CRR Tools from the U.S. Census Bureau
Conversation with Chip Walker
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Announcer:	Welcome to CRR Radio from the Vision 20/20 Project.
Ed Comeau:	Well, welcome to CRR Radio. My name is Ed Comeau with the Vision 20/20 Project. When doing community risk reduction, one of the initial steps is getting a handle on the makeup of your community. And today's guests are going to talk about some of the tools that can help you do just that. Chip, could you take a minute and introduce yourself to our listeners?
Chip Walker:	Thanks, Ed. It's a pleasure to be here. Yes, my name is Chip Walker and I'm with the United States Census Bureau and I work particularly in the economic directorate. In a post-Katrina, the Census Bureau had a number of activities with that major disaster. Coming out of that, we sort of did an introspective look at how we were organized and responding to disasters. Out of that came what's called the Emergency Preparedness and Response Team. And I'm a co-lead of that team. Our purpose is to help the Census Bureau respond in the most efficient and quickest manner possible for all the areas of disaster response. So, in the pre-stages and the planning and the response and in the recovery aspects. And so we try to leverage all the resources of the Census Bureau and provide them in a very logical method so that people can get the data as quickly as possible.
Ed Comeau:	And we're going to be talking about kind of two aspects today. One is, as I had mentioned, getting to know your community with some of the information that's available from the Census pre-incident. And the other one's going to be, as you were just talking about, we can do during an emergency response. But so first, let's focus on the pre-event kind of data that people can pull up. Community risk reduction's all about knowing your community. And while many first responders may intuitively feel that they do, in looking at the U.S. Census Bureau's website, there's just a ton of resources available to help them in getting a better handle on the community. Can you go over some of those?
Chip Walker:	Sure, sure. Let me preface this as people think about the type of data that I'm going to talk about is that one thing that the Census Bureau can't do because of privacy concerns is we are unable to give you any data on a particular individual, a particular household, or a particular business. So we have to aggregate the data up to a level that will not allow any individual, household, or business to be identified.
	With that being said, we do have really an overwhelming amount of data. I call it, we're talking about fire departments and such. So, to use the analogy, to look at the Census Bureau data all at once is sort of like just opening up a fire hydrant and just letting it blast out. And then what we try and do at the EPRT and throughout the Bureau is to take this fire hydrant of data, apply tools to it, understand what the customer needs are, and sort of get it all the way down to like it's a manageable water fountain. So that you can get the information that you need and that you can understand it. You can get it as quickly as possible.

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So that being said, we have data that really goes across the spectrum. A lot of people know the Census Bureau for its demographic data. We also have a tremendous amount of economic data on businesses and all of these can be valuable at the local level. So demographic data, of course, we have lots of population data. And depending on the particular survey that you're looking at, it will depend on the level of geography. It can go down to census tract, it can go down to census block. Or it can even go down to blocks depending on what the data variable is that you're looking at. So we have things on population, on age, on ethnicities. We have things on education levels, employment, and then we have lots of information on homes.

Then within each of those categories, we have even more data that you can drill down even further from whether they have vehicles at home, what the language, primary languages being spoken in the house. And then we can flip over to the business side. We can tell you a lot about the nature of the businesses, what industry in a particular area could be most affected by a major disaster and things of that nature, Ed.

Ed Comeau: And how would people access this kind of data?

Chip Walker: So, we have a number of different tools that are easy to use. Some are a little more technical. And one of the things that we strive in the Census Bureau all the time is to make our data available not only to those that are experts and professionals in sort of the data mining business but to the casual user that just may log in every now and then or on the weekend to get data. And we have tools that span that entire spectrum. We're in the process of sun-setting the American FactFinder to a new, very robust and very, really excellent tool, data.census.gov. We have other tools.

One of the two primary tools that we use in emergency management is we have a tool that's called On The Map for emergency management. It's an automated tool that you go and you can kind of get a quick snapshot of the entire emergency management landscape of the United States. And then you can click on various events. So you can see hurricanes, you can see wildfires, floods, major snow emergencies. And then you can click on these events and you can get various characteristics of the communities of that particular event. That's an automated tool.

We've worked very closely with a number of other federal agencies to get automatic feeds so that it's not a labor-intensive tool. You log on in a theme of delivering, if FEMA has declared, for example, with the California earthquakes recently, if FEMA has declared certain areas, disaster areas by county, we have tapped into that feed. And when FEMA declares it, then it automatically shows up on this particular tool. We have other tools like Census Business Builder, which will allow you to build a region so it's not automated. So it gives you the flexibility for planning purposes to say, "What if these five counties in my region

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were hit by a particular disaster? What would that look like?" And we can show you demographic and economic data at various levels of geography. So for example, if you had a five-county region and you wanted to look at those in poverty at the census tract level, you can look at that, you can set up filters. It's a really dynamic tool that we have found that people at FEMA and other federal agencies have found very useful.

Ed Comeau: And in a minute, I'd like to ask you to kind of walk us through perhaps an example of how somebody could use this in a jurisdiction. But one of the first questions I have is really, how do you guys get all this data? You have a ton of data. How do you get it?

Chip Walker: So, the Census Bureau conducts really over a hundred different surveys and programs that gather this data. In some cases like the Decennial Census or the American Community Survey, it's a scheduled survey out in the field that collects data directly from the respondents. In other cases, we can collect data from administrative records. So, when we collect data from administrative records, it relieves the burden from the respondent having to sit down and actually fill out the particular form.

In the case that a lot of people don't realize on the economic side, we have the Economic Census. The Economic Census is a census of almost all businesses in the United States every five years. Then we gather that data, we quality-check it, and we start to release it. And in fact, the 2017 Economic Census is just concluding and we will soon be starting to release data later this fall. So, we have a number of different methods that we attempt to gather the information. Our usual choice is to use the least burdensome method on the particular respondent. And we gather the data. The great thing is, is we have very high standards of quality. So, we're releasing numbers. People can have faith that those numbers are accurate within whatever margins of error might be associated with them.

Ed Comeau: So I'm with, let's say Anytown Fire Department USA. And I'd like to use some of these tools to get a handle on my community. What's its makeup? What kind of demographics do I have in my community? Could you maybe walk us through a real simple example of how they might do that? What sort of tools they might use?

Chip Walker: Sure. I'll use one of our newest tools, which is Census Business Builder and how you would do that. So, Census Business Builder has two different versions. The version we recommend for emergency management is it's called Regional Analyst. And Regional Analyst was initially designed to give economic councils, chambers of commerce, organizations, and professionals like that. A mayor's office for example, that wanted to get a very quick, easy snapshot of the demographics and the economics associated with their community. With this particular tool, the demographic side is coming from the American Community

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Survey. So we can go to very low levels of geography. On the economic side, the data's coming from a half dozen business surveys that we do within the economic directorate. So what you would do is you would go in and the very first thing you would do on the splash page is you would pick a geography.

So you would pick a state, a county, a city, a place, or zip code, and then you would enter that and then you just hit enter. The next screen is going to come up and it's going to take you right to the geography that you selected and you'll see the boundaries of that geography outlined. Then the next thing that you can do, you click on a button that says edit region. And now what you're going to do is you're going to just start adding pieces to your region. If you just wanted to look at a single geography, that would be fine. But this tool allows you to combine geographies. So, for example, if you are a fire department and you had a couple of different cities or a number of different zip codes that you represented, you could very easily just by clicking on the map, you could build out the very specific geographies that your fire department supports.

Then you'll have a dashboard. And the dashboard will show you, as you click around on the map, five variables. However, there are over 170 variables in this tool. And then what you can do is it allows you to customize the dashboard. Let's say there were five variables that were very important to you. You wanted to know the percent in poverty, you wanted to know the income of the particular areas, you wanted to know the educational attainment in those areas. So like, do they have high school degrees or higher? And maybe you wanted to know a business variable. What are the total number of employees in that particular area? So you could build out this customized five-variable dashboard. As you click around on the map, that dashboard actually changes to reflect the current geography that you're actually looking at. Of the 170 variables, you can always go back and change them.

Now, once you're done doing sort of your exploring, what you can then do is you can create a report. You can have two choices to create a report. You can create a report of the aggregate. So it's going to be all of the geographies that represent your particular fire department district for example. You can look at that report or you can look at individual reports for the individual pieces that make up your particular fire department district. Then that just allows you to compare and to understand. Now, the one thing that we don't try and do is we don't try and tell you what variables are important to you. So when you get the report, you're going to get all 170 variables if they're available. I will say that at low levels of geography. So when you get below city and place, you lose a lot of the economic business variables for privacy reasons.

It's much easier to go lower in geography when you're looking at the population. So there's a tremendous amount more of people than there are businesses in the country. And so once you get down to certain levels of geography, you lose some of the business data. But our demographic data, in

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this particular tool, you can take all the way down to the census tract level. You can also filter with this tool. So you can go to a filter part of the tool where you can create up to seven filters. You can say, "I want to look at poverty and I want to look at it in this range. I want to look at high school or greater education. I want to look at in this range. I want to look at disabled, the disabilities and I want to look at it in this range. I want to look at seniors. So I want to look at 65 years or older in this range." Another vulnerable population might be children five and under. I will look at it in this range.

So you can set up all these ranges in this filter and then you hit enter and it's actually going to show you on the map which areas of your district meet the criteria that you just set up. And so it's a really dynamic tool. You can, of course, download the data in several different file formats. You can create a bookmark. So let's say, Ed, you went and you looked at something and you said, "Wow, this is telling a story here. I want to send it to someone", to a friend or a work colleague or the fire chief or whatever. You can bookmark all the work that you just did. And you just send them the link and then they'll be able to see exactly what you were looking at.

Ed Comeau: Well, I got to tell you, I'm really amazed because I am not a heavy user of the census. I've just started getting into your website. And I'm amazed of what I found and I'm even more amazed at what you're just telling me. It is indeed like trying to drink from the fire hose trying to handle all this data.

Chip Walker: It is, it is. And a lot of times we find... I was reading earlier a lot of the Vision 20/20 documentation. And that's awesome but what I find is a lot of people say the Census Bureau is a great place to go and get data and they give the link to census.gov. That's where we try and help out. Go to census.gov and we are constantly refining the landing page, the way to find data. But it can at times be overwhelming. And so we try as much as we can to provide tools that help the person get to the data that they need. Tools like Census Business Builder, the new American FactFinder. So the data.census.gov and other tools, we're constantly working to try and make those easier to use. Because there's nothing more frustrating than to come to any website. But let's just talk about census.gov and not be, you know the data is there somewhere but you just can't find it.

Ed Comeau: Right. And for our listeners, I'll be including links to everything that Chip is talking about in the show notes below. So you'll be able to drill down to some of these tools he's talking about more directly. One of the terms you use too that I've always been curious about is a census tract or census block. How is that defined?

Chip Walker: So, they're defined by population. And it really, it's not like a census block in a rural area or a census tract in a rural area is going to be a lot different than a census block or tract in New York City. There's a formula for how they do it, how

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the geography division does it. But you can... It's tried to make it somewhat uniform but it's sort of just like zip codes. A zip code in a rural area is going to be a lot different than a zip code in Manhattan. A lot of times, people do search for information by zip code in various tools in census.gov. Sometimes that works very well and sometimes it doesn't because zip codes are the domain of the postal service and they're designed to help deliver the mail. That's their primary sole purpose. They've been repurposed in many different ways but it doesn't always match up.

So you have a huge rural area that has a big zip code. And in a big city, a big office building may have several zip codes within that office building. So, geography is kind of tricky. What we try and do is sort of take the user out of trying to figure that out and just let us know what it is you want. In Census Business Builder, you can enter zip codes but there's a lot of things going on in the background to try and deliver the most accurate information to the user.

Ed Comeau: And I can tell that we're just really scratching the surface what you have available. We probably could keep talking for a very long time about it. It'd be fascinating. But I kind of like to flip the switch here a little bit and talk about an emergency has happened. How can the Census Bureau help a local jurisdiction when an emergency happens such as like you'd mentioned the earthquakes in California, wildfires or even just on a smaller scale, what kind of tools do you have that might help them out?

Chip Walker: Let's take a large scale disaster for example. So part of what we do at the Emergency Preparedness and Response Team, we're getting into the heart of hurricane season. Hurricane season started June 1 but it really starts to heat up in late August into September and October. So what we do is just like other people, we are constantly monitoring what's going on. If we see that, for example, I know that there's possibly a tropical depression that may form in the Gulf of Mexico over the next week or so. So, we monitor that. And if we see that that's going to get into a large event and let's say it looks like it might become a large tropical storm or maybe a category one hurricane, and let's say it may be turning toward Galveston. What we do is we're not going to wait. At that point, we start to produce reports using various census tools for the most likely impacted areas.

As that sort of cone of uncertainty starts to narrow, then we narrow our reports and then we will post them to census.gov. Depending on the size of the event, it might be right on the front page or you might have to go look on the emergency preparedness page. And so then, localities can go right away and start looking at that. Another thing that we do is governors tend to declare states of emergency ahead of when the federal government does. So, we don't necessarily wait for the federal government, for FEMA to declare a state of emergency. We will go and look at what the governors are saying that these impacted counties are the ones that we're most concerned about. We'll produce demographic and

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economic reports based on what the governors are saying because they tend to be, rightly so, first out of the box. Then we will sort of follow that.

So that's one way that we try to be proactive. Now, for example, what just happened on July 4th and then the next day with the earthquakes in California. So that's a no-notice event. You don't know what's coming, unlike a hurricane. And so therefore we act. So over the weekend, we built reports. At this time, it was just for Ridgecrest city. Then the county that it's in, which is Kern County, California. We are in the process of posting that to census.gov so people can go in and get the information. But that information days ago was forwarded to various offices within FEMA. And then we let them know that these are the demographics and the economics. Not all of them. Again, not all of them because we have thousands of variables. But these are the ones that probably 85% of what an emergency manager would want to look at or we can show them.

And then, of course, we take specific requests. Anyone can call up or email or get ahold of census and say, "Hey, can you help me do this?" The other thing that we do is we provide training. And the training is no charge to the people that we train if you were a city government or fire department and you wanted someone on your staff or multiple people on your staff or you wanted to get a group of people together. So we're training, we want to be as efficient as possible. We can provide training. In some cases, we would do a webinar. So you just have to log onto your computer and we can walk you through training you how to use the various tools. And then, so what we want to do is when it's an emergency, that's not the time to do the training. The time to do the training is before the emergency. When the emergency's ongoing or imminent, we're trying to push as much data out as possible. So all you have to do is click and look.

Ed Comeau: Oh, it's really amazing what you do have. And I mean, I think you hit the analogy right. It's like drinking from a fire hose with a lot of this data. But it looks like you've done a very good job too, making it more manageable for the local fire chief or the local jurisdiction on how to use this data, both pre-event and post-event.

Chip Walker: Well that's the key. I mean, if the data is unmanageable, if it's too chaotic and you can't understand it, then it's not doing you any good. And so, the Census Bureau, our leadership has always, always been pushing staff to make the data more manageable, more understandable, easier to access for our users. Whether you're a high school student doing a research paper or whether you're a data analyst for a fire department and it's your full-time job. We want to make it easier for both of those extremes to use that data.

Ed Comeau: Well, we've been talking with Chip Walker, who's the co-lead of the Emergency Preparedness and Response Team from the U.S. Census Bureau about some of

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the great tools that are available that help you in your CRR efforts. And I'll be sure to include links in the show notes below for the podcast to all the things that Chip has been talking about. Chip, I really appreciate you taking the time to join us today.

Chip Walker: Ed, thank you. It's been a pleasure and look forward to doing it again sometime.

Ed Comeau: And if you haven't already been subscribing to CRR Radio, you can do it through your favorite podcast app, whether it's Apple Podcast, Stitcher, Overcast, or any other app. Just search for CRR Radio, hit the subscribe button, and you'll get CRR Radio automatically downloaded whenever we come up with a new episode. CRR Radio is a production of the Vision 20/20 Project. It's edited by Rich Palmer and produced by me, Ed Comeau. Thanks for listening. And we'll see you next time on CRR Radio.

Announcer: Thanks for joining us on CRR Radio from the Vision 20/20 Project. For more information on community risk reduction, please visit us at www.strategicfire.org.