Moderator: Hello and welcome to public health live. The third Thursday breakfast broadcast. I'll be your moderator today. Before you get started, please fill out your online evaluation at the end of the webcast. Continuing education credits are available after you take our short posttest and feedback it is important. We encourage you to let you know what topic are of interest and how we can meet your needs. Today's program, we will take your questions throughout the hour by phone. Our toll free number is 1-800-452-0662 or written questions by e-mail. Please e-mail at any time throughout the hour. Today's program is cross roads. The built environment, health, and the New York state prevention area. Environmental health at the New York State Department of Health, and the principle public health educator at promotion division at the Clinton county health department. Thank you for being here.

Nathan Graber and Karen Derusha: Good morning, Rachel.

Moderator: Good morning. In the title of our presentation, we had the term environment, and it's become almost of a catch phrase for urban planners. Can you tell us what do we mean when we say the built environment?

Nathan Graber: Just because it's a popular term today among urban planners doesn't mean that the connection between public health and the built environment is actually a new concept. You see, the way cities originally kind of developed, they were sort of organic. They developed around centers of trade and commerce. People generally lived and worked and had social centers in the area. Very close to each other. Close proximity. So, but what happened as a result of that is that cities became very crowded, housing became overburdened, and so you had more thought put into how to develop cities mainly to address the public health issues that were taking place this goes back hundreds, maybe thousands of years where the grid structure to try to increase the opportunity for people to be able to easily transport themselves and goods across the city, also transformed into public health infrastructure improvements that addressed the major killers of today. So, in the mid-19th century, people were dying from infectious diseases. So what were some of the major influences that addressed those chronic, those contagious diseases were actually clean drinking water, safer food, sanitation so there wasn't garbage around the streets, better housing. So housing that provided for perfect ventilation, safer heating systems, and actually, it's very interesting because urban planners, even at that time had public health in mind. So you think of a good example like building parks in the center of large urban areas as a way to be a clean space for the workers to not just get fresh air, but also to get to relieve their stress and improve mental health and well-being.

Moderator: You're talking about sort of a historical perspective and the way that cities developed, and certainly that infrastructure and those things you talked about exists today in cities around the world, but now we have a lot of people who grew up and work and played in areas that are outside of cities. So can you talk to us about what influence the development of those kinds of places?

Nathan Graber: right, so you know, what happened was, with the, you know, sort of rise of the automobile and the infrastructure that supports automobile travel, people realize they could live further away from where they worked or went to school and became dependent on their automobiles for
transportation. And this also enabled these large expanses of track housing that were uniform, uniform in a lot of different ways. Well you know, that has a strong influence upon public health as well. And I’ll start, I’ll talk about some of these influences. If you have uniform housing, people don’t need the same type of housing throughout their life cycle.

**Moderator:** Sure.

**Nathan Graber:** If a community has one type of housing, they generally have people in the same stages of life.

**Moderator:** Uh-huh.

**Nathan Graber:** They connect with each other and form social networks and social support systems. But, when, let’s say the kids grow up and they have to move out, there isn’t a small apartment for them to rent in the neighborhood, they leave that community, they lose that social network, and then when older adults to want downsize, they leave that community, they leave that network so they don’t have the same social connectivity that they had before. In addition, the way that these communities are designed, you can’t easily get from point A to point B from the place where you live to the place where you work and go to school with anything but your car. So you become dependent just on your car. Active forms of transportation like walking or biking, just aren’t options when you have to go to a main feeder road and you have to take the feeder road to get to your school or on a highway for half hour to get to your work. And in addition, you know, these communities don’t necessarily have any place to walk to. If you wanted to do it not just intentional physical activity, but also physical activity that would, you know, during leisure time. So if there’s no place to really go that’s nice to look at or pretty or something to see, then chances are, you’re not going to go out and spend time walking around the neighborhood.

**Moderator:** Sure. To this point we’ve been talking about the development of neighborhoods, whether it’s the city or more suburban kind of set up, but the built environment encompasses other things too, does it not?

**Nathan Graber:** That’s right. And so the built environment is everything from the chair to the room to the building to the larger, you know, community that we’re a part of to the city, to the community, to the village, to the region, to the county, any level. All those different levels can influence people’s health behaviors, right? So when you think about our built environment. We think about how the infrastructures in it influence things that would either positively or negatively influence health outcomes. Things like physical activity. Nutrition, and social capital, and even exposure to nature can impact health. I’ll just give a couple of quick examples. If we think about like small scale in a building, all right, so when you walk into a building and you have to get to another floor in the building on the stairs accessible or are they difficult to find? Are they enticing you to walk up them instead of taking the elevator?

**Moderator:** Sure.
Nathan Grber: So just walking into a supermarket and one of the food choices right there in front of you that influence your choices in terms of what you’re going to buy.

Moderator: Sure. Can you talk a little bit more about some of the specific characteristics or components of the built environment and how that influences behavior?

Nathan Grber: sure. The built environment can provide you with lots of options or not a lot of options. So it's, you know, being an interesting exercise to kind of walk around your community and take a look at all the different components and how that might influence the way that you think or act in your own health behaviors, but also look at how it impacts the larger community has a whole things like whether there are sidewalks, bike lanes, bus shelters and greenways, destinations and places to go, street scapes, the way that a sidewalk is surrounded by something beautiful or ugly and it might influence your decisions about how you’re going to use it. Also, just zoning laws. So like zoning laws, can influence the way a community has what resources are in the community. Can it be mixed use? Is it all housing or housing, stores, centers of community, engagement and community congregation, and those can influence also people's health behaviors. Other things, you know, that can influence health behaviors, things that access to sort of parks and recreation. Access to green spaces, which we know have an influence on mental health and well-being as well as opportunities for physical activity and social engagement. Accesses to healthy food and also those real, like real barriers that we’re talking about, you know whether you can walk somewhere or not walk somewhere, but also the perceived barriers. People's fears about their safety or the safety of their families when they go out into the street. Those are also important components of the built environment.

Moderator: So certainly you kind of made that the case that the built environment encompasses a lot of different factors; can you say more about the connection between the built environment and the health and well-being of the people and communities?

Nathan Grber: that's right. So I guess the point I want to bring up here is that a lot of this is common sense. A lot of this is anecdotal, it's not entirely anecdotal, it's not entirely common sense, and it’s actually evidence-based. And there's a growing body of evidence in the scientific and public health literature pointing to the real benefits of designing built environments to improve health. So for instance, there was a study that was published back in 2003 and they looked at something called the sprawl index which was a measure they made up which took into mixed land uses and residential density and centers of activity, and compared communities that had high sprawl index which means they are low in opportunities for better health behaviors, versus communities that have a low sprawl index which means that sort of higher dense of communities with the abilities to have better access to healthier foods and physical activity and other positive health behaviors. What they found was that people who lived in the residents with high sprawl index, they weighed more, they were more likely to be hypertensive and they were actually, you know, walk less during their leisure time.

Moderator: And that makes sense given everything that you said. So are there other examples of how the built environment can either promote or detract from a healthy lifestyle?
**Nathan Graber:** Oh sure, so I’m a pediatrician, right, I would tell my patients if they were overweight or obese or at risk for being overweight or obese that there are things they could do in their own home to change their health behavior. Like for instance, if they ate ice cream every day because it was in the freezer, well, don't buy it, don't buy ice cream and don't keep it in the freezer, this way you have to make extra effort to purchase it. So there was an interesting study that we've done in East Harlem, and in the study they actually looked at kids and where they lived and the location to convenience stores. So convenience stores, although they sell lots of options for different foods, the prominent options that will attract kids the most are those things like candies and other types of junk food and sugar sweet beverages and things that aren't healthier for them if they eat these ere day. And what they found was actually that the, the proximity to convenience stores was as directly associated with their body mass index which is a standardized measure of overweight and obesity.

**Moderator:** Yeah, and I mean that makes sense to me too, it's common sense because if the cookies are there, I'm going to eat them, if they're not there, they're not going to eat them. So that certainly seems like a logical conclusion. Now another thing that we are hearing more about is climate change as it relates to public health. Can you talk about how the built environment plays into climate change?

**Nathan Graber:** So I bring up this point for a couple of reasons and I’m glad you mentioned it because the climate change not only has those direct impacts on public health, right. So for instance, during heat waves, we know that particularly older adults and people with chronic underlying diseases that they are at risk for heat-related morbidity and mortality, and in urban areas that are heavy in heat absorbent materials heat, black tar roofs and asphalt streets they hold the heat longer and the temperatures may be higher in the local environment increasing that risk for heat-related morbidity and mortality among the people at risk in those communities. And that can actually spread; the heat can spread to the surrounding areas as well. The other thing that happens, is at night, the temperature doesn't drop down, there isn't a chance for some relief from that heat. But so you have sort of these direct, you know, impacts from both the heat, and we know that also along with that, if you have the major infrastructure around you have a risk during the same time for poor air quality.

**Moderator:** Sure.

**Nathan Graber:** which goes up during heat waves which can have also direct or indirect impacts on cardiovascular mortality and pulmonary mortality and for climate changes with there's also the issue of storms and flooding and whether communities are resilient. Social capital feeds directly into community resiliency. So I bring this up specifically because I want to talk about just, bring up the topic of some of the co-benefits. If you address issues in an urban area related to climate change, you're addressing the public health concerns associated with the built environment and health behaviors.

**Moderator:** And what are some of the other impacts of the built environment on health? And we're look at the big picture?

**Nathan Graber:** Right. So I think, you know, just to kind of sort bring it all together, there are impacts and risks for exposures and choices at all different levels and we spoke about that already. And some of those impacts can be direct, like for instance houses, where the, or housing where there's maintenance
deficiencies, so it's poorly maintained older housing, that puts people at risk for lead poisoning, outdoor air pollution can put people at risk for asthma exacerbations and cardiovascular disease. Some are direct, some are indirect. So for instance, the built environment structures like the access to places to walk to and sidewalks and bike lanes and opportunities for physical activity, and indirect impact that if they have that, if they don't have that choice, then they don't engage as much in physical activity and there's a higher risk of cardiovascular disease, hypertension, stroke, diabetes. Osteoporosis, the risk goes down with increased exercise. Risk for older adults and falling, you know, if the outdoor structures are built in a way that the sidewalks are well maintained and there are well marked curbs, and the risk goes down as well.

**Moderator:** Sure.

**Nathan Graber:** So there are these indirect, there are the direct, then some very complex relationships, and what I think is really interesting is that in the built environment, you have the opportunity by addressing design in the built environment by addressing maintenance into the environment, you have the opportunity to impact on a lot of health outcomes in a very, you know, comprehensive way by preventing them in the first place.

**Moderator:** So certainly you've given us a lot of examples, and whether we're talking about things that seem to be common sense or although it's evidence-based, we can all agree that the built environment contributes to public health. My question is what is New York State doing about it? What are we doing in relation to the built environment?

**Nathan Graber:** Right. So I think a lot of people are familiar with the Prevention Agenda, if you’re not, this is New York State's blueprint for public health action. And it's a guide not just for us as a public health agency, but it's also a guide for local health departments or for community groups for health care provider organizations, and one of the focus areas of the, of New York State prevention agenda is the built environment. And specifically to improve the design and maintenance of the built environment to promote healthy lifestyle stability and adaptation to climate change. These can be used by local health departments, local health care providers to develop health improvement plans for whatever level. The regional level, county level, the community level. And you know, I think one, I just, one of the things that we to want try to do and break through with the prevention agenda in terms of the built environment is help these stake holders to overcome, you know, some of the perceived difficulties with getting engaged. It's hard, I mean this is something that's new for public health practitioners; it's different and requires engagement with stake holders that we're not normally partners with.

**Moderator:** Got you. Okay. So one of the ways that in public health we try to understand different interventions is by using the Frieden pyramid. Can you talk about how that plays into, how we might apply that to the built environment and public health?

**Nathan Graber:** Sure. So the Frieden pyramid, provides a framework for how we think about interventions. When we want to address the public health opportunities associated with the built environment, we want to try to engage at every level of that pyramid. At the top of the pyramid is counseling and education and so although it may have the smallest impact, it's important that we do
that. We as public health practitioners want to engage with urban planners and architects and transportation engineers to educate them about the built environment. We also want opportunities to improve the built environment, but we also want to -- environment, but we also want opportunities to teach kids about physical activity and have community-based physical education programs both school and at the workplace. And you know, one very good example that's evidence-based is a simple educational tool which is something called a stair prompt, where you put a sign up next to the elevator encouraging people to take the stairs instead of taking the elevator to get more exercise. And actually, evidence has shown that this is effective.

**Moderator:** Okay. Are there any other examples of how clinical interventions relate to the built environment that you'd like to share?

**Nathan Graber:** Absolutely. And as physicians we want to lower people's blood pressure or improve their diabetes, we give them medication to do so. That's a classic and clinical intervention. At the public health level, things we can do, the physician can write a prescription to get some exercise, to use the parks and resources in your community as opportunities for healthier living or better nutrition or social engagement, whatever it is. And --

**Moderator:** Is that something that physicians are doing? Are they writing prescriptions for exercise?

**Nathan Graber:** That's interesting an interesting question. It's probably not within the classic model. Think about writing prescriptions for medication, it's something we would like them to do and I think it'd be fantastic. Also another is how we apply the data that we have, through tracking and surveillance, to improvements in the built environment and to help organizations at all levels, both government and in the community to, to make improvements.

**Moderator:** Excellent. Thank you. Now we met with Melissa Frisbee to learn more data collection and assessing the built environment. Let's take a look.

*[Video]* **Melissa Frisbee:** In New York State we have a series of sponsored brownfield projects which we sort of work with communities to identify their health concerns and focus on their priorities and health area in regards to the land redevelopment and reuse. So a health indicator is a measurement of a population's health. It helps us to determine how healthy the community is and it helps us to establish a baseline of community health. These indicators in our communities were looking at the communities from an atypical public health lens. We are looking at traditional public health indicators but we are also incorporating more broad indicators that are maybe a little bit non-traditional but crucial when you're assessing the built environment. Non-traditional indicators are harder to collect, but are absolutely crucial when assessing the built environment. For example, crime is very important when you're assessing the built environment, certain community designs such as lack of lighting, that kind of thing, lead to more crime. You have green space, parks just like this one is very important to community design and the built environment. Indicators like community walkability are also important how safe are the sidewalks. Food access and food deserts these are things that are really crucial for built environment. So Photovoice is a unique tool that we've used in several of our communities and it doesn't necessarily collect traditional data, but what it does is it helps communities prioritize what kinds
of concerns they have and what kinds of data you might need to look at. So Photovoice uses the power of pictures to create change. We asked the community to identify, you know, what they think is the strength of their community. What they think they'd like to change. We did a project in Rome where they were mostly concerned about absentee landlords and the condition of housing and trash and yards, and what they actually found in doing the pictures and taking the pictures for the Photovoice project was that their sidewalks were in really bad repair, and that was one of the things that we jumped on from there. Community residents perspectives is essential when you're discussing the built environment because it's their environment, they live there and impacts their health, they're there every day, it's the day-to-day living, empowering them in the process of assessing the built environment really can help bring about positive changes that affect them. So you should be consulting someone if you're going to be assessing the built environment whereby why not get feedback from the people who are using it day-to-day? So the biggest obstacle we've faced in every community is a lack of resources. You know projects to assess the built environment, especially ones that require a lot of on the ground data collection are expensive, and so we've encountered that as a big obstacle. We have tried to address these obstacles in the most feasible way possible. Lack of resource is hard, but what we've found is that when you bring the right people to the table, you're able to accomplish a lot of small changes, and the small changes lead to bigger ones. Some of the other indicators such as health outcomes might be a little bit more difficult to get at the community level. The DOH always has health data available, for example, asthma online that it may not be at a fine scale that you need to assess your community. So I would like to emphasize that it's really important to bring in your local and state health partners in order to get access to the key data sets. But also, the Action Model is developed around engaging communities in the process of land redevelopment. Which is specific, but it's, it's very related to the built environment. So I think the action model would be really great to check out. I also think the CDC has a healthy homes checklist that's really great. It lists a lot of key data sets, they may not be at the community level, but it's a great idea of where to start looking. It's just a really great asset when you're looking to assess your built environment.

**Moderator:** So certainly, that was a really great piece of information, talking about the importance of assessing the environment and looking at different ways that neighborhoods are utilized. One of the things, thinking about back to your roots in New York City and utilizing park space and open space, talk to us about the project where they did the gates in central park, that was some years back, but talk about that.

**Nathan Graber:** Yeah, I'd like to actually because that's a really great example of where you have an opportunity to break down some really, you know, some sort of perceived barriers about who resources are available. So when you have like a public art display, like the gates in central park which was in 2005 which was a fantastic display, drew people from all over the world. And also people locally to come out to use the park that now gets, you know, millions of visitors. I wouldn't say this was the turning point, but there were factors that went into it, but these types of public art displays and also things like play streets where you close off a street for part of the time of day so kids, families and people can get out and utilize resources that are already there. We're not necessarily talking about creating something
new, but we’re talking about connecting people to those resources that already exist in their community and their neighborhoods.

**Moderator:** Can you talk about firm examples of interventions that might have longer lasting effects?

**Nathan Graber:** Sure. And so, as you move down the pyramid, we get to the level of sort of the opportunities to do something that could have a longer impact. So one of the ways you could have a longer impact is through enforcement, you could have enforcement at the building level. Codes enforcement for maintenance in the home. And you could have, and at the community level, sort of engagement and working with policies that could be, you know, at the county level, at the city level, or at the state level such as smart growth infrastructure and complete streets that could also have longer lasting protective interventions that will be around for a while. Other things, you know, we talked about, I like to mention sort of perceived barriers. So crime is a perceived barrier.

**Moderator:** Sure.

**Nathan Graber:** For folks. Either using their stairs in their building or using the community resources or getting down to the street more to get more exercise or travel a little bit further to get healthier food or whatever it is. So, so we shouldn't forget that sort of innovative policing strategies are important public health intervention and built environment.

**Moderator:** Now can you talk about changing the context of the environment and how that impacts choice or perceived choice?

**Nathan Graber:** Right. So this is, I think where environmental public health has had its best impacts, so for instance, the development of drinking water systems into communities you know, virtually eliminates water-bourne diseases in the communities. People don't have to think about it, they get a clean glass the water every time they go to the tap. The idea is can we do that with a larger built environment? The answer is absolutely yes. So if you design the environment so that you have accessible sidewalks and you have accessible bike lanes and beautiful street scapes and you have amenities, particularly in low income communities that these, that public transit is readily accessible and that works better in higher density, they were supportive, what do you do for the lower density, can we do that as well? Can you ensure that people have the options and access to these things? Also land use planning and response to local needs. So you think about it, right, so exposure to nature has a very positive impacts on mental health and well-being, opportunities for physical activity, evidence shows that people recover faster from surgery and from, from illness if they have exposure to green spaces and green environments. And so, we have to think about, we have to think about all sorts of uses around so we can kind of change the social norms. Right, so people think about changes like the way, so they don't automatically when you want to get to the supermarket or go shopping or take your kids to school, that you don't automatically jump in the car, that you say oh yeah, it's okay, everybody walks their kids to school and can you do that? The infrastructure has to be there for the opportunity to do that. But also everybody around you has to sort of, you know, engage with you to make it sort of like the normal thing to do. And one of the ways you do that is a lot of these sort of changing the infrastructure also changes opportunities for building social capital. I brought up that before, but I didn't stress just how strong the
evidence in the literature is regarding the inverse relationship between, you know, social capital and mortality. People live longer lives, healthier lives when they have stronger social support networks, when there is community trust, when there is enough social engagement so information flows, when they create better and healthier beliefs that engage with the social norms. And also there's a better connection to resources with an improvement in social and social capital. And all the things influence how healthy people are.

**Moderator:** Excellent. Thank you. So it sounds like our built environment choices have a big impact on the health and the health of our communities. Tell us about some of the approaches that work to address this.

**Nathan Graber:** Right. So I’ll just talk very briefly, the Community Guide for Preventive Services, they do evidence-based, systematic or critical reviews of literature to determine whether there is sufficient evidence to recommend particular types of interventions that are going to improve health. They looked at built environment to improve physical activity and what they found was does it work at different levels at the neighborhood level and larger scale, larger geographic area level to make improvements in the design of the built environment that result in physical activity, but they have lots of co-benefits. And those co-benefits include all those things we've been talking about. Improved, you know consumer choices for both places to live as well as places to go shopping and types of food. Increase in social capital, increase in access to green spaces, but what we have to think about a lot of the different programs and opportunities that are out there. So there's Climate Smart Communities, there’s Complete Streets but there’s also something called Smart Growth Principles. And smart growth principles take into account, there are ten smart group principles and I'm not going to list them out, but you know, basically it's mixed land use, mixed housing, increased density, transportation options, parks and public spaces, right. Now the issue is that public health, you know, like I said before, this is new, this is different, this is hard for public health professionals to get involved in. Hopefully Karen’s going to make everybody feel better about it and see how successful it can be. But public health needs to be engaging at the table to help inform these decisions, and there are definitely ways to do that.

**Moderator:** Great. We had a chance to meet with Paul, the director of Smart Growth with the New York State Department of State Office Planning and Development to tell us more about the principles of smart growth and show us some examples.

**[Video] Paul Beyer:** A health impact assessment is a full assessment of all of the elements that go into planning a community and the effect that they have on different public health and mental health outcomes. In New York State, Niagara county and Rochester have actually incorporated health impact assessments into their community planning. In Rochester, their local waterfront revitalization plan has a health impact assessment built right into it. Health impact assessments, I believe, can have their greatest positive impact on underserved communities and also in downtown settings, either existing downtowns that are revitalized according to the principles of Smart Growth or new communities that are trying to build in a more healthy, and smart, and sustainable way. The principles of Smart Growth are really based on our most cherished communities built and planned in the early 20th century. Basically urban form, village form planning that incorporates neighborhood friendliness, pedestrian oriented
design, and bicycle orientated transit design, a mix of different housing and land uses. Smart Growth really comes down to compact, mixed used, and walkable, diverse, and varied built environments. The most basic, and very obvious, translation of Smart Growth into public health is creating an atmosphere where people feel safe and comfortable and walking and bicycling. Most suburban communities, typical of conventional sprawl, are not walkable. They’re not bikeable. You have to access all of your daily amenities by car. We’re standing right here in what is referred to in the Smart Growth world as an Eds and Meds environment. This is an environment that’s built up around Eds, which are educational institutions, and meds, a medical institution. It’s perfect that this environment would be developing in a Smart Growth way because you’re not only creating public health outcomes, but you’re standing in the shadow of a public health institution. Through Governor Cuomo’s New York Rising Program, we saw a number of plans that are coming up from the bottom—this is called bottom up planning as opposed to handing down plans from above from the state or federal government. Governor Cuomo went out into the community to ask what would work best for them to not only create more storm resilient communities but more livable communities and what has happened from the bottom up process is there’s a call to create more healthy communities. The United States’ Environmental Protection Agency has come out with research from the last decade that shows that density in targeted locations can actually reduce the amount of storm water runoff pollution that occurs in a normal sprawling environment. Whenever it rains, storm water runs through what we call typically gray infrastructure, roads and gutters and treatment plants, and along the way it picks up contaminants and pollutants. If you densify in one area and preserve land in other areas, you can channel water more naturally, store water more naturally so you avoid some of those pollutants that our storm water picks up. One of the features of Smart Growth is that the formula applies to any setting, whether it be rural, suburban, or urban, we’re standing in a fairly urban setting here. Some of the buildings are three or four stories high. But you can create this model on a smaller scale in any rural village or hamlet throughout New York State. There are many communities that want to the play on principles of Smart Growth. They need help and guidance. That’s what the state of New York provides. There are a number of agencies, including my own, the Department of State Office of Planning and Development that can provide guidance material to communities. The New York State Department of State Office of Planning and Development houses a number of planners and planning programs like local water front revitalization program, and the New York Rising Community Reconstruction Program, so communities can call any number of agencies including the Smart Growth Office at Department of State and be referred to a number of different resources and grant programs that help communities on their own from the bottom up plan according to the principles of Smart Growth.

**Moderator:** So certainly a lot of information there about Smart Growth. Can you talk to us about how Smart Growth choices make a difference?

**Nathan Graber:** Right, so, I guess Paul did a fantastic job of explaining that. We can look at the example of where brown fields have been turned from something ugly and blight to a community asset just by decisions using Smart Growth principles as well as just changing the beauty of a community in addition to giving transportation options. Just beautiful street scapes that can influence our choices.
**Moderator:** And the desire to be out there. What about how communities can foster more community gardens or healthy spaces, things like that?

**Nathan Graber:** Right, I think community gardens are a great example of something that can be done at a local level that take what was a garbage strewn, overgrown city lot or even a suburban lot and turn that into a real community asset where it changes the street scape, it gives people opportunities to learn about healthier eating and actually studies have shown that people engaged with community gardens change their dietary habits and wind up eating more vegetables and more fruits, even if it's not what they grew, just changes in the dietary behavior. There's opportunities for physical activity, and access to nature and green spaces as well as increasing social capital.

**Moderator:** Sure. Now also thinking about choices that we make, I understand that you bike to work every day including on this very cold morning. Can you talk to us about some of the ways that the built environment accesses the decisions to drive to work versus bike to work?

**Nathan Graber:** That’s right and I’m going to relate an anecdote. I don't bike to work every day, most days, I try to get there as often as possible. I love it. I love to walk or bike to places to do errands as well. I’d love to take my kids also in the same kind of way, but, when we have to get to school from our house, we have to cross over a highway and there's a bridge there, and the sidewalk was sort of an afterthought and it seems to be more to protect the trucks from hitting the fence at the highway than really protecting the pedestrians, and there's no crosswalk. We did it once, and we've never biked again. I just didn't feel that it was a really safe option for us to get to and from school. However, you know, I remember once I was walking to, taking a walk before a meeting in Atlanta. I was at this beautiful park and saw this amazing bridge, I can't help it, I know I’m going to be late for the meeting, but I have to cross this bridge. I was enticed to go across the bridge. We should be thinking about how we create our environments so that it forces us to, or entices or convinces us to make, to engage more in physical activity or eat healthy foods, whatever it is. We should be thinking in that same way.

**Moderator:** Sure. Now you mentioned one of the focus areas for the Prevention Agenda is the built environment so to what extent have counties embraced that initiative?

**Nathan Graber:** I think it’s very interesting because although very few local health departments and health care provider organizations actually selected built environment as one of their priority areas, or focus areas for the prevention agenda. I lot is already taking place across the state, in terms of Climate Smart communities or smart growth communities, or Smart Growth initiatives and Complete Streets and other even other differently named, similar opportunities taking place everywhere, and so, I think it’s important that the public health engage with those activities and if they're already engaged, taking credit for it. Remember, it's new, it's hard, it's different for public health, but actually like I said, we have counties doing it and some of them are making it look easy.

**Moderator:** All right. Well thank you, Nathan. That's a great transition to Karen joining us today from Clinton County. You are one of the counties that's selected promoting a safe and healthy environment as one of your focus areas. So welcome.
Karen Derusha: Thank you. I'm glad to be here and glad to be able to talk about this built environment strategy. A couple of built environment strategies and projects that we've worked on. And when we brought our community together around the Prevention Agenda to discuss which priority areas we as a community wanted to focus on, we heard a lot about, you know, concerns about rising obesity levels, concerns about chronic disease, concerns about safety of our seniors, falls, prevention, mental health, and it kind of brought us back to how do we address all of those things?

Moderator: Uh-huh.

Karen Derusha: And the built environment seemed to be the way to go. And we've seen in our community a lot of excitement and a lot of traction around the built environment, so, very excited to be able to do this type of project.

Moderator: Great. And one of your initiatives is the food access strategy. How is that related to the built environment?

Karen Derusha: Well, as Dr. Graber was explaining the built environment is so broad. It is, we think of buildings, we think of roadways, but, transportation infrastructure, making sure that people have the ability to get the things that they need to have in order to be healthy. So, our food access strategy really was designed to look at how people in Clinton County and in particular our most vulnerable populations how they're getting their food and whether they're getting foods that are affordable as well as healthy.

Moderator: So can you also tell us more about one of the specific strategies that Clinton County is pursuing in terms of the built environment.

Karen Derusha: So we're focusing on increasing use of our Clinton County Public Transit System which is a rural transit system for people to get from their homes to the grocery stores. We know that quite a number of people within our counties, it's a large rural county, we've got about 20,000 people located in the city of Plattsburgh area and the other 60,000 or so spread out the county. Grocery stores are generally in the Plattsburgh area, and most people need to come into that area in order to be able to purchase groceries where there's a wide selection and variety and they can make the healthy choices. And we also know that he there are quite a few households that don't have access to a vehicle. And vehicle access is really a social determinant of health that is so important in a rural county.

Moderator: So, it certainly seems like a complex project that you're taking on, how did you start this initiative?

Karen Derusha: We met with our county planning office who facilitates the Clinton County Public Transit System and we looked at the bus routes, we looked at where routes are currently running and how people are able to access the grocery stores. We took a look at some of the different grocery stores and selected three to really focus in on. We realize again that people needed to in general come into Plattsburgh. Two of the grocery stores we looked at were right in Plattsburgh and then we have one in the northern most part of the county that we focused on as well.
Moderator: And what strategy did you use to find out who was using the bus to go to the grocery stores?

Karen Derusha: Right, we needed a baseline of who was using the bus, who wasn't. We did stop audits; basically those were counts of people getting on the bus and people getting back on the bus with their grocery bags. And we did that at the three locations. We had some help from the bus drivers at the CCTP, they were a great help and actually collecting that data for us. We worked with nursing students from SUNY Plattsburgh who again did a large portion of that data collection because it is just time consuming, but very worthwhile because we have a baseline to work from.

Moderator: What did you find during that phase of data collection?

Karen Derusha: Well, one of the things we found is that the bus in general, asset that it is, is totally underutilized, both for grocery stopping as well as in general. So we know that we can work to increase ridership, we know that we can increase the use of the bus system and advertise that more for grocery shopping opportunities.

Moderator: And what did you do the next phase, phase two, what did that consistent of?

Karen Derusha: Well, once we knew that people weren't using the bus as much as we hoped they would be, we realized that we needed to know why. So we developed a survey that we could actually talk to people about their use or their not use of the bus and how they're getting to grocery stores and what it looks like in their household when they are looking to buy fresh fruits and vegetables. What are the barriers that they face? And one of them is low vehicle access. We conducted those surveys, we actually, we have a lot of partners out in the community and we went to those sites, Department of Social Services, Child Care Coordinating Council, our JCO outreach centers within the smaller communities so we were able to talk to people who would be able to use the bus, if the barriers were gone.

Moderator: How did you decide who your target population was for this program?

Karen Derusha: Well, we looked at the USDA economic research service and from that we're able to determine that there are about 6400 households in Clinton County with what's considered low income and low access to a grocery store. And of those, almost 1400 have no vehicle of their own. So this gave us some numbers to work with, we decided to do a 10% sampling of that population.

Moderator: And so what specific interventions have you planned to increase the use of public transportation for folks to access healthier food?

Karen Derusha: Well, what we found, and we did not necessarily anticipate that the number would be so high on this, but over 50% of those who responded, responded that they either know nothing or not enough about the buses to use them. They don't know what the roots are, they don't know what the fares are, or just in general how to use the bus. How does it work when you get on and off? So we definitely knew we needed to do a marketing campaign to get more information out there about the buses. We also know that within our human services organizations and other groups that are actually
working with these same populations, that there's a lack of knowledge about how to use the bus. So we
definitely know that we want to just increase general knowledge of the bus routes and the bus usage.
And then the other thing is we really need to promote the idea of grocery shopping in a grocery store
and all the benefits of that and that the bus can be used for that purpose.

**Moderator:** Now, the question everyone always wants to know about is: outcome. So will you be able
to measure whether or not this was successful?

**Karen Derusha:** Well, we planned to be able to measure that, and because we did the baseline survey,
those counts will be able to go back and repeat those efforts and actually see just an increased number
of people riding the bus, using the grocery bag measure, we can also determine which of those people
are using the bus for grocery shopping.

**Moderator:** Excellent. Now are there other initiatives taking place in Clinton County that address the
built environment?

**Karen Derusha:** There are, and there's one I want to speak about in particular because in our county,
we found that people have really embraced this built environment idea and really make the connection
between public health and all of the benefits of working on the built environment. And so we had a lot
of training on things like complete streets, and we had one particular citizen group that just kind of
latched on to this idea, and realized that they wanted to do something right in their neighborhood about
a complete streets project. So they actually initiated a proposal for a road diet on a stretch of road just
north of the city of Plattsburgh.

**Moderator:** And so that road diet I’m guessing was in Margaret Street, I believe.

**Karen Derusha:** Margaret Street, yep.

**Moderator:** Can you talk to us about what that project encompassed?

**Karen Derusha:** Okay, so Margaret Street as it's leaving the city of it Plattsburgh is a mixed use, there
are some condo apartment-type residential areas, there's also some small strip malls I guess you'd call
them, where there are businesses located. On the corner, there's actually Georgia Pacific Paper Mill, a
large employer whose got a parking lot across the street, who has always had concerns about safety of
the employees crossing over that street. There's a McDonald's, and one of the things that this citizens
group learned, they call themselves P.A.S.S which is Plattsburgh Acquiring Safe Streets, and they learned
that McDonald's had a concern about the safety of their employees because so many of their employees
ride bicycles to work. And the road as it was, was four lanes with no bike lanes. So safety issue for the
bicyclists and also safety issue for the pedestrians because of what would happen is that bicyclists would
move up on to the sidewalk. So we covered a lot of bases.

**Moderator:** So what did the road diet encompass?

**Karen Derusha:** So the road diet, if I can just backtrack a little bit, I want to just point out that the
process that they use was to really engage everybody along that section of roadway and find out who
was in favor of this, what the concerns were, get the support, they did a feasibility study which was supported financially by Georgia Pacific, contributed to that because they had such a vested interest. So it really became very much a community effort.

Moderator: Great.

Karen Derusha: And what they were able to do was to do the feasibility study, take that to the city of Plattsburgh Common Council and lay out a plan for them. And having a plan is a great way to get things done because they did get the approval for it. They had a little bit of luck of timing that the road was about to be resurfaced anyway. So why not resurface it in a way that actually promoted health. The city supported that, and so now what we've got is two lanes with, it's actually three lanes, two driving lanes with the center turning lane. Five foot bike lanes on the side.

Moderator: And then also in addition to changing the lane structure, one of the things that I know you mentioned there's a bike box or there's some other improvements made too, can you talk a little bit about that?

Karen Derusha: I have to say that I didn't know what a bike box was until I saw the bike box. And it's actually just, it's green and it's painted at the intersection, it's a place where bicycle can go when you get to an intersection, it's hard because if somebody's turning right and you are the bicycle going straight and they don't necessarily see you. If you're in the bike box they will or if you need to make the left hand turn it gives you that opportunity to do so safely.

Moderator: Excellent. And has this project been finalized at this point?

Karen Derusha: It has. Yes, and we found that the day they opened the road, we saw people out there riding their bikes on it. It's really been enjoyed. It's a great project too because there are bike lanes that run through the city of Plattsburgh, and there's a bike path that's been in existence since the 1980s called the Memorial Bike Path, but this is the section that connects the two of those and it has never been safe until now.

Moderator: That's a tremendous project that your community was able to accomplish.

Karen Derusha: We're very excited about it.

Moderator: Thank you so much for sharing that information with us. Nathan, can you quickly reference if there are places that our audience can go for more information on this topic.

Nathan Graber: Absolutely. The web is filled with great information. CDC has information on the website, there's the Built Environment Institute, and resources from the New York State Department of State, and from New York State Department of Environmental Conservation and New York State Department of Health Prevention Agenda and there are fantastic videos, presentations, all, you know, streamed throughout the web that provide the evidence that local health departments and health care providers can use to help promote these improvements to the built environment.
Moderator: Great, thank you. So we have time for questions from our audience, we'll start with a question for Karen. Your analysis of the use of public transportation to access grocery stores is very interesting. Was this undertaken exclusively by the local health department or were there others who helped with the data collection and analysis?

Karen Derusha: As I said, the planning department facilitates the buses, and so we worked hand in hand, in fact the coordinator for the public transit system was the chairperson for the committee that put this project together. And one other thing that I didn't mention actually is that when the data is collected and input we're able to actually export it back out to him, and he's geocoding the data from the surveys, the food access surveys that we did. We can see when people answered questions on the surveys, where we're seeing the most concentration of certain answers. Really gives us an in depth looks at what's happening in the different areas of the county.

Moderator: Now, you mentioned that road diets are a feasible built environment approach even in rural areas. Are there other examples that you would share that work particularly well in rural areas?

Karen Derusha: I think one of the things we tried to get across because it is different in a rural area is that it can be very simple. It can be a matter of making a wider shoulder, can make a street complete. Painting crosswalks, so there are a lot of kind of low-cost, low-key steps that can be taken in rural communities that just improve, improve that.

Moderator: Anything you want to add?

Nathan Graber: I just think what they're doing is awesome.

Moderator: I agree. I'm somewhat familiar with Plattsburgh and it's fantastic that the community is doing that and hopefully we'll see more communities taking that on as time progresses and people become more aware of these issues.

Karen Derusha: Yeah.

Moderator: All right. Well that's all the time we have for questions today. Thank you guys both so much for being with here. I think this is a lot of great information for our audience.

Karen Derusha: Thank you.

Nathan Graber: Thank you for having us. I'm glad to be here.

Moderator: And thank you very much for joining us today. Please remember to fill out your evaluations online, your feedback is always helpful to the development of our programs, and continuing education credits are available. To obtain nurse continuing education hours, CME credits, and CHES credits, learners must visit www.phlive.org, and complete an evaluation and post-test for today's offering. Additional information on upcoming webcasts and relevant public health topics can be found on our Facebook page. Don't forget to “like” us on Facebook to stay up to date. This webcast will be available on demand on our website within two weeks of today's show. Please join us for our next webcast,
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