenty-two scenarios. It's all hazards, and major risks are highlighted in red, and if you see in the multi-hazard interaction matrix that is in the bottom, you will see that by doing something, for instance an earthquake, you are sort of helping other hazards to improve.

So with this comprehensive analysis, again, it's something that's available, and we could provide free of charge.

Now, I want to say that that particular risk assessment that we have in our -- it's available on our website. Again, it's free of charge. There's one thing missing, that's a risk assessment that has not been prepared for schools specifically. It's for general buildings, and my point is that schools are so special and have so many -- they are complex structures designed in a particular way. Some have gyms. Some have big libraries. It depends on the school.

That really -- what we need to do is -- what I would like to do in my recommendation -- part of my recommendation is to take that risk assessment that we have currently and add the list that we have in the publication bib 7 in the Appendix F and put it together so that we have -- we convert a generic risk assessment into something that can be used for the assessment of risk for schools.

I think that also I propose that putting together with that should be another publication that's from DHS. It's called the Active Shooter, and all this information should go into a tool that very rapidly and at a very low cost determines the risk and the vulnerabilities of your school. The benefit will be that, of course, it will save life. That would be the major thing. And also, it could help -- if it's done in several schools, it could help all schools in an area to evaluate which one are at -- have the

largest -- the highest risk.

We have also a version, and you will see why I mention that of the RVS, which is the done for federal buildings or leased buildings. And this is compliant with the ISC. The ISC is the Interagency Security Committee. And all federal buildings have to be evaluated with that particular standards -- to those particular standards. So the HS S&T, we prepare -- we automated the ISC, and now it's available, again, free of charge, but it's FOUO. So that has been -- that has to be requested separately by each organization.

We released that software in September 2012, and we have most of the federal organizations already using it as a tool, and they have it uploaded in their systems, and now they could assess all the buildings that deal with a particular organization. For instance, the Smithsonian is assessing all the Smithsonian buildings with that particular software. DOD is starting to do it. The U.S. Court is taking a look. The Bureau of Indian Affairs I'm going to leave for later because I'm going to talk about them. All the DHS buildings are assessed with that particular software.

And the other recommendation that I have is to take, for instance, this book that we have and put it into a training course that we could teach how to reduce

vulnerabilities in schools by providing the scores -- making the scores available for teachers, for school managers, for engineers and architects that are going to be designing schools so that the new concept of a safe school comes into play.

I want to say that currently I had a -- this is what I said I was going to mention. This is my last line, I believe, and I mentioned that I received an email, and I believe I shared it with Mr. Jackson. I believe I sent him a copy -- from the person in the -- special agent in the Bureau of Indian Affairs, and this person is going around the country assessing the schools, and he has the RVS tool in one hand and the publication and the checklists in the other, and I have been talking to him how wonderful are we to put them together, and this is one of the things that everybody is thinking about, and this colleague already he has gone around, and he’s assessing over 100 colleges and school buildings. I talked to him yesterday, and he said everything is going pretty well.

One of the things that he does is he runs the software, and then he discuss it with the facility manager, and he takes the checklist after he finish, and he discuss the results with the school coordinators and the staff. And that’s the way that he has the holistic picture about the vulnerability of schools.

I have to say that a person in St. Claire is using the software, and he has conducted more than 22 assessments and the average is that each assessment take 2.75 hours, and they have saved -- using this methodology -- saved hours per man a total of 352 hours for these 22 buildings.

And that's all what I have to say. I don't know if you want to hear my colleagues here if they have something to say or how you want to proceed next.

CHAIRMAN JACKSON: Thank you. Is there anything, gentlemen, that you'd like to add to the presentation or are you prepared for questions and answers for the panel?

MR. SMILOWITZ: If you don't mind, I just have just one brief statement. Mila is working on the government side. She's an architect. I'm working in private industry as an engineer, and it's a collaboration. I see it from a slightly different perspective, but it's exactly as Mila had described it. It's a team effort between the design professionals and the stakeholders, security professionals, architects, engineers. It doesn't have to result in extensive changes or modifications, but it should be considered.

So things that are either accepted or rejected as a design parameter or design option should be discussed and evaluated relative to all other design requirements so that

it’s not something that was an afterthought or something that was overlooked or neglected. You know, we make willful choices throughout our lives, and in the design process it’s constantly a battle against the budget, against the other constraints, and school safety or protective design in general is just another aspect of that process. So I just wanted to bring that point into a different focus.

MR. SRDANOVIC: I would like also to emphasize something that has been mentioned, but probably not to the extent that it deserves, and that is the fact that after incidents like these people often think, what can we do? The fact is that neither of us actually likes the idea that we can’t do very much. The fact is that a lot of the recommendations, what one can do, are not complementary to the functions of schools. We talk about physical protection here, but many of the physical protections -- physical protection measures that other institutions or organizations use are not compatible with the school environment, and as a matter of fact, a commission similar to this one after the Columbine incident decided that, you know, monitoring, detection, surveillance systems that many security systems use are really not recommended for schools because they may actually create an environment where students feel very uncomfortable and may create more

problems than solve.

So this is why, for example, we need to know exactly what the vulnerabilities are in various of these schools that each district or school itself can make these tradeoffs. To what extent we can actually do improve -- we can improve physical security without any downside for the educational environment, and there are many such measures that can be done.

So this is important to keep in mind that not all protective measures are actually counterproductive in terms of a learning environment and convivial environment of a school. That's all.

CHAIRMAN JACKSON: Thank you. Questions?

COMMISSIONER SCHONFELD: I just have a brief comment and point of clarification, and I don't mean it to sound like I'm picking on your wording, but under the table --

MS. KENNETT: It's my second language.

COMMISSIONER SCHONFELD: Oh, I didn't mean that. I was actually going --

MS. KENNETT: So you can pick all what you want.

COMMISSIONER SCHONFELD: I was going on the slide. Under the schools and risk assessment slide, it says that the probability of school shootings and manmade and natural hazards, and it says schools can do very little

to reduce the probability of these events, and then it references what I believe is the U.S. Secret Service conclusions about profiling to look for active shooters.

So while I will agree that we can do little to pick out who is going to be the active shooter, among many individuals, youth and young adults who may be at risk, I don't think we should conclude that there's very little we can do to prevent children and youth from developing some of these problems that may place them at risk of doing these events.

So I mean, obviously, the Secret Service isn't going to be advising us on child development and handling mental health issues. So I just want to clarify what you meant by that statement because in another panel when we're not talking about buildings, we are going to be talking about mental health needs, and I didn't want to -- I wanted us to look critically at the statement because I do think there actually is a lot we can do, but it's not going to come from the Secret Service. So --

MS. KENNETT: I couldn't agree more with you. I am in complete agreement. This was in a statement taken when the publication prepared a few years ago.

COMMISSIONER SCHONFELD: And again, I wasn't trying to challenge the publication. It was just --

MS. KENNETT: No, no, no, no, no, but I do want

to clarify something. I believe that it's -- this has been seen from the point of view that it's like when you prepare for a terrorist, not all the terror -- even if you prepare 100 percent for explosive, there's something that can go wrong and happen, and I think that's what this is referring in a way that we could do -- and I agree, we should do a lot for mental health in our community, and that is something that I hope comes out from --

COMMISSIONER SCHONFELD: And let me clarify the reason why I say this, and it's not -- again, it's not to be critical of the report. There was at least some correspondence that was sent to members of this commission that quoted some other document out of context such as this saying you really can do little to improve the mental health. You know, you can't prevent the mental illness. You have to deal with the security issue.

MS. KENNETT: I think it --

COMMISSIONER SCHONFELD: So I just want to be cautious that these statements can be taken out of context.

MS. KENNETT: I don't think it talks about public health. It talks about the events itself.

COMMISSIONER SCHONFELD: Oh, no, and again, I'm just saying --

MS. KENNETT: Yeah.

COMMISSIONER SCHONFELD: -- when these quotes are

taken out of context --

MS. KENNETT: Yeah, I agree.

MR. SCHNOFELD: -- then sometimes they're misinterpreted. So I just want to say that because I think there is a tension that may be playing out of how much do we just accept that mental illness occurs and assume that we have to put most of our resources into strengthening buildings and systems to create a more safe environment accepting that there will be mental illness and violence in the community, and how much do we try and create an environment where we minimize the amount of mental health difficulties and intervene earlier on knowing we can't still prevent 100 percent, as you said, but we may be able -- there may be a lot we can do to reduce these threats is all that I'm saying, and again, I'm taking it out of context, but --

MS. KENNETT: Let me just respond to that very briefly, and I would say that one of the things when Mr. Jackson invite me to talk about the manual, I was very happy that it was about school safety, about the physicality of the school because I really -- I believe that this commission -- I don't know all the things, all the details about the commission, but the commission will be dealing with very sensitive areas like mental health, gun control, and I'm so glad that I'm only talking -- and I

want my panel only to talk about the buildings because that's what we do. I don't know anything really, I'm an architect. He's an engineer. He's an architect. We don't know anything about mental problems and society problems or guns. We just know about the safety of the school.

And when we see school shootings, we see it in a way that we see other hazards. You cannot prevent the earthquake. They're going to happen. You could have a very secure building, but they're going to happen. Floods are going to happen. Fires are going to happen, and that's the way that we see it.

MR. SRDANOVIC: May I clarify the U.S. Secret Service statement? Just to give some background, the DHS designates risk as having three components: the threat, the hazard for natural events, the vulnerability and the consequences of an event. The U.S. Secret Service example was given as an example of a conclusion that not even government or public sector, shall we say like schools, can actually address and reduce threat level. That's outside of their purview. What schools and schools districts can do is only address vulnerabilities and consequences. They can manage those by trying to reduce them. They cannot reduce the threat level because it's out there, and we don't know enough about it.

What Secret Service concluded was that not only

we don’t know enough about it, but what we do know is insufficient to create a policy, to create a response that would be sufficiently universal to be used as a recommendation, not that we cannot do anything. Obviously, that’s a matter for social policy and other issues like mental health or something. This was only in regard to what we can do to protect schools.

COMMISSIONER SCHONFELD: The only thing that I will say is that I actually do believe that schools can do a lot to try and enhance the mental health of children that are under their care, and that actually many of these school shootings are actually from students or recently former students. And so I agree that if somebody is coming from another country as a terrorist, there’s little that schools can do to prevent that threat from coming into their school, but a lot of these threats do originate from school children.

MS. KENNETT: I couldn’t agree more with you.

COMMISSIONER SCHONFELD: So I do think -- we’re not really disagreeing, but I just -- and it is not the purview of what the panel was for, but I just did want to --

MS. KENNETT: I agree.

COMMISSIONER SCHONFELD: -- challenge that statement because out of context, I don’t agree with it,

but I don't think you agree with it out of context either.

MS. KENNETT: I agree with you.

MS. SCHONFELD: So thank you.

CHAIRMAN JACKSON: Thank you. Kathy?

COMMISSIONER FLAHERTY: My question for you is, and I think the recommendation of developing an IVRS especially for schools is a start. My question for you is everybody sort of hates the idea of mandates, but once there is something that's -- whether it's developed by FEMA or whoever else, do you think that this should come from some sort of federal level that -- whether it's the U.S. Department of Education or anybody else that says every school district everywhere in the country should use this assessment tool once it's developed and look at their schools?

MS. KENNETT: I would say two things, and we talked about that each school is different. If I would be making the policy, I would say it's something volunteer that schools adopt as they believe they should; however, having said that, there's a mandate for federal buildings to be assessed for risk because you want to know your risk, and you want to evaluate it and understand it. But this is something that I would say that schools -- and I have seen that happening. You put the tool out there, and schools will run to use it because every school wants to know how

is their risk and how much they -- it will cost for them to sort of minimize that risk or decrease that risk in a cost-effective manner. So but I don't believe it should be a -- something imposed, but something that different schools adopt as they believe it fits.

The Department of Homeland Security has developed those tools, and we are going through a budget crisis but I believe that demonstration will be very receptive to recommendations from this panel, and what -- we already have the tool. It will be a matter of adopting that tool and expanding that tool to fit some characteristics that are for schools. They will be open for recommendation I believe. I cannot speak for my -- for the secretaries and under-secretaries, but I believe that they are receptive, and even if we are in the manage crisis, I believe that they will pay attention to anything that comes out from this commission or the Department of Education.

If the Department of Education is interested, I would be very happy to work with them and sort of help them because this -- we are not talking about a lot money. We are talking about, in fact, very little money to adopt that because we have all the engines already done.

COMMISSIONER McCARTHY: Good afternoon. Thank you for coming up today. When we have discussed -- and some of the previous comments have focused on the low-

frequency, high-impact events, and I think that we have a real concern about making recommendations for those very low-frequency events and that they won't pass the cost-benefit test, and if we're asking communities to spend money to improve safety there has to be an improvement every day, and I think that what I hope that we come up with is a series of recommendations that will change the culture and the safety in schools every day.

You started at gun violence and then when you talked about all-hazards, you went up from there, and I think when we think of all-hazards, gun violence may be at the peak, but it's gang violence in schools. It's drugs in schools. It's bullying. It's student on teacher violence. And so we may build up to gun violence as maybe the most extreme.

So I hope that we can come up with some recommendations that will have practical benefits in schools systems every day so if we're asking districts to spend money for improvements, they will see that benefit. And I would hope that any changes or improvements or additions to threat assessment will include those types of events that affect the culture of safety in schools on a daily basis, and I think that that might be -- it might be helpful to partner with the Department of Education to understand the needs of schools systems and the practical

applications on some of these initiatives on daily lives in our public schools.

MS. KENNETT: I just want to -- and perhaps it's not the best division, but the way that we see protection of the building is that everything that deal with the physical environment. Like, there are things that the physical environment, like drug use in school, it has -- the interaction with the environment if it's there is very minimal. However with the school shootings it's a lot of things that can be done from the physical part of the building, and that's all what we deal with. Maybe it's a very bad, you know, way to divide things, but if we happen to work with the Department of Education that doesn't mean that some of these other threats cannot be put into the system either as awareness or something that needs to be carefully watched or monitored.

MR. SRDANOVIC: May I add to this? In case you're not familiar with this, the state of Florida Education Department had arranged with the University of Gainesville to create -- to arrange some sort of manual or shall we say guidelines for designs of schools to combat school violence. We use that as a resource of sorts, but it was mostly concerned with the type of violence in schools that you mentioned. We concentrated mostly on school shootings, but bullying, other types of violence,

they have a whole book practically of advice on how to deal with this from a physical perspective. So you may want to look into that.

CHAIRMAN JACKSON: Could you repeat the source?

MR. SRDANOVIC: It's Florida Department of Education, but the authors were Architecture School of the University of Gainesville in Florida.

MR. SMILOWITZ: I see this just as another form of all-hazards or multi-hazard approach. We're just expanding the definition of hazards, and that's perfectly compatible with this document.

MS. KENNETT: Yes, yes, and again, like, you know, school bullying, drugs, maybe the relationship with the physical environment is minimum, but it should be mentioned as one of the threats.

COMMISSIONER CHIVINSKI: Hi Mila, how are you?

MS. KENNETT: Hi.

COMMISSIONER CHIVINSKI: You know, in the packet, and I read the 317-page report. I got that in an email the other night. You know, it states that building codes do not address protective design for blast loads, toxic releases and school shootings, and prior to lunch, we spoke quite a bit about that with the previous group. In your opinion, should codes be changed to reflect any of those hazards?

MS. KENNETT: The codes do reflect that, but the way they reflect that right now is for life safety, and it's under ASC7 most of them. He is the structural engineer, but don't get too hyper about that. But anyway, you know, they -- we have codes for those, and those codes are adopted, you know, by state and locally. But what the program that I'm heading, the name is High-Performance Resiliency Program, what we propose is that for those critical infrastructure, and I consider school one, in a volunteer basis, the schools kind of design for higher performance because -- I don't know if it would make sense budget-wise, nation-wise to say all the schools have to be built, I don't know, for all these hazards at this particular level, but schools are continuously being rehabilitated. You're always continually adding a classroom. You're continuously doing some kind of work in school.

COMMISSIONER CHIVINSKI: True, but I know you have some thoughts. For instance, I was absolutely horrified when I read about Beslan in Russia. I was unaware of the extent of that tragedy, and you had previously mentioned about the fact that some people, you know, faculty and students were able to save their lives by jumping from windows, and that's something we shouldn't ever take away. So I would assume we should have windows

that -- you would think that we should have windows that open. So I was curious if you have any thoughts of any codes that might benefit all.

MS. KENNETT: Well, this is what I said, you know, I make it always a difference and this perhaps where I come from in the sense of professionally, there is codes and they have provisions. And we have put a set of provisions in DHS like this book, and we make recommendations, very specific recommendations, which should be adopted on a volunteer basis, I believe. Maybe there are some places where open windows would not work for many reasons, and this is why I said it should be a case by case.

But changing the code, I'm not talking about that. I'm talking about us as a school put a moding (phonetic) and more higher performance for your building, and understanding the safety cannot be something that after the school is done you start thinking about it, but it should be part of the process of design. You understand the safety. You get a good structural engineer. You get a good architect to think about those things in the moment, either that the school is rehabilitated or the school is designed for the first time.

COMMISSIONER CHIVINSKI: Last question. Near the back, there's a chart with -- I believe it's deterrents, I

forget. There's five parts to it. Give me a second. Deterrents, detection, delay, response investigation, consequences.

In those designs, those voluntary designs you're referring to, where do you think most emphasis should go?

MS. KENNETT: Most what?

COMMISSIONER CHIVINSKI: Most emphasis.

MS. KENNETT: Well, I would say -- this is -- I would say delay or redeem the consequences, something before the consequences. The pattern that we use, this is something that comes pretty much by -- it's adopted by a lot of law enforcement, but the way that I see is that mitigations or protective measures should be taken either at the beginning of a design or after something has happened and you want to rebuild that, you should integrate mitigation measures. That's the point. It's several points in your design -- the way you design. You either retrofit with good safety measures or you start a new building with new safety measures.

COMMISSIONER CHIVINSKI: Thank you.

COMMISSIONER SULLIVAN: With all the studies you've done, and I know there hasn't been a lot of these incidents to develop a good database as the Secret Service says, but knowing budgets are limited, is there a threshold level of things that you would recommend that should

absolutely be done versus other things. People talk about bullet-proof glass. We talk about security doors, cameras. Is there a baseline that you would recommend that should be done as an opening for school security versus all of the other things in the universe that we talk about?

MS. KENNETT: I think I mentioned some of them. The ones that I extracted the manual was the ones that I believe they are more important, but in the end, I think it should be a case by case because let me just put -- let me just give you an example. You just had this shooting here that like the whole nation -- it moved the whole nation, but tomorrow we have something in California, an earthquake in California, and that’s why I believe that it should be -- when you do this design, it should be an all-hazard design, and there’s no measure that is more important than others. It depends on the school and the priorities, and what they think -- believe their threat is going to be.

And in terms of which vulnerability measures, that’s why we recommending so strongly to do a risk assessment because through the risk assessment, you will be able to determine in an existing school what are your priorities because right now I could say, hey, put doors, put this and that, but if you just take your school and look at it and run a risk assessment, it will show you where your highest vulnerability are. And then you know --

and then the whole process allows you to do mitigation measures that are cost-effective because sometimes you could have like let's say you have -- you could have -- to protect a perimeter, you could have guards, let's say. Well, guards, you have to pay guards whatever for the, you know, for the external operation of the school, but if you change the lobby and you put some secondary doors after the receptionist, and you were able to put some doors that isolate the classrooms, that costs you -- it has a cost in the beginning but that's a one-time cost.

So again, you have to -- and that's why the risk assessment helps you. Do you want guards? We are not against guards, but how much is that going to cost you over the entire operation, and you do something physical to the building, how much is that going to cost you versus, you know, one over the other, and that's what the process of risk assessment really helps you to do.

COMMISSIONER SCHONFELD: I just had two comments. One is I understand that the perspective that you're taking or that FEMA has taken in this report, has been more narrowly focused on what the building can do to deal with external threats, but -- and we can say broaden it so it's all-hazards, but the reality is that some of the structural changes for one hazard may actually be worse for the other.

And so just as an example, in some of the

structural modifications that you might make or design that you might make for the built environment to cut down on gang issues or violence among students might be to not have doors onto your bathrooms so that you have more curved entranceways. So there is no physical door, no door that could be locked. Nothing that could then trap other students in to be victimized by other students, and that tends to create an environment where there is less victimization that would occur in those spaces. But if you're trying to -- if you're trying to have safe rooms, and you're trying to have places where armed intruders can't get in, you want to have those doors locked.

So I think the issues is part of what we have to sort out as a group is how are we going -- what's the sweet spot? How are we going to balance those different issues, and at the very least, what I would suggest is as the group this morning have committed, and I've now made it a commitment, but have committed to putting together some practice guidelines of structural changes that can be made to schools at a minimum to render them more safe, that you should probably be looking at them as well and giving us some feedback whether their perspective should be at least thought about being more balanced with some of the perspective that you've brought.

I think it's going to be hard to harmonize the

two documents, but at the very least we should highlight where the potential differences are so that some reasoned decisions can be made about how to do that.

MS. KENNETT: Have you seen the Appendix F in that book?

COMMISSIONER SCHONFELD: No, I have not seen that.

MS. KENNETT: Please take a look because that was prepared specific for all the problems that schools may have. It's -- those that have the book, it starts --

COMMISSIONER SCHONFELD: I guess the reason I'm suggesting this is I think it will be very confusing to schools --

MS. KENNETT: The checklist.

COMMISSIONER SCHONFELD: -- if they're provided two different documents that say the opposite of what they should do to keep kids safe, and I find whenever there is that conflict or confusion without some reasoned discussion of how to balance it that it ends up that people do nothing.

And so I think, you know, to the extent that we can help them think through if gang issues is more of a problem within your community --

MS. KENNETT: Exactly.

COMMISSIONER SCHONFELD: -- you may need to

consider these structural issues, but understand that if you're looking to protect or harden your school from outside intruders that you would need more of this approach.

The other thing which I'm going to say is just something for the commission to think about. When I was serving on the National Commission on Children and Disasters, we did bring up the point that schools stand the potential of being soft targets for terrorist attacks, and we have been fortunate that we have not had an incident such as Beslan, but I think as a group we have to decide are our recommendations going to be thinking about how we harden schools as potential targets for terrorist attacks, because that would require a very different approach.

And I don't know that our country is ready for that yet, or wishes to take that approach. And I don't -- I'm not saying that I suggest it, but I think when you use the example of Beslan and what worked in Beslan or what didn't work, wouldn't translate to what we would want to do here unless we make a conscious decision that we're trying to harden schools. Because from my perspective, when I hear windows that can open, I think children falling out of them. I don't think of them escaping a terrorist. So I think you have to --

MS. KENNETT: Or a shooter. Or a shooter.

COMMISSIONER SCHONFELD: Or a shooter. But I think more the number of kids that fall out of windows, and that it's been a major public health intervention --

MS. KENNETT: I understand.

COMMISSIONER SCHONFELD: -- to put safety guards on windows so that they don't open so children don't fall out of them. And so I think we're going to, you know, there's trade-offs is what I'm saying.

MS. KENNETT: Of course.

COMMISSIONER SCHONFELD: And I'm not asking you -- I think those decisions are very difficult, but I think it's something that our group is going to have to struggle with because we can't make recommendations that say we have to go for all-hazards when we know we're going to have to balance one hazard against another.

MS. KENNETT: But a mass of the students got saved in Columbine because they jumped from the windows, and that's a fact.

MR. SMILOWITZ: You know, I think I tried to explain earlier when I gave my two-minute statement is that every design process involves at some point -- should involve at some point a meeting of the stakeholders, the design professionals, the security consultants, law enforcement if that's part of that group, to understand what's best for that facility, and that's where that

balancing act takes place. Obviously, the budget has a huge influence over that decision process, but it's an informed decision.

So I think the purpose of this document and the risk assessment is just to inform the group. It informs them, and if there are other issues such as the concern for children falling out of the windows, et cetera, that's part of that decision-making process.

MS. KENNETT: Yeah.

MR. SMILOWITZ: And that's part of the balancing act.

COMMISSIONER SCHONFELD: The only caution that I would give, and this, again, is more to our group, is that those -- involvement of stakeholders is hard to do when you're talking about school systems because that's the whole population of the community, and that often the stakeholders that come forward have certain concerns or worries that may be heightened based on recent events and therefore might have a disproportionate impact on the discussion. And it is very hard for a board of education or a superintendent to make decision that may appear balanced when you're not taking into account the passion or the concern or the worries of -- very legitimate worries of family members who are faced with recent events.

And so that's -- I think that's what our group

has to do is to try and help provide a more balanced recommendation because what I hear from people who are responding to crisis events, they're saying, well, I know it's not the right decision, but what am I going to say to the victim's families? What am I going to say to this group that's terrified about this particular risk, even though I know it or believe it to be low in probability, it is very high right now in saliency given the recent events.

So I hope we can help balance that, but that's hard to do.

MS. KENNETT: I really -- the only thing I have to say is that I really encourage you to look at Appendix F before you're writing your document, and feel free to use anything that is in this manual and the Appendix F because we have worked very hard with the Department of Education to put together that list, but it's really geared to the physicality. So that list can be expanded into other areas, but at least for the physical part of the building, it's a good, good start.

CHAIRMAN JACKSON: Thank you, and one thing that we've heard, or one thing that has been stated over and over is that each school is unique, and each school or community must go through its own process. I think by having a tool, and we talked a little bit about tools this morning, and you have provided some concrete ones here,

it’s my hope that the use of the tools can help moderate the tone of the discussion. If everyone is utilizing framework, it allows some of the emotion to be drawn out of it, and allow fact and logic and an understanding of how the community actually functions, as to how you think it functions in a moment of panic can be helpful.

MS. KENNETT: I just want to say briefly that I worked -- before I worked with the government, I was working with the Robank (phonetic), and I went to admission in the (inaudible), and I was working with the community, and the community was an oil spill. And everybody thought that the main problem was oil because that’s something that happened in that community, and what really the risk assessment helped the community to understand that that was just a factor in the number of things that could happen to that community, and that’s what -- and I am agreeing with Mr. Jackson that what he’s saying is that a tool like that that is not -- it’s a tool. It’s not a person. It can make a good start for decision-making because what happens is it doesn’t have any passions. It doesn’t have no interest. It will show some numbers, and it will say, hey, vulnerabilities are here. If you want to reduce it, this is how to do it.

Now, it’s up to the community and to the decision-makers to make those decisions. But at least you

know much you deviated from the right decisions. At least that helps you.

CHAIRMAN JACKSON: Thank you. I think we have time for one more. Mr. Sandford?

COMMISSIONER SANDFORD: Just kind of a practical implementation question. You talk about having this evaluation tool. How willing is Homeland Security to coming to the State of Connecticut if we wanted to have workshops to bring our superintendents, law enforcement, and other individuals to the table, show them how the tool works, and motivate them to go home and use it. I think just having it on the internet saying, hey, this is great; you want to try this; isn't going to work. I think we need them to the table, and the tool is really that good, and we really want them to use it, is Homeland Security or I guess your other arm, FEMA, the training arm, willing to come into the State of Connecticut and offer us that assistance to reach our superintendents?

MS. KENNETT: This is what I can promise. I could promise that I could come here with my team and show you how the tool works -- and the current tool, how it works, and we could bring even the person that is doing the assessments for the Bureau of Indian Affairs that is assessing schools, how he's doing it.

Now, what I'm proposing is a little bit

different. What I'm proposing is to take the actual tool and include what is in our checklist, plus all the other things that you are concerned and put it together so that we have in one unique place all the concerns about school. But a demo of the current tool and how the Bureau of Indian Affairs doing the assessment, I could commit to that. That's something because it's my program. To do the tool that I have in mind working with you and Department of Education and DHS, that is something that I need -- you guys to -- the commission needs to recommend so that I could get the funding and see if they are willing, because in reality, DHS is going through this budget crisis, but they are receptive to all recommendations. I know the secretary, the under-secretary will be receptive to recommendations.

CHAIRMAN JACKSON: Thank you. We really appreciate you taking the time to join us, and we deeply appreciate your time and your thoughtful remarks. Thank you all.

MS. KENNETT: Let me know anything you need, and I just want to clarify something. The tool that we have in the internet is not the one that the Indian Affairs is using. That one is open source for everybody. The one that he's using is the one that we created that is FOUO, that is for federal buildings.

CHAIRMAN JACKSON: Thank you. We will have one more presentation this afternoon and then some discussion. Do we want to move into the presentation or take a quick break?

Take five?

We'll take five, allow Mr. Mahoney to set up, and we will reconvene at 2:30.

(Recess.)

CHAIRMAN JACKSON: All right, friends, it's time to reconvene. We've heard a bit this morning, and Mr. Mahoney was here to hear the prior testimony. So I'm sure that he can comment on some of the things that he's heard, but we have heard a lot of reference to security consultants as a part of the design team. We are fortunate to have with us just one such expert, who also happens to have a significant law enforcement background.

So Mr. Mahoney, we welcome you, and we thank you for taking the time to join us today. The floor is yours, sir.

MR. MAHONEY: Thank you, Mr. Jackson.

Good afternoon, everyone. I'm informed that not everybody on the panel has had an opportunity to look into my CV, and so possibly, I'll just spend a moment over my background here to give you an idea of who it is that's sitting up here.

I started teaching in 1968 while I was working on my Master's in education, and finishing that, I then moved into high school teaching, and in total I did about ten years as a classroom teacher before I left teaching, and I went into the FBI as a special agent. I was there for 24 years and some of the work I did was violent crime, organized crime, drugs, terrorism, those sorts of things. But for a large part of my career, I was assigned to special operations. And in fact, when I was in FBI Headquarters in Washington, I was the national program manager for all of the FBI special operations groups.

Another one of my assignments is that I was the assistant legal attaché for terrorism in one of our embassies overseas. On September 11th, I was in the World Trade Center that morning. I was there for both collapses, and I led an FBI search team into the buildings between collapses. For months afterwards, I was a supervisor in the FBI command post and recovery center.

Towards the end of my career, I held a position of assistant special agent in charge in New York, and I retired from the Bureau in 2002.

Thereafter, I became deeply involved as a team leader in a program developed by the office of domestic preparedness to create a protocol and algorithm for determining relative risk for critical infrastructures from

terrorism and weapons of mass destruction. So all the risk assessment business you have heard about today, I was there at the creation of it, if you will.

Thereafter, I went to work for the Port Authority of New York and New Jersey as the general manager for security. And there I oversaw all the risk assessment, security mitigation needs, security planning, et cetera, for the billions of dollars worth of critical infrastructures owned and operated by the Port Authority, and I know you're aware that that includes the New York airports, bridges and tunnels, container ports, bus terminals, et cetera, and also the World Trade Center itself.

While I was there, I was also detailed to the governor's office to manage the writing of the master security plan for the redevelopment of the World Trade Center, and also during that time I went to the Naval Post Graduate School and obtained another graduate degree in homeland security and national defense.

I left the Port Authority in 2007 and went back to consulting and teaching and so forth in security matters. While doing all of these things, and in some cases a little bit prior to it, I was also a member of the former Fire Emergency Bureau of the New York City Fire Department. I was one of the first emergency medical

technicians in New York State. I've been the commanding officer of a rescue squad, and more recently, I attended the New York City Fire Department Battalion Chiefs Command Course. I am also, and have been for the last eleven years, a certified New York State school violence prevention instructor.

So as you hear, I have by design or by fate had the experience of being associated with nearly the full range of expertise and disciplines that you have cogently collected to focus on the continuing problem and horror of school violence. I'm not going to take your time to add to the observations and advice you've received from the experts in each of those disciplines, but rather I prefer to address the inevitable follow-up question. What do we do with all this information?

For many decades, we've witnessed death and injury taking place in our schools, our workplaces, places of public assembly, et cetera, either by accident, force of nature, or regrettably, through intentional violence. In our schools, it's occurred in institutions as diverse as leading universities and also one-room Amish schoolhouses.

Sandy Hook Elementary School is, and certainly always will be, one of those remembered for its magnitude and unspeakable horror. We may be certain though that for the faculty, staff, other students, responders, injured

survivors, and most assuredly, the families of the victims, that this life-altering event will not only be remembered, but it will be relived every day. For those of us who were spared personal involvement were nonetheless stirred to contribute in some way to find the cause and the cure.

To accomplish my objective today, which is to explain how all the advice you will receive is pulled together in a way that makes it useful and practical to bring security to our schools, I considered a number of ways to assist you in understanding the range and scope of what a security plan is, and what writing such a plan entails.

For the purpose of this presentation, a definition of a security plan would be, a security plan is the codifying of all known security needs, conditions, capabilities, functions and operations into a comprehensive system, which is capable of adequately protecting that which is considered valuable. The actual writing of a plan requires taking all the separate pertinent problems and solutions necessary to address them, and making them work together to achieve the desired level of security. None of those problems or solutions can be ignored. Each must be considered, evaluated and tested, and each must then be compared and contrasted to each of the other problems and solutions that are known or need to be tested. This is the

winnowing process by which a comprehensive, effective and efficient security plan evolves. In order to facilitate this I would therefore suggest that the commission should consider defining what you mean by school security and describe what level of security you seek.

To just apply -- I'm sorry. Instead of subjecting you to some litany of "do this" in response to the recommendations you hear, I thought it best to take a different approach. Imagine yourself as the school administrator responsible for the safety of your school staff and students. Then imagine yourself in a school security crisis needing the knowledge, the things, the people, the abilities, et cetera, to help you overcome that crisis. At the conclusion of my remarks, ask yourself if, as that imagined administrator, it appears to you that the things I have said would have been useful for you to know and/or have had in place successfully to successfully maintain school security. Hopefully, that should provide you with a sense of both the complexity and the importance of security plans.

H.L. Mencken said there is always a well-known solution to every human problem, neat, plausible and wrong. Without fail, after a rampage killing, we hear the voices offering solutions. Sometimes those voices are shrill, sometimes emotional, sometimes heartfelt and sincere, and

some even get to see their solutions applied, and yet the death continues. Still, we're told, to just apply more of this or permit less of that, and yet the death continues. We are urged to escalate our commitment to empirically failed solutions on the hope that we will reach some unknowable point of sufficiency in the future resulting in success and security, and yet the death continues.

I would suggest to you that the reason it continues is because Mencken was correct. Often the proffered solutions are neat, plausible and wrong. After all, if they were right, the deaths would not continue.

In decades of responding to other people's problems and emergencies, and a few of my own, I developed an awareness of these abhorrent events, their causes, their effects, and appropriate mitigating strategies. As someone who started out as a teacher and ended up developing ways to counter terrorism, I learned to gather in the lessons I had heard and experienced and how those lessons have turned into a security plan. I've been privileged to work with both brilliant minds and experienced practitioners in some of the most contentious and overwhelming emergencies and crisis events in our memory. The overarching lesson from all of the events is that causes and consequences of them are never neat and plausible. Similarly, the understanding, preparedness, management response and the

recovery from them is likewise never neat and plausible. Inevitably it is magnitudes more complex and untidy.

I would urge you not to seek a solution to a problem, but to seek to address a spectrum of problems. While your mandate derives from school violence, to frame your thinking within the context of violence alone can lead to a propensity to identify a single solution for a single problem, and that would be neat and plausible.

From hearing the various subject matter experts and their individual disciplines, I'm sure you've been able to draw valuable pieces of information. When you have finished your hearings, you will discover that you have an array of solutions to a family of problems, all of which we collectively call violence.

Soon, you become aware that some problems are larger than others, some more consequential than others, and I'm sorry. I can't simplify that for you. They are all credible issues that must be addressed. In the face of that fact, I would hope that your horizons are expanded from combating violence alone to creating safer schools across the board.

Violence takes many forms, and they're not a new phenomenon. The parents who lost their children in the Bath Michigan consolidated school bombing in 1927, the fire at Our Lady of Angel School in Chicago in 1958 or the

parents who lost their children to the sudden tornado that struck the East Coldenham Elementary School just down the road, down 84 a bit in Newburgh, New York back in 1989 have been no less emotionally destroyed than those recently affected in Newtown.

The information you gather will be eminently useful for security planning across all these conditions and others in need of your review. I suggest this not to make your task more difficult, but just as federal and state governments have adjusted their approach to emergency planning from that of managing individual problems separately to now addressing them under the umbrella of all-hazards, we should do this also. Not because it's more convenient, but because who would argue that we should address violence alone at the expense of having overall safer schools?

Remember, it is not just a stranger who suddenly arrives at the school to harm our children and their teachers as we've recently seen, but it is actually more common to have the individual who would do harm evolve from within the school population itself. A solution designed to keep the stranger from entering the school may be completely ineffectual to the one who is already in the school, and indeed, is supposed to be in the school.

As I said, it's an array of problems requiring an

array of solutions. I, therefore, suggest that the commission should consider understanding school violence within the context of a range of school security issues and addressing it as such. This certainly does not mean dozens of different plans to address this universe of problems. That would be unmanageable, cumbersome and ineffectual in a fast-moving crisis.

For example, I once encountered a principal who proudly showed me his emergency action plan in a three-ring binder that had 26 separate tabs, one tab for guidance in each emergency he could think of. In his mind, he was fully prepared until I asked him what he was going to do if he was unable to get to his book when the emergency erupted. The thought had never crossed his mind. His cognitive failure was not entirely his fault. He had utterly no experience in writing security plans with effective solutions, let alone anything to do with crisis management itself.

Just like that principal, you are faced with how to codify what you have heard into a workable, functioning solution. That is the true and formidable task facing you. Permit me to delineate the categories of problems you will have to contend with.

Broadly, they fall into four areas. One, being aware of the causes and nature of threats; two, preventing

or deterring the threats; three, managing the crisis; and four, recovering from the effects of the security event. They are all part of the security plan.

To successfully accomplish any one of these categories is a major undertaking in itself. To write a plan that has all of them functioning together concurrently, sequentially and coherently while under a life and death level of stress is nothing less than Homeric. If this is essentially the task that has been assigned to this commission, each of the experts you have heard has provided information that pertains to and can be consequential in one or more of these categories. It's a spectrum of problems, interrelated and complex problems, yes. But if I may, the very selection of the members of this commission, given your diverse backgrounds, serves as a strong statement that the governor recognizes that neither the cause, the issues, nor the solutions to school violence is singular or will be neat and plausible.

At the end of these hearings you will know the ingredients, but you won't have the recipe. That will take substantially more effort to write a master plan that weaves all the different threads you've gathered into a protective security vest for our schools. It will be necessary to produce a generic master plan template that can be passed to all of our communities where it must be

customized to fit the circumstances at each individual school building. Therefore, I suggest the commission should consider creating a subcommittee of subject matter experts to write a draft school security plan drawn from the information presented before the commission, and that the draft plan template be designed to modified as individual school situations require.

But why is security plan customizing necessary? Research has shown that school violence and shootings are not, in fact, a school problem. They are a community problem, and they must be addressed at the community level. It is best if some, if not all, of the cooperating participants in the plan writing for school violence are educated and/or experienced in writing emergency plans. Hence, the community involvement includes the first responders, but this also means that school board members, administrators and educators be familiar with this process. Again, it means that other subject matter experts and community leaders participate. I, therefore, suggest that the commission should consider identifying those groups in areas of expertise that will be included in writing school security plans at the school district and building levels.

Those plan categories I mentioned a moment ago have a subset of issues contained in each of them. The first category, as you'll recall, was being aware of the

causes and nature of threats. Its subsets are, A, threats internal to the school. That is students and/or staff in the school who may devolve into violent behavior or conditions that are life-threatening; and B, threats external to the school that may suddenly be present at the building without warning, which is what we saw at Newtown.

Let's explore some of the internal threat possibilities first. Is there a student or staff member who is living with the co-occurrence of issues that research has revealed to be potential indicators of violent behavior? Is there a system in place for the school to know that? And even if there were, does the staff know how to recognize them? Is there a process in place for reporting and responding to them?

Is a student or staff member involved in forms of risky behaviors outside school, which has brought them to the attention of local law enforcement or social services? Has the school been advised of those behaviors that could be potentially dangerous? And do you think school contact with those services would be beneficial?

Is a child faced with stressors outside that they might bring into the school such as separation from or loss of a parent, criminality at home, gang or drug activity in the community, or an incessant drumbeat of explicit sex, drugs and particularly, violence, provided by the media?

Does the staff know when and how to interdict behaviors that can put the child on a trajectory towards violence? Do they know what is an appropriate response and when and how should it be applied?

Does the state education curriculum include instruction that promotes behaviors that lead students not to choose violence such as civility, morality and responsible behavior? Is there an enforced code of conduct? Are teachers and staff presenting themselves as role models, and are they approachable by children who need help outside of academic issues alone? Or do we think that is a function for educators? And are they equipped to do it?

Being able to answer these questions and having the structures in place to address them are just some of the factors that contribute towards an awareness of threat, which is the first step in the prevention of violence. I, therefore, suggest that the commission should consider recommending that the State Department of Education undertake a study into the research of the causes of child and adolescent violence and abhorrent behavior, that the State Department of Education establish training programs for educators specifically designed to recognize, identify and respond to those forms of behavior, and the State Department of education develop a curriculum that teaches

students personal values that reinforce acceptable behavior.

Now, let us briefly consider external threats. If we choose to follow the all-hazards approach, we must look 360 degrees around the school for the possible sources of threats. Has the State Office of Emergency Management produced school-oriented maps that identify a recognized range of potential hazards in reasonable proximity to the school? Are there pipelines, highways, waterways, rail lines, ground condition storage tanks, et cetera, where accidents or natural occurrences could constitute a threat to the school? When these events happen, do the emergency services response protocols, including notifying the school with specific information and instructions of what they should do, and would the school be capable of carrying them out?

Are the school bus parking and storage locations secure 24 hours a day, or do we not even think of the bus as an extension of the school, and therefore, not a security problem?

Is the school neighborhood a location of frequent violence that can spill over into the school grounds or has school security thinking become insular? Is law enforcement aware of individuals or groups whose circumstances might prove threatening to the schools, and

should that be communicated to the school? Do students who are aware of a threat have an immediate and secure way of communicating that to school officials?

I, therefore, suggest that the commission should consider recommending that the State Office of Emergency Management have the resources, and on an updated basis, produce reports identifying locations and types of potential hazard for each specific school district in the state and recommend that school security plans should be updated annually relative to the reports issued by the State Office of Emergency Management, and that the State Department of Education establish guidelines for secure communication methods for students and others to report potential threats.

The next category of planning is preventing or deterring threats, and I must tell you that this is one of the most complex, difficult, long-term and expensive parts of creating security, but first it is pivotal that we understand the difference between threat and risk, whether by accident, nature or individuals. Physically, there can be a threat to that which you want to protect, but if what you want to protect is not vulnerable to that threat, then you’re not at any risk from it. This is because risk is a product of vulnerability to a threat and the consequence that results.

Reducing risk is at the heart of creating security. Risk is reduce by eliminating the threat or reducing vulnerability and/or consequence. Schools can only eliminate threats and prevent attacks from those threats which evolve internally through educating and convincing the student who threatens not to choose violence. A threat can be considered eliminated when there is no longer any intention or capability to harm, but just to reduce capability to harm does not necessarily remove the threat.

Presumably, we now understand the nature of the threats. Next we must decide what we want to protect from those threats and identify them in a hierarchy of importance. Naturally, our children would be at the top of any such list, but also included would be the building itself, the staff, the grounds, the classrooms, laboratories, power supplies, buses, water supplies, et cetera. The types of mitigations used to reduce risks in all of them are subsets of this category and include both physical and operational security mitigations. While there's a direct relationship between both of them, I'll mention them separately.

Since a school itself has no means of actually eliminating external threats, those external threats cannot be prevented. They can only be deterred by the school's

security procedures. For example, in Newtown, the moment the rampage commenced in the attacker's own home, the attack was underway. It could no longer be prevented. If the school is the attacker's next intended target in an ongoing attack, in most cases of external threats of this sort the best the school could accomplish would be to deter the attacker. But when a violent individual can approach unimpeded to the very doorway of the school as things are now, our deterrence potential is minimal. Deterrence is largely achieved through presenting a security profile that the attacker realizes he cannot overcome and causes him to select a softer target. A school district's security plans should not inadvertently create their own soft targets by site hardening one of their schools to the detriment of another. A comprehensive school district and school building interlocking security plan will prevent this -- just this sort of thing from occurring.

I, therefore, suggest that the commission should consider recommending that security plans be developed at both the school district and school building levels, and that the school district devise both short-term and multi-year plans that coordinate the level of school security development both across the district and between individual schools. Such security plans will require an initial risk assessment of the district in each school building. Once

the vulnerabilities are revealed, the assessment will also identify the corrective mitigations that are required to lower the risk. Many of them will be basic such as adding a light or installing a lock, but others will be difficult, time consuming and expensive. That's because these buildings were never designed in a way to deter an attack, and the school's risk assessment is largely reflective of the building's ability to contribute to the security of the occupants.

The mitigations and subsequent security operational plan may include CCTV, public address system improvements, installing first responder radio repeaters, the removal of locations where explosives could be placed, door control warning systems, emergency security hall barriers, fences, bollards or none or some of the above. The assessment could show that the most productive action to reduce risk would be additional in-depth emergency awareness and training for the staff in combination with some of the above. Periodic updating of that analysis to incorporate new threats and determine how installed security mitigation measures have reduced the level of risk should be done.

I, therefore, suggest that the commission should consider recommending that school security plans should be based on a relative risk assessment process specifically

designed for the evaluation of schools, and that the risk assessment process periodically reassess the schools on a cycle not to exceed three years.

For an example of mitigations derived without benefit of a risk assessment, consider that many schools have a security practice requiring visitors to check in at the school office. This is not a security practice at all. It requires strangers to enter the building so that the staff can determine if they are someone they don't want in the building. Once they're inside it's too late. Security practice cannot be left to unprofessional assumptions or intuition, and they certainly should not assume compliance on the part of those who intend to harm. Security measures that are effective only with the compliant individual fall far short of the need. Hence, the risk assessment process is required.

One of the main principles of genuine site security is to push out the security parameters of the site to a distance that permits enough time for awareness, detection and interdiction of that threat. That is the opposite of inviting them into the school. It's called access control. In places where there is room to push out the perimeter, it might be done with fences, barriers and cameras. In other places, it might be done with secure doors and windows. Regardless, security must be

universally and continuously applied, which may mean that vehicles, including those containing parents dropping off children, are no longer permitted the convenience of immediate proximity to the school. This will be inconvenient, but a good measure of how secure a place is to measure how convenient it is. Invariably, they are inversely proportional.

Conversely, internal physical security means classrooms doors must have windows positioned so that they cannot be broken and reached through to unlock and overcome a lockdown. It means fire exit sign at floor level where those crawling under the smoke can see them. It also means training our children not to identify their classrooms as Mrs. Jones's room or the fifth grade, but rather by the room number that will have meaning to emergency dispatchers and first responders. It means classroom numbers also posted inside classrooms and positioned on the outside of buildings so that first responders can quickly find the location identified from the cell phone calls from those who are trapped in those rooms.

But site hardening also means finding that balance between the security expert who wants to make the building as impenetrable to attack as possible, the fire chief who doesn't want to be delayed by having to do forcible entry during fire rescue efforts, and the

accessibility that complies with the Americans with Disabilities Act.

Security mitigations require examining each existing building for crime-proof entry through environmental design issues that the architects I was surprised didn't mention this morning, and designing and citing all new security construction for security standards that exceed basic building safety code requirements. Security and safety are two different things. It may mean legislation that establishes building security code requirements for schools just as there are school building safety codes.

I, therefore, suggest that the commission should consider recommending that legislation be introduced that establishes school security building codes, and that a series of improvements designed to facilitate first responder operations in schools be developed and legislation be introduced that defines a period of time for existing school buildings to be equipped with the identified improvements.

Operational security as opposed to physical security means ensuring that every member of the staff considers security to be equal to education as a primary responsibility and function. It means that the back door of the kitchen is never wedged open because it's a hot day.

It means that teachers do not rearrange their classroom furniture in ways that inadvertently creates barriers between the students and the exits. It means establishing layers of communications ability independent of the power supply.

When the incident starts, then is not the time to look up what you're expected to do or to search for the key or the two-way radio or the flashlight. It's the time to save the children, and time may not be a luxury that you have. Undoubtedly, many of those children will be so confused, frightened and disoriented that the drill they did perfectly yesterday will be completely unknown to them today or the practiced routes may be unavailable to them.

It is therefore imperative that the knowledge of the plan requirements as well as the rehearsals and drills be written with the reality and conducted with the frequency so as to inculcate the required behavior into every individual in the building. It means conducting unannounced emergency drills also during lunch periods, while the buses are loading in the afternoon or during afterschool activities or whenever the known patterns of evacuation or a lockdown might not be possible. It means interrupting even those in regular drills to break up normal patterns to test staff resourcefulness in achieving their emergency objectives.

This is why faculty and staff preparedness means that layers of alternatives should have already been considered and tested to achieve the objective of the plan. I've often asked teachers what is your job in an emergency and been told that it is to evacuate the students. Frequently, that's not the right answer. Their job is to save the students. Evacuation may only be one of the means available to them. They should have already considered and planned for other alternatives.

I, therefore, suggest that the commission should consider recommending an increase in the frequency and types of school emergency drills conducted during the school year and that prior announcing of all forms of school emergency drills be prohibited.

The third category of the school's emergency plan is actually one of the most critical. It is the crisis management section, which is to say that there is a security emergency underway in the school which is beyond a routine condition. It is a situation that requires activating the emergency plan. As a metaphor, it is akin to sounding general quarters on board a navy ship. Everyone within their school changes their mode of practice, activities cease, and possibly outside assistance is requested. No one in the building should wonder what they're supposed to do. They should all only need to know

the nature of the emergency and respond according to plan and practice for that emergency.

At this time, the principal or the designated, responsible individual will need to -- particularly need to maintain all forms of communication for instruction and coordination issues. Cellular phones will not be fully reliable, and the security communication center at the school should be redundant precluding a single point of failure condition in the event that the communication center location cannot be accessed.

It should also be noted that the plan must, as appropriate, include notification of the other schools in the area so that they may take immediate precautions against a similar incident and/or proceed with their supportive roles such as providing space for evacuated students, as an assembly location for parents or release of their buses to the school under emergency for evacuation purposes. Of course, continuous updating and coordinating with arriving first responders and transfer of the situation to their control according to the plan is a key part of this section.

I must take a moment to mention another critical factor that will occur. As word spreads throughout the community and further, the phone lines of the school will be inundated with incoming calls precluding their use for

emergency purposes. Additional lines or other technical advances must be included as a mitigation and be in the emergency plan to circumvent this issue. Similarly, the parents and guardians of all the children will be arriving on the scene and become a major issue for local law enforcement to control who will already be fully occupied by the situation inside the school. A well-conceived master security plan will include prior distribution of instructions for parents to follow in the event of a school emergency and continuous updating of the parents throughout the emergency period to reduce this major control situation.

Clearly, this type of incident management is the most intense and action-filled time in the plan’s application, and no amount of planning can ever fully encompass all the potentials for harm, but even if a specific event has not been planned for, many of the response activities will be similar, familiar and productive. It means having administrators trained and certified in the National Incident Management System so they can fully coordinate into the system used by the first responders, and it also should be the way their plans are written in that same format. It may mean placing caches or first aid equipment in multiple locations in the school and having staff know how to use that equipment, and it may

mean the state permitting emergency medical technicians or other first responder training for teachers and staff who are not otherwise members of emergency services.

I would, therefore, suggest that the commission should consider recommending that the college curricula for education majors at the bachelor and graduate levels include a required credit course, possibly without charge, for school security awareness, processes and best practices, and that all school administrators be required to be certified in the National Incident Management System, and that all current school personnel be required to receive instruction in school violence prevention and emergency procedures, and that school administrators, educators and personnel be considered in the same manner as emergency services personnel to receive various forms of state-approved emergency medical or responder training.

As I said previously, school violence is a community problem. For many types of violence, the root causes can be found outside of the school. Many of the mental health sociologists and similar discipline experts will provide you with that information, but during an incident it also immediately becomes a problem for the entire community. Clearly it is for the first responders, emergency medical services, et al, but the entire ebb and flow of the daily pattern of the community will be

disrupted, and that disruption will last long into the recovery period, and sometimes long after it.

It is certain that the municipal government will have a pivotal role to play in this crisis and in its aftermath and numbers of community organizations may be able to provide useful services. Therefore, writing the school security plan must also include appropriate authorities and representatives from the community, including the parents.

I, therefore, suggest that the commission should consider recommending that appropriate municipal authorities be involved in the writing of school and district school security plans.

The last category is the recovery phase. It is clear when the crisis-management portion of a plan commences, but the point at which it ends is far less so. Crisis management can be seen as a continuous process of regaining control of the school. The recovery phase is the reestablishing of normal school routine. For the purpose of discussion, let us agree that the crisis is over when the threat is removed; the fire is extinguished; the fight is over; the electricity is restored; or the individual is in custody.

Recovery is the period when the lost are found; the injured rescued and treated; and yes, the deceased

recovered. It is also when family members are assisted; the media are addressed; and investigations begin. Some of these needs, according to the plan, will be handled by those who are not school officials, but who's abilities are better-suited to such efforts. The school officials must now be focused on the students and staff and seeing to their needs, even if it's the minor incident that means only to have them reenter after a few minutes and take an accurate attendance. If it has been a major incident, it still means getting a precise accounting of all students and staff to determine the missing and locating them. It means transporting many to an appropriate and pre-arranged place; overseeing the reuniting of families; and assisting the police in identifying those staff and students whom it may be necessary to interview.

Recovery, of course, also requires seeing to the psychological and social services need of all the students and staff who may need it now or for an extended time. For the community, this absolutely pertains to the first responders also. If any areas of the building are considered a crime scene, the school administration must assist the police in securing the area for evidence, during which time the school cannot return to normal function. Damage to the school may require structural analysis and repair. School furniture and equipment may also need

repair or replacement before the school can resume normal operations.

If the incident has been particularly traumatic, a program must be utilized to make the students and staff feel safe and confident again about returning to the building. In the event that legal processes ensue in the aftermath of an incident, it should be recognized that these conditions can last for years afterwards. This will cause the school, the students and the staff to continuously revisit the event, and again, confront the consequences associated with it. People who have been through this note that this can be an experience almost as bad as the incident itself. Have no doubt of what I said previously. These security crises can be life-changing events. The security plan should have anticipated all these conditions.

As I've been speaking, you probably found yourself thinking, "I never thought of that" or "We don't do that now" or as I first suggested, you became the imaginary administrator with a security problem, and you now believe you're not sufficiently prepared. Let me assure you that the things I have described are not just foreseeable, but known on the basis of experience. In the light of that experience, how comprehensive should your school security plans be? I grant you that you may not

even need to use the full range of capabilities I've alluded to, but I'm unwilling to guess which ones you won't need. Even if you should never be required to use them, a comprehensive plan will have anticipated these needs and placed the structures, partnership arrangements and reliances in place now rather than trying to create them during or on the heels of the crisis.

Members of the commission, it should be understood that a truly affective school security plan has long since ceased to be the normal, yearly fireman lockdown drills, the flyer stuffed in the teacher's mailbox or the passing reminder during a faculty meeting or before the basketball game. Having security standards and procedures in place that can overmatch the threats we experience today is not hysteria. It is not overblown, and most assuredly, it is not someone else's problem.

As you have found in these hearings, no one person has the solution. No one person has the way to reduce violence. No one person can make our schools secure, but it will require an amalgam of the comments and recommendations from experts you have and will hear to assist our educational professionals in providing the security our schools need, our parents demand, and the children deserve.

I've only skimmed the surface of what it will

take, and what it will mean to turn what you have heard into an effective plan for school security. It will require original thinking, new or modified legislation, dedication and commitment as well as education and resources. Over the past two decades, America has recognized and taken great strides to protect its critical infrastructures, but it is long past the time when we accepted and included the infrastructure that contains that which is the most critical, our schools.

With your permission, I'll leave a list of the recommendations that I've suggested with you, and thank you for your retention. I'd be pleased to take any questions.

CHAIRMAN JACKSON: Thank you very much, Mr. Mahoney, for your very thoughtful testimony.

Do we have any questions for Mr. Mahoney?

Chief?

COMMISSIONER O'CONNOR: Thank you for your offer of your recommendations. I thought they were pretty thorough, but I'm wondering if we can get copies of your entire testimony. Is that -- and I'm not sure what organizationally what the role is, and if at some point we can go into discussions of our law professor, who's name escapes me, so I apologize, but you know, when we testify in front of the legislature, we leave copies of the testimony. I think given you've done such a thorough job,

it might be helpful for us to digest that in writing.

MR. MAHONEY: Certainly, I'll make it available.

CHAIRMAN JACKSON: Other questions?

Mr. Mahoney, you were the first to speak of mandates of you shall, and you used a word that is close to my heart. That word is code. You referenced security building codes.

MR. MAHONEY: That's correct.

CHAIRMAN JACKSON: We've heard today on one side an opening window can provide safety. On the other side, it can provide risk. At one side a locking bathroom door provides safety. On the other side, risk. Are there any baseline building codes that -- specific items that you would address or would you more mandate the process of determining on an individual basis what they may be?

MR. MAHONEY: I think, Mr. Jackson, it's the process, but the important point, I think, is that we understand, and I don't want to say something other than what the previous speaker has said today, but they used the term safety and security codes as one term, all right. They're different things.

Safety codes are generally those things considered that are accident generated, you know, the fire and, you know, tripping and falling, and those sorts of things. Security is meant to address those things that are

intentional, and it's very important that we keep that separation in mind. So security -- the things that address safety may not be sufficient to address security issues. The whole idea of intentional violence, whether it be internal or external to the school, is really the issue at hand here and each school, each district, but particularly, each school is going to have to be addressed separately.

As I said in my presentation, none of these buildings were ever designed to defend against an attack. The architects that spoke with you this morning went into great detail about the things that can be done in schools, but what they described mostly to you was new construction. The question of what do you do in existing buildings is a completely different story. The retro-fitting of security measures on buildings that were never intended or designed to address this issue is incredibly involved, time consuming and expensive. I've done it with a lot of buildings. I've literally authorized the expenditure of billions of dollars worth of security enhancements to existing structures, and the only way you effectively do it is through a risk assessment process.

Now, you've heard that several times today, but I don't know that anybody really has taken the time out to explain the way a risk assessment process works, what's behind it, if you will. It's a protocol of very complex

algorithms and processes and so forth where different aspects of threats are weighted differently in a hierarchy of criticality against what it is that is your mandate in the function of the different structures, and all of them come out weighted in different ways so as to organize them in a relatively risk assessment process. That is to say, you know, the elementary school may have -- well, it's not may. It has a different function in many ways than the high school. The administration building has a different function.

So how do you weigh one of these against the other to come out to a decision of where do you put your money when you have limited funds? And a good risk assessment process will give you a cost-benefit analysis that takes all the recommended mitigations and gives you a dollar -- a risk reduction per dollar spent estimate, and it does it by each mitigation and/or combination of mitigations. And you, as the school board, can go through that list and decide this is the nature of our threats, and these are the things from which we obtain the most risk. So we can select then those mitigations for this amount of money that will give us the greatest buy-down on the amount of risk that we have here. It is a way of getting control over your expenditures for the purposes of enhancing security.

It takes some effort. There's no two ways about that, but the tools are out there that will enable you to do this, and it is not a quick fix. When I said in my presentation of short-term and multi-year plans, I mean that, multi-year plans. If you don't have -- and nobody does -- have enough money to do all the mitigations across the entire district that you would like to do immediately. So you have to take them in the hierarchy of that which gives you the greatest risk. What is the problem that is most important to you in your district, and it may be completely different than somebody else's district, or it may be completely different than another school building in the same district. But at least you know where to start. And when you begin to reduce that risk, then you can go to the next one and apply the mitigations suggested there.

And this is going to take time for you to do this, and the important thing, as I said, one of the important things is not to create soft targets of your own. The idea is to deter the attack, not deflect it. I don't want to so harden the high school that I send them over to the elementary school, but it is a local decision about whether or not the funding stream is such that I can take one school at a time, and bring it up to the level, which I recommend that you define what the level of security you're looking for in your schools is, whether I do one building

at a time until I'm done with the whole district, or I take the funds I have and I spread it throughout the district to try to bring everybody up equally. Those are local decisions.

Many of the questions I've heard being asked during the day, the actual response to them is that it is situational. Nobody can give you the absolute, this is what you do, this is how you do it, this is when you do it. There are so many variables out there that the judgment has to be made based on the specific situation at a specific school given the specific threats and the level of risk at that school because of the vulnerabilities built into the school, if you will.

That's a very long answer to a very short question, but I thought the point needed to be made.

COMMISSIONER FLAHERTY: My quick question is not what do you do at a specific school, but do you believe that all school districts have to go through the process, and should be mandated to go through the process --

MR. MAHONEY: Absolutely.

COMMISSIONER FLAHERTY: -- of doing the risk assessment --

MR. MAHONEY: Absolutely.

COMMISSIONER FLAHERTY: -- and the planning process? And I just want to make sure I understand this.

The plan that you're talking about is different and comes after the risk assessment --

MR. MAHONEY: Correct.

COMMISSIONER FLAHERTY: -- that everybody else was talking about this morning.

MR. MAHONEY: Correct.

COMMISSIONER FLAHERTY: Okay.

MR. MAHONEY: You can't write the plan until you know what your problem is, okay? And the purpose of the risk assessment is to define exactly what the problem is, not only by district but by individual buildings. All right. So the thing that -- if you are looking to mandate anything, or you feel the need to, I would say that process, you know, the risk assessment process -- and it's not a security survey. It's very, very different. It's a risk assessment that evaluates starting with the threat, the vulnerability to each of those threats, and then the consequence of the vulnerability in each of them equals what your risk is to each of those threats, and they can be ranked according to what it is you better handle right now, and what you can put off and so on and so forth.

COMMISSIONER SCHONFELD: One thing to consider, and I don't know if you'd be able to comment on this, is that if we are able to set up a process by which schools somewhat objectively assess their relative risks and come

up with plans, it might -- if it truly is going to reduce their liability, then we should be able to explore whether or not their liability insurance coverage might actually reduce their -- it might reduce their cost for their liability coverage insurance, and that might be a different mechanism other than just mandating, but instead giving them some financial incentive.

Now, if the liability coverage insurers are going to say these are such rare events, and what's done doesn't make an appreciable change to their actual risk of the expenses, then I would say we need to relook at the risk-benefit analysis because if anyone is going to be able to do it I would assume it is the liability insurance coverage folks. They're going to be able to give us an assessment of this. It's just something to think about. I know it was discussed in another state that I was in at a panel discussion, and I think an insurer was saying that they would consider that. So we might want to get testimony from that area if we think that would be useful.

MR. MAHONEY: Doctor, very insightful comment. The underwriting industry for many critical infrastructures has already looked at that, and they require risk assessments to be done before they will issue policies on some of these structures, and because of having conducted those assessments, then you're absolutely correct, the

premiums are reduced because you're not just guessing anymore. You know exactly where the problems are, and you're focusing on them.

And you also brought up another -- you mentioned another word that somebody else on the panel had mentioned earlier today. You said liability. And there was some sort of reference to or discussion about -- not said specifically, but the idea of there is so much of this, you know, what happens if we don't do these things or don't know that we should have to do them and so on and so forth. Well, we all know that there is a liability exposure, all right, for knowing what a problem is and not correcting it. Well, following September 11th, many people don't realize that the federal courts, the Second Circuit, in law schools referencing the World Trade Center attack developed a new criteria for liability that had not existed before. It's called foreseeable risk, and in essence what it says is you're not only clearly liable for what you do know, you're liable for what you don't know.

So, you know, the old questions of what did you know and when did you know it have now been expanded to include why didn't you know it, and what did you do about it? Why didn't you do something about it?

So when we begin to consider the expense of things, the legal expense of this for communities and so

forth is also -- can be traumatic, and that's case law that is out there now.

Yes?

COMMISSIONER BENTMAN: This might just be my imagination, but Americans are optimistic people and we like to believe that the world is a safe place, even when confronted with occasions when the world is not. And I don't -- I hear you asking us to press forward with this beyond what Sandy Hook asks us to look at, and I don't know whether that's because of the world that you've chosen to work in or because you have a sense that the world is going to become a more violent place, and that it would behoove us to begin these processes now in a kind of plod forward in the event that that occurs. Do you follow my question?

MR. MAHONEY: Oh, absolutely.

COMMISSIONER BENTMAN: Yeah.

MR. MAHONEY: And I've told people occasionally that I might not be the best person to be talking about this. My background leaves me -- I'm not a disinterested observer. Now, particularly when I was overseas working in terrorism, I've been to the scenes and I've seen the carnage and so forth, and as I say, I was in the World Trade Center that morning. And yet I don't think that those things have jaded me, you know, to the point where I can't be reasonable about it.

The things I'm suggesting are not, at least in my view, and of course you know it's always open to discussion, I don't believe are unreasonable things. As you heard me going through the issues that you can be faced with in school during these things, I presume most of the things you heard me say would be common sense, you know, to do this or do that or, you know, be prepared this way or that way. At least have a plan that addresses these possibilities.

The worst possible thing is to be left with nothing to do, not knowing what to do. And you know we all know that battle plans, if you will, never survive the first shot, but yet with having this sort of training and experience and knowledge of what to do, you at least have experience that you can fall back on to do the alternative if what you initially intended to do is not possible.

One of the things I learned after the Trade Center was that one of the most important things you can do in a security plan is to be sure that everybody involved in it knows what the objective is, what the final outcome is supposed to be, rather than just their piece of it because when their piece falls apart, and whoever they're supposed to meet with the equipment they're supposed to get or whatever doesn't happen, they at least know what their goal is, and the individual initiative that steps up and finds

ways still to achieve what it is that is necessary is important, but that's -- it comes to the fore -- but that is only if the individuals know what the end game is.

Do I think things are more dangerous than they've been? Yeah, I do. And I, you know, you heard -- had mention of Beslan before. It's public knowledge, but not very widely distributed. And among -- and this was years ago. Among information seized from Al Qaeda was video of their members practicing the takeover of an elementary school and all of the instructions were given in English. I would submit to you that people do not rehearse what they do not intend to do. And as I say, in the face of these sort of plans and oppositions and so forth, how detailed should our plans be?

COMMISSIONER CHIVINSKI: Hi, Mr. Mahoney.

MR. MAHONEY: Hello.

COMMISSIONER CHIVINSKI: I've been perusing some of your articles online in regards to preparing for terroristic threats, and I'm looking over some of my notes that I've written down, and I hope this question comes out okay, but you know, operational security, you know, possibly training teachers in emergency response situations, there's a lot of out-of-the-box thinking I heard.

Regarding these drills, and you had mentioned the

binder story with the administrator I believe with all the different tabs and what happens if you can't get to it. Do you believe that we should have some out-of-the-box thinking as we go back to these communities and write these plans with them and members of the community to possibly have others be able to call lockdown drills besides just the principal? To have other types of out-of-the-box drills that maybe we're not expecting?

MR. MAHONEY: I would say so. I may -- probably one of the oddest or oddest-sounding recommendations I made there was about prohibiting announcing -- pre-announcing of drills. As a teacher like yourself, I can remember getting those notices in the mailbox, you know, saying next Tuesday at 10:14, we're going to have a drill. I assume you still get them. And what you can infer from that is that the principal controls when things are going to happen, and that's never the case.

And I hope I'm not telling stories literally out of school here, but you have everybody stop what they're doing at 10:12, put their books away and so on and so forth, and get ready to get up and march out. We're going to go left down the hall and, you know, all of that sort of thing.

That's not a drill. That teaches you nothing. When I teach my classes, my certification classes to the

college education majors over in New York, you know, one of the things, of course, that they do and we all remember from elementary school, all right, kids, line up, row of twos, we're going to turn -- when the bell rings, we're going down the hall. No talking. Stay together, et cetera, et cetera. And I asked those prospective teachers, do you think that's a good idea? And they told me, yes.

Well, it's not. Because where those teachers are going to be is not walking down the hall in front of their students. They're going to be on their belly, crawling on the floor below the smoke because that's where the air is. And those kids are going to be screaming in panic. They're going to be frozen in place. What do you as the teacher do? Do you get behind them and herd them along? Do you pull them along? How do you get those children to safety? The drill and the reality just simply do not match.

So what I'm suggesting is more types of drills; they be unannounced; and as I said in the presentation, everybody's walking out this way, stop. You can't get out that way. Find another way. And watch what happens. What are they going to do?

COMMISSIONER CHIVINSKI: But it sounds also -- I mean, I think we also have to be careful not to be too realistic in the drills, but unannounced, absolutely, but I'm also hearing that maybe not just one type of

individual. Maybe not just the administrators should be able to call in these circumstances, these drills.

MR. MAHONEY: That would be a local decision, I think, right, but I don't see any harm in it if that's what you, you know, consider effective. The whole point of this is how effective are we being in the preparations that we make whether it be in those operational things or in the writing of the plans themselves. Of course, you'll have to find that balance. You don't want to terrify little children so that they don't want to go back to school the next morning, but at the same time, we have to understand that this is not a walk in the park that we're practicing for.

And one of the things the -- and I've worked with some of those people who spoke to you this morning. You know, the idea of, well, let's get the administrator's office right down front at the front of the school so that everything that comes in and out can be controlled. I would offer the possibility to you that putting it in that position means that's the first place that's going to be taken out. And if your communications capability is in that spot, now what do you do for controlling the situation in the school for contacting the emergency services and everybody else you need to notify. Hence, the recommendation about redundant placement of communications

capability. If one place -- if I cannot get to my command and control center, if you will, for want of a better term, at least then I know I have another place where I can still effect the instruction and so forth that the students and the teachers and everybody else need.

CHAIRMAN JACKSON: Thank you. I think we have time for one more.

Mr. Sandford?

COMMISSIONER SANDFORD: I would just say that I couldn't agree with you more with everything that you said, and I don't think that it's out-of-the-box. I think that you're in the box as far as getting things, you know, you're right on target, but again I'm the kind of guy that when my little daughter used to sleep at the neighbor's house and I was worried about a fire in the house, my wife told me I couldn't call anymore because it was embarrassing to the neighbors and the family. So I went out and bought a smoke detector, put it in her backpack so that when she went there she had a smoke detector. So you know, you would give the perspective that I'm in the same box that you're in, I guess.

I would say that to the members of the panel that if there is not an assessment done, I would lead back to the old adage that says, "If you don't know where you want to go, it doesn't matter which way you head." Without that

assessment, municipalities are going to spend money that they don't need to spend. You know, we're already seeing it in the news that a lot of people, as you said earlier, doc, that, you know, we're acting out of -- maybe out of emotion instead of out of doing things the right way, and I think what we've heard today very loud and clear, and I agree with it.

We need to have an assessment done so that the municipality looks at, you know, where the real threat is. Where can I get the best dollar for the money that I have to spend and how can I go about doing that that are going to, you know, protect the children because the children are always number one. I couldn't agree with you more that we need to do that.

We've done some of the things that you've mentioned like NIMS for school administrators. We did 2005, 2006, but you know what? Most of those have probably retired, and they need to be retrained in NIMS. I'm hopeful that -- one of the speakers we're going to have in the future is from New Hampshire, and he works for the state and his sole job is emergency management for local schools. And I was kind of hoping you were going to make that recommendation, that within the Department of Emergency Management here in the State of Connecticut, we need to have a school emergency planning specialist that

when a new principal comes in or a new superintendent comes in and says, I have a plan. I don't know what to do with it, that I have this place that I can go. I have a number that I can call. Someone is going to answer it, and someone is going to help me get through this.

I'll end with one last example, and I'm sure you could appreciate this. After 911, FEMA was put underneath Homeland Security, probably inappropriately. It just should have been put underneath FEMA, but anyway, so the solution because we had lots of money was to go out and hire someone to write a new federal plan. The federal plan had 300 and some odd pages in it. It was very thick. Maybe 1,000 pages. And then there was this little hurricane that struck New Orleans. I think it was called Katrina. I'm not really sure. And then the federal government realized that that plan that they spent millions of dollars on was useless.

So now they have a new plan. It's called the Federal Response Plan, 43 pages?

MR. MAHONEY: It's not -- they don't call it plan anymore. It's the guidelines.

COMMISSIONER SANDFORD: No, it's the Federal Response Guidelines.

MR. MAHONEY: Yeah.

COMMISSIONER SANDFORD: Yeah.

MR. MAHONEY: They know better than to call it planning.

COMMISSIONER SANDFORD: 40 pages I think. Yeah. It's like 40 pages for the whole, you know, federal level of response to disasters. Kind of an interesting analogy. So like you said, a plan isn't everything if you can't get to it. Exercising the plan, I think, is extremely important. There's a lot of things that could be done that don't cost any money.

MR. MAHONEY: But the risk assessment process is the alpha, if not the omega --

COMMISSIONER SANDFORD: Absolutely.

MR. MAHONEY: -- of the entire thing.

COMMISSIONER SANDFORD: Right.

MR. MAHONEY: And that really needs to be done, and one of the values of it unstated is -- and this is why I mentioned it needs to be recycled about every three years because you are going to do some return on investment. That is, and return on investment in a risk assessment, of course, is reduction of risk. You are going to get some reduction of risk because of the mitigations that you do put in place.

Well, after you've done that, now, we need to go back and look at it again and see what your security profile is now as compared to what the original baseline

was. So by recycling this, you are currently -- you're always current. You're on top of the situation, whether the nature of the threat changes or the nature of your vulnerability changes, and this becomes a management tool for the school districts then to be able to say, all right, I was spending money three years ago based on this parameter, but now I have a different one, and now I can spend my money more wisely and correctly because I have recycled, if you will, what my assessment is. And over time, you can see that risk reduction dropping down.

So you know you're actually getting a return on your investment, and it absolutely is repeatable and defensible. If somebody says to you, well, why are you -- why do we need that kind of door? Or why do we need -- well, here we have the assessment that describes what our actual problems are, and why we need to correct it. And by going back every few years and doing it again, it only makes it that much more defensible.

CHAIRMAN JACKSON: Doctor?

COMMISSIONER GRIFFITH: Thank you very much for your patience. I just want to ask you -- and I've listened very carefully. Where do you think we should start in a democratic society because the soft targets, if I follow your argument, the school is just one example of the soft targets in a democratic society. Other examples, I mean,

I'm no terrorist expert, but I could do it just sitting on my couch if I wanted to cause trouble tomorrow, I'd choose Union Station in New Haven. I'd look around for wherever they're going to have concerts on the Yale campus because that's where they're going to be. I would hit university libraries all across the country. I mean, I could go on and on with all of these examples because this is where we know people are going to be in a defined agglomeration.

So where are we going to start? Are there no sacred institutions? I mean this is why the presidents of several institutions have responded, you know, with vehemence against police officers coming onto campuses to violate what they see as sacred ground. This is why pastors all across the country have objected so strenuously to the introduction of interrogation of law enforcement people and so on in their worship sanctuaries.

I mean the point is where and when are we going to stop with the response, and I don't know myself the answer to that question, but I'd like to hear what your answer is because I -- my own theory is that everything we do -- and I consider schools important. I consider them one of the maximum sacred institutions in a democratic society, and my theory is that everything we do in the school system will have an effect. We don't know yet what the effect is going to be, but it must have an effect

because there's no neutrality in these sacred institutions, and every time we make people nervous, every time we do X we do Y, it will have an effect on the ultimate function that we have defined previously for these institutions.

And I think this is a very, very important question, and with your expertise I'd like to hear what your answer is. I mean do you want to turn St. Patrick's Cathedral into a really hard target? And you know you and I could cause trouble a lot tomorrow -- Sunday morning if we go there. I mean what do we want to do? Where do we -- I promised a short question, and I just cannot stop because it's so important to me because I think this is a fundamental question for our democratic society.

MR. MAHONEY: As you might expect, that's not the first time I've been asked that question in various forms. Let me give you an answer at different levels.

When I was at the Port Authority, and I was as I say, I'm talking about billions of dollars in security enhancements, and I was asked one day by one of the executives, "Well, when am I done, you know, doing all of this?" And I was a little taken back by the idea -- or by the question that he thought there was a done.

As long as there is a threat out there, you're not done unless you choose to accept the level of risk, and you will remember maybe that the first recommendation I

gave here was describe the level of security you seek. You have got to set that standard. In other words, we're asking how much -- what are you willing to live with? What is the level of hazard exposure that you can tolerate? And if you can answer that question successfully so that everybody agrees with you, then you've gone places that nobody has ever been.

And the same thing is true for this society. You know, I remember the afternoon of September 11th, a reporter asked Rudy Giuliani about how many people had been killed, and his answer was, "I think more than we can tolerate." That's a very interesting answer. It implies that we do have a tolerance for loss, but what that level is we've yet to fathom.

And the same thing is true for the society as a whole. What sort of reaction to attack or to a problem is sufficient? Or what amount of resources and to use the old term, civil defense, do you think is necessary to address the world we live in, and we certainly have enough experience with violence issues in schools to have some sense of how far we want to go in security. And as a teacher, and I still consider myself as that, I try to be very careful when I'm talking to the young people not to scare them, but at the same time I don't want them oblivious that their own lives depend on not being

oblivious to what's going on around them.

Ultimately in some of these cases, these young people are going to find themselves responsible for their own survival. There just are not enough teachers to go around and people to help them and so on and so forth in some of these issues and some of these circumstances. And I would hate to think that they're just frozen in fear or indecision of what they can do, what they can think of, what they can try to save themselves. Hence, the urging for more and better types of drills and so forth, you know, it's to benefit them, the children themselves.

And my own children, you know, had the misfortune of being born to a father who thinks this way, and probably a few times I scared them more than was necessary, but I like to think that I gave them an awareness that in critical situations it is going to help them. And if we can instill some of that into our children across the board, I, you know, we teach them to stop, drop and roll now. Why can't we teach them other things in that same vein to help save themselves?

But how far the society wants to go? I'm not Solomon. I can't help you with that one. I think circumstances will dictate that.

CHAIRMAN JACKSON: Thank you very much, Mr. Mahoney. You've been very generous with your time. The

last two comments from members of the panel have kind of opened the floor for that kind of discussion. What, you know, ultimately, ultimately, what do we want? What tools do we think should be made available? What kinds of changes should be made or must be made?

We've heard about risk assessment as being the item from which all things related to school security to physical plan must bring. So now the question is how do we -- and we've also heard something else that didn't exactly come up, but it's been alluded to, it appears that we have, as our colleague Mr. Ducibella would say, high-fidelity data coming out of these risk assessments. These numbers are not simply pulled from the air. They have proven validity that you can actually measure the return on investment based upon application of the risk assessment.

So I open it to the floor. I'd like to talk about some of these things while they're still fresh, get people's first blush reaction to the information that we heard today.

Anyone want to make any comments about things they've heard, they like, they don't like, they -- to evaluate a little bit more?

COMMISSIONER McCARTHY: I think that we need to look at the types of tools that are available. I think that those assessment tools are evolving given the new

exposure or the repeated exposure we have to school violence. So we want to make sure that we're looking at the most current version, and from my perspective ones that include the behaviors that exist in a broad-range of school environments because beyond just the physical plant, I think the everyday hazards are the ones that have the greatest return for investment if we address those.

So I would like to take a look or at least have someone testify what those current assessment tools are, and take a look at them, and evaluate the assessment tools for part of our recommendation.

CHAIRMAN JACKSON: Anyone else?

COMMISSIONER GRIFFITH: I guess in my business, we use lots of risk assessment tools also. The trouble -- we've learned it -- in my business, we've learned it the hard way -- the lessons the hard way. Applying it to events with low base rates is seriously problematic. So -- and we have to be careful how we're applying the risk assessments and what we think we are assessing and then not extrapolate and jump to conclusions that really don't have faithful applications to what the information we've -- so what do I mean by that?

Well, we can do a lot of things in the schools, and I was never having any argument about that this morning when I posed my questions so that my colleague understands.

We can do lots of things in schools, and I would never deny that we ought to do lots of things we can do for schools. But the particular event that we're talking about and that has stimulated our presence and catalyzed lots of stuff, that is a very low-base rate event. So even those you're doing lots of things, what you're doing you can't extrapolate from that and move backwards and say, well, now we've done all the things. We're going to prevent X. I think mathematically, that is not logical because we can't do that with a low-base rate event.

So we can have effects on schools and do all kinds of things. I mean, one of the things I think I've learned today is the notion of thinking of the hazards as multiple so that we can do things that might have an effect, for example, on bullying because bullying is an event that's much more frequent. It's much more common. So we might, in fact, do lots of things that would have an effect on bullying.

And the issue of the dangers internal to the school, it's a very interesting idea for me because we can think about that and improve the context in which that occurs, reduce the frequency of that, and so on. We can't, however, move to having this dramatic effect on a low-base rate phenomenon.

And so that's the only thing that you and I then

come back to, and I hope we are in agreement on that, that there are lots of things you could do in New York City to improve the security of particular buildings and so on, but I don't see how you can extrapolate to the extremely rare event of having planes fly into the two buildings that the terrorists knocked down because that rare base rate event I don't see how you can use these other things and say that you're going to prevent it.

And I'm just trying to clarify that point because it has a lot to do with the structured thinking and the discussions that I hope we will engage in, that we not do things just for the sake of doing them then think that we have solved problem X, when in fact, we solved problem Y and problem A, but we didn't solve problem X that originally started all of this.

MR. MAHONEY: If I may?

MR. GRIFFITH: Yes.

MR. MAHONEY: The answer to that or partial answer, the best of the risk assessment tools has an open range of threats, and your point about only including the low-frequency events, you know, and spending all this time and effort and money on those when the probability of them happening is small is counterbalanced in the best risk assessment processes by taking the full range of threats from bullying and so on and so forth --

MR. GRIFFITH: That's how -- I conceded that.

MR. MAHONEY: All right. And what happens then through the algorithm, those are weighted differently. So that's why I was very careful to say you use a relative risk assessment process rather than an absolute risk. The relative risk will balance that issue that you come out with very eloquently that the bullying will have a position in the final scatter chart, if you will, that risk and consequence of that will very possibly exceed that of the shooter just based on frequency of the circumstance, and -- but it all has to do with vulnerability and the amount of consequence from that threat because of the vulnerability you've described.

MR. GRIFFITH: But it's very easy --

MR. MAHONEY: It's subjective.

MR. GRIFFITH: Yeah, but it's very easy also to misunderstand then some of the testimony given this morning.

MR. MAHONEY: Oh, yes.

MR. GRIFFITH: Because the testimony had to do with establishing principles and concepts and so on turned towards the outside of the school.

MR. MAHONEY: Right.

MR. GRIFFITH: Right?

MR. MAHONEY: Yes.

MR. GRIFFITH: Far more than the inside of the school.

MR. MAHONEY: Well, that's what the architects would do.

MR. GRIFFITH: I understand --

MR. MAHONEY: My wife is an architect. So I'm architect by marriage.

MR. GRIFFITH: But do I have it right? I mean --

MR. MAHONEY: Yes.

MR. GRIFFITH: Okay.

MR. MAHONEY: Yeah, no, I agree with you fully all right. But what I want you to understand is that the best of the risk assessment tools now include a probability assessment with assurances of probability.

MR. GRIFFITH: Good.

MR. MAHONEY: All right. So that all of those things are considered and weighted so that what you come out with at the end you have a reliance on.

I would caution one thing. Many people bring up a question of cost effectiveness on all of these things, which is essentially what you're asking in another way. And cost effectiveness is a very legitimate accountance question, if you will, and if by that we mean cost of acquiring as opposed to frequency of use, then I would submit in this type of circumstance, it's the wrong

question because we're talking about life and death issues. All right. The more correct question if you will is what do I do when I need it and don't have it? If cost effectiveness were the pivotal question, I would submit to you that there wouldn't be a town in the country that owned a fire engine.

So you need to sit and think about what the level of consequence is and how much you're willing to live with that consequence.

CHAIRMAN JACKSON: All right. Thank you. We've got one more because another committee needs this room in fifteen minutes. So, Chief?

COMMISSIONER McCARTHY: Yeah, Mayor, I think that it would be helpful to understand what communities who have gone through a school violence incident how they have reacted. What has Columbine done to their school system after the event and how have they dealt, one, with the emotion; how they've processed the emotion of the event and then made thoughtful improvements to their infrastructure?

What is going on in Newtown today regarding how they're going to change the school system? As the doctor said, everything that they do will have an impact. It will have an impact on the education, on the culture, and the environment, and I think it would be helpful to understand how those systems have reacted to violence, and what they

think the change that has occurred and how that has resulted -- or the impact on their communities.

CHAIRMAN JACKSON: Thank you. We'll see if we can get any data to help provide some answers on those items.

Well, why don't we -- thank you very much, Mr. Mahoney, very helpful.

Why don't we just quickly talk about some organizational things? You know, when you get 40 inches of snow, it's hard to concentrate on other things. It, you know, it --

UNIDENTIFIED SPEAKER: (Inaudible.)

CHAIRMAN JACKSON: Yes, yes.

UNIDENTIFIED SPEAKER: That really is number one.

CHAIRMAN JACKSON: Fortunately, Mr. Sullivan and Ms. Edelstein have agreed to serve as co-chairs of this commission. I don't know if we're ever going to get sixteen people in the room because of who we are and what we do. So it's important to have some continuity of leadership, and I thank them for their offer to serve.

We did hear from Governor Ritter that it was important to have a recorder, and we do. That's very helpful to us, and what she will do is she will seek to synthesize a lot of the information that we receive, and really put it into categories that are manageable to us in

looking forward to recommendations.

We will seek to do -- to hold Fridays for meetings on different topics. The next set of topics that we'd like to take a look at are trauma and trauma response, guns and ammunition and emergency management protocols and training. So those are some things that we've already had some initial conversations about and will put together those panels for the next few weeks.

And then after that, we are going to then dive into the many issues surrounding the delivery of mental health services and how that intersects with some of the things that we've heard. How does it really interplay with this risk assessment tool? How should it be managed?

So that's -- moving forward, that's a general direction. One thing that I would like folks to do, again, over the next couple of days as you have a chance to ruminate on this, if you could just start to jot down some of your ideas, some of the recommendations you heard that made sense that you want to make sure when we do have some sessions without a panel where they're discussion sessions, we want to make sure that the great ideas are all the table and that the things that we feel strongly about we have an opportunity to present. So to the extent that you can take a little bit of time out of your schedule this weekend to jot down some notes about things that you want to make sure

we come back to, it would certainly be helpful to the process.

So one --

A COMMISSIONER: We're set for which dates now?

CHAIRMAN JACKSON: Every Friday.

A COMMISSIONER: Every Friday?

CHAIRMAN JACKSON: Every Friday for the next few months.

UNIDENTIFIED SPEAKER: Beginning at 9:30.

CHAIRMAN JACKSON: Beginning at 9:30. So if -- that's what we've asked to hold. That's what we've asked to hold. To the extent possible that we can manage that, that would be helpful, but I understand that schedules will not always allow for everyone to be with us, but I wanted to give you a sense moving forward over the next four weeks or so what our expectation is.

Thanks for your time and attention everyone. It was a long day. It was a good day. We got a lot of good information. Thank you.

(Hearing adjourned.)

CERTIFICATE

I hereby certify that the foregoing 202 pages are a complete and accurate transcription to the best of my ability of the electronic sound recording of the meeting of the Sandy Hook Advisory Commission (SHAC) held on February 15, 2013 at 9:36 a.m. at the Legislative Office Building, Hartford, Connecticut.

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Suzanne Benoit, Transcriber Date