>> We're just doing some introductions here if it's stable. Hopefully, everyone can hear me OK. My name is Rob Carr. I actually work for Oklahoma ABLE Tech with the Assistive Technology Act Program here in the state. And I'm pleased to be able to join you all this morning to talk about accessibility in Microsoft Word, where most of the reports that most of our participants work with on a regular basis.

First note is a welcome question. I think folks are going to kind of help me to look for questions that come in through the chat window. And hopefully, I will be able to keep an eye on that but feel free to ask questions as you go. Folks here in the room, same thing, ask questions as we go through. You have no reason to hold questions until the end. And I think we'll make sure-- I think everyone is muted on the other end. So, if you are muted you may need to unmute if you want to ask a question with the audio. So, a couple of notes as prefaced. A couple of hours isn't enough time to cover everything about accessibility even in Word. And this is focused pretty narrowly on the kind of content that's common to the reports for like EDC, ODOT, OTL. And over the years, I've been able to get more familiar with that concept. And so, that's why we're focusing in more narrowly. So, there are things outside of what we'll talk about today that has to do with making the Word documents more accessible. That's my disclaimer.

We're not going to cover everything, which is fine. We'll cover quite a bit. So, I wanted to-- Arny [assumed spelling] asked me to talk a little bit about just kind of context, to put accessibility into context because for many of-- you all-- it's a new concept, it's a new thing to think about when it comes to finishing these reports and thinking about different ways that people are going to consume and [inaudible] I wanted to just kind of set a context for us. And so, accessibility comes down to accounting or different combinations of people and technology that use computers because you'll have a little bit of a crosstalk. I don't know if I can.

You know, if you all could make sure that you're muted on your end, then that would be very helpful just so we don't get any crosstalk coming through.

So, accessibility comes down to these permutations of people and technology and accessibility really comes down to making sure that all the digital stuff that's out there works for the most people by kind of thinking about technology differently. And thinking about multiple interactions that we just don't-- no one really teaches or trains on. The fact that people with disabilities use computers regularly, independently, you know, someone who's totally blind can use an accessible website or document really effectively. And this is not something that's necessarily in the front of mind.

So let's have an example. There are tons of different interactions. One of them I just mentioned. What if the reader can't see or can't see very well? They have low vision. What kind of impact would that have on the way that they use their computer, because that has an impact on how we need to create the content that we're putting out? What if some can't hear or hear well? Typically, in the reports that we're talking about at the center in this, there aren't audio components but that's another interaction that we need to account for maybe another content. What if someone can't use their hands or has a limited dexterity? Has trouble using a mouse and primarily uses a keyboard to navigate around their computer. What if someone can't tell the difference between red and green? What if someone is color blind? And especially, in the content you will create, color and using color is one of the unique elements because it's so important to many individuals whether it's a chart or a graph or if it's in an image that have a couple of cross sections of a stone or soil samples, where color is used to distinguish between the different layers? So how do we account for what percentage of our reading audience can't pick up on those colors or can't distinguish between them? What if someone can't process written language fairly quickly? What if someone has a print disability like dyslexia? And then for this content, it may be that one of the things we talk about when we think about print disabilities is plain language and making sure that we write with as much plain language as we can.

And again, this content is somewhat unique, that unique target audience, you got a lot of terminology that's not going to be familiar. And so, there's a limitation to how much we can do. But a lot of it is things like spelling acronyms out the first couple of times that you use them. And that can be really helpful for anyone whether someone has a print disability or not.

So, despite all these different interactions of, you know, people can and still do use computers really effectively and there's more and more assistive technology, almost literally every year, that makes the interaction between someone with a disability and their computer much more equivalent to what those without disabilities are accustomed to. And so, when we talk about the assistive technology, broadly speaking, it facilitates someone's interaction with the environment. I'd say, assistive technology could be eyeglasses. It could be a wheelchair or a walker. With computer use, there are a number of different devices and technology that are added on to computers and then in some cases, are a built in. Just like for people who is blind, say they might use a screen reading software tool that reads not just what's on the screen but it also reads a lot of the stuff that we're going to talk about that's kind of behind the screen that's really important and is vital, in fact, for that audience. Someone that has low vision might use screen magnification and that can be really sophisticated, it can be a third party tool that zooms in on certain parts of the screen. It might be that they use it to zoom in Acrobat Reader and to zoom in to make the text larger. And there's some implications about that that we'll talk about as well.

People might drive their computer using speech recognition technology. Just in [inaudible] dictate with speech recognition? I started doing that to write scripts for recorded webcast and it's amazing. It's somewhat faster than sitting and typing it, at least for my brain, it's a lot quicker. And the technology gets better all the time. I started using Google speech recognition because I didn't want to pay for anything and it's pretty good. And I have no-- I've never met Google before, you know, it hasn't had to get to know my voice.

And then, assistive technology might not be-- but think about it as assistive technology but a keyboard and devices within keyboard commands are really important too. Braille readers, for example, will pop right up for a Braille reader, or someone who reads Braille. And they'll be able to read through a line at a time and they'll add just a few keys on the Braille reader that will send a few keyboard commands and through the computer. So it's not a traditional keyboard but still send commands as a keyboard. So, the point in here is that the assistive technology is out there to make it so that even folks that-- well, I guess, those folks that you don't think are your target audience can still get into this content and get a lot out of it. Get the same things out of it that someone that doesn't have a disability can. As long as it's accessible and that's why we're here this morning to talk a little bit about accessibility. So, to kind of sum that up a little bit, someone's disability might change their interaction with the computer and with your reports, but it doesn't necessarily limit that. That's not the limiting factor. There are barriers in, you know, the Word documents and that's what-- as some of you who have-- if any of you have submitted a report and you got feedback from me, I point out some of the barriers that are in the Word report and how to remove them so that those limitations that are imposed by the technology are gone. So maybe a little bit different angle than what people think about it typically.

The other thing about accessibility is that using a lot of the techniques that we'll talk about, certainly, and most importantly makes interaction with this content possible for people with disabilities but it makes it much better for people without. We start to kind of to see overlap between universal design and accessibility and we'll talk about that more when we talk about handling some of the really complex visuals that are in these reports.

And some of the benefits of presenting text as an addition to the visual, not just for people that might be using a screen reader but also for people that just learn a little bit better and process better if they have those two modes presented in front of them. So, this acronym, I'm not going to take credit for it. But the goal of any kind of digital technology is to make it perceivable, operable, understandable, and robust. And with PDF and Word, the operable part is kind of built into the operating tools. But the perceivable piece is what's so important with this content because so much [inaudible] so much of the content is visual. And so, how do you make that perceivable to someone who cannot see or they can't see very well? Now, if someone has to zoom a screen out 400 or 500 times, it's really going to pixelate an image. And so, even for people that have low vision, there are considerations to make sure that that visual content is still perceivable.

The operable piece that has more to do with, can someone use a website? The understandable piece again is important. Do people understand the message that you're trying to convey with your research? And again, that's writing style which I understand is a little bit different given this content. And the robust piece basically, what that means is that what I'm going to demonstrate is creating accessible Word files that will create more accessible PDFs. And as long as we build in kind of the standards-based accessibility, the PDF should still work really well in terms of accessibility in four or five years. This comes from the Worldwide Web Consortium and this is kind of the foundation for their work with accessibility standards for the web and that includes documents and content and it includes non-web content like what we are working with.

So real quickly are a little bit about some of the legal stuff. And I will say, if you want to read into this more, if you just really get a jounce to go out and read about Section 508 or the ADA, feature links here, the slides will be available after the webinar today. But at the federal level in the United States, this step is mandated to the public sector in a few different places. The Americans with Disabilities Act and Section 504, the Rehabilitation Act, both are civil rights laws that basically say, don't discriminate against people with disabilities when you offer programs, services, or activities. And so, these reports that were published are a part of the program offering. And so that's where we see these apply really-- I want to say specifically, but we certainly see these reports in the efforts that you all are undertaking to push this stuff out to the world, falls under those two laws. Section 508 is more specific with the federal government and gives us a set of standards that we can use. So, a lot of the things that I talk about today are reflected in Section 508. But 508 is more procurement policy. So, we have two civil rights laws and a procurement policy that we can look at. And then in Oklahoma, we have an Electronic and Information Technology Accessibility Law that applies to all state agencies. So that includes Department of Transportation. It specifically includes all Oklahoma higher ed. You know, so for those of you who are in Oklahoma, you've got a couple of different angles of entry for this. And what this does again, it's more of a procurements policy, where it specifies standards that we can apply. It tells us what accessible looks and acts like. So, the civil rights laws are really, really broad. Like I said, they talk about making sure that we don't discriminate any programs, services or activities and that we are effective when we communicate with people with disabilities. So again, you can see with these reports, you're trying to communicate a message out through your research. And that communication needs to be effective. The procurement laws are broad within technology so they talk about web, software, digital documents. It's not just procurement and use.

I want to see the comments. I'm cutting out. Is anyone else getting choppy audio? You just type it in the chat window if you are hearing occasional drops in the audio. OK. So Elizabeth, it looks like unfortunately it might be a unique thing to your setup, which is not best answer. But if everybody who might be able to unplug something and plug it back in. So Elizabeth, maybe just-- or if you're on a backup, come back in to the platform. But I apologize for that.

So, just to give you an idea of the scope, you can go out and read about settlement agreement [inaudible] as well. I think that these are helpful if you're looking at like within your department at your university or if you're looking university-wide, there are still agreements that are out there. These come from allegations, discriminations, typically that a student makes about not being able to get through a class. And it can be online or blended. But, the settlement agreements are really broad. And this is just to give you an idea of how-- of what the goal is and I'll read it really quickly.

Accessible means that individuals with disabilities are able to independently acquire the same information, engage in the same interactions and enjoy the same services within the same timeframe as individuals without disabilities, with substantially equivalent ease of use. It's definitely a legal definition but I think it's informative because it stresses the independence, you know, when you don't want to force someone who's blind to rely on someone else to read the-- one of these reports to them or to interpret those visuals. The idea is to make sure that that can be done independently. And then this has the word same four times and we understand that there might be a different interaction with a computer but when you think about the information and the interaction and the timeframe, there's no reason that those can't be the same. And again, someone's interaction with their computer the way they read it might be different. But, everything else, we need to make as equivalent as possible. So again, this link will be out there if you want to follow-up and read about settlement agreements that are both in the private and the public sector. Just to get an idea of where both the Department of Education and the Department of Justice are appointing higher ed and state government even down to the municipal government and again the private sector with this stuff. If that's your thing then there's a place where you can go read about it. OK.

We'll transition now to looking at the reports more specifically and what I'll do is I'll bounce back and forth between slides and working in Word to demonstrate a few things. And I've got a few examples from some old content that I'll use to demonstrate a few techniques as well. So, this is the part where I especially expect questions. And again, feel free to just jump in and ask.

The first thing is naming conventions. Just so you will know what I'm talking about and where I am when I move into Word, the way that Word is set up now [inaudible]. And [inaudible] this way for a bit. But at the top of Word, we have what are called as Word Ribbon. And it's beside the [inaudible] all of Microsoft Office now. And that's just this top piece. That's just everything that is up here. Within the ribbon, we have tabs. And so on the screen right now, the tabs you can see in Word are File, Home, Insert, Design, Layout, et cetera, et cetera. So when I talk about going to the Insert tab, I'm talking about going on to this Insert that's at the top and selecting it.

Then within each one of the tabs you have groups. So again, that is-- I'm going back to the Home tab. And each one of these groups of controls is just called a group. So we have the clip over, we have Font, Paragraph Styles, et cetera. If you are following along and you're in Office 2010 then it's going to look a little bit different, it's going to look a little bit different than you're-- if you're in 2016. But they just moved a few things around as is Microsoft's way. They like to say that they've done user studies and then people like this stuff split up. The point is you might look like very base on the version of the Office that you're working in. But the terminology is going to be the same, either way.

So, when we talk about accessibility, there are visual pieces that we'll talk about and then there are things that are tucked in behind the screen, kind of the structure of the document, digital documents are like the physical structures and that there's a lot behind the scenes that makes them look and act the way that they do. And so, we'll get into some of the mechanics that are relatively straightforward to begin with.

And the first is to add a title. Most of the time, when we think about putting a title into a Word document, we think, OK well, all I need to do is come in here to the top and I'm going to be very, very creative because I'm always very creative in live demos. We think, well I have the title at the top. And I know you all have a title sheet but there's a principle that generally applies. Most of the [inaudible] I learned that we're going to highlight that and we're going to come up maybe into of the Styles group in the Home tab and I'm going to look for a title. And I'm going to apply the title style here. And that's all as well I'm good. The tricky part is that Microsoft hasn't made that an accessibility enhancement yet. The fact that we made this into a title doesn't really matter to anyone that uses assistive technology. So, when you put the title of the report into the report and WebEx is messing with my pointer, you have to go into the File tab and you're going to look off to the right-hand side. And there's a field labeled Title. And once you get your cursor over the add a title placeholder, that's where you can type in the title for the report. So really simple thing to do, just literally copy and paste the title from elsewhere into here and that is one accessibility barrier that you have removed. What this will do is that will make it so that if someone using a screen reader gets into the report, they'll hear the title instead of the file name, just typically the screen reader will be the file name. And obviously these file names have, you know, a specific like most filenames for a large project. That specific format and a lot of extra information in there but they're not terribly descriptive. So this is how you add a descriptive report into your or a descriptive title into your report.

The next thing and most of the reports that I take and look at, do this. But you want to be sure that you make headings in the actual headings. So I'm going to-- I'm just going to undo that. And I'm going to call it-- and I'm going to say that this was a section heading. So I'm going to call this section 1. So this is going to be the first heading I'm going to deal with in the document. And again, before if-- if you just kind of been self-taught, then there's really a good chance that you highlight that content, you'd fold it and maybe you would make it bigger. There might be some other formatting to make it into a heading. But the problem is, this is only a visible change. So assistive technologies have no idea that this is a heading.

So the key to apply in headings and this is helpful in many [inaudible] is to use Word styles. So here with headings, we do get a lot of accessibility when we use a Word style. With the title not so much, with the headings we do. So I've got the same heading selected, the heading text. It's the first heading in the documents, so I'm going to come into the Word style, and I'm going to select Heading 1. So, we get a visible change there and now, I'm going to demonstrate here in a minute how to change the visual because the stop visual in Word, do you see this blue, which I don't usually like and I think in your reports, you just used black and white. I don't know if that's a format-specific-- if that's specifically requested. But that's all I've ever seen. Well, what we've done is we've created a heading that looks different visually and now behind the screen is also identify this new and first-level heading. So, if a screen reader or a Braille display comes across it, it will report to the reader, "Heading 1" and then read the content. So it's really, really important to do this and it's actually helpful to us that authors, once you get over a little bit of learning curve with some of these techniques, at least in my experience, I've found that a lot of the stuff makes this easier for me, to go and then make changes to documents, makes it much easier to create a table of contents. It's your table of contents, if you have Word, build it, which you should. It looks at the heading levels and creates that table of contents for you. And then if you go back and change something and your page is changed, it takes a right click and a selection to update the table of contents. You don't have to go through and do it all manually. But if you don't have actual headings, if you don't have the heading styles applied, that doesn't happen.

So there are a bunch of reasons to do this. Note, let's say that I don't really like the way that this looks, I need just to match particular style guides, for example. Well, the other nice thing that this does, is it makes it very simple to change the headings throughout the document. So I'm going to come in and a couple more. I'm going to put in, this is going to be subsection 1, so this. This is a subsection of section 1, so I'm going to make this into a Word heading 2 style. Because it's nested under this first section, and I'm going to call this next one subsection 2. See them when I try to keep it simple in the style prints. So now one of the [inaudible] benefits to us as document authors is that if-- for any reason we don't like the way our heading 2's look, all I have to do is come into this styles group and run my mouse over heading 2. I'm going to do a right click and I get a context menu. If you happen to use a keyboard, there are keyboard shortcuts for all of these, I don't know them off the top of my head but almost everything I'm showing you, you can also do from the keyboard pretty quickly. But in this case, right click on heading 2 and I now have an option, the second option in this menu is Modify. So I'm going to select Modify and I get some controls that look really, really familiar. I've got this formatting area that has the font, has the font size, I can bold, italicize, underline, can get font color. I can mess with the line spacing and I can put spacing before or after my headings. I'm going to just change the color and bold it. And so I'm going to come in here and I'm going to go to black, I'm going to bold it. And it previews it, form it visually here and this went that side. And this is an idea of what that's actually going to look like. But take a look at both of those heading level 2's and documents when I hit OK. It changes the both of them.

The Word styles were originally put there to make it easier for us as authors to do things just like that. If you use them prior to Word Office 2010 probably, they were kind of a big pain. Because it was more difficult to go in and make these visible changes, and so one of the biggest complains was, I don't like using the styles because they don't look like and it takes me five minutes to change them. But in 2010 and in subsequent versions, it made this a lot easier. So, when you have all of your styles, set up and all of your headings maxed up with the right style, it's super easy to go in and make a bunch of changes all at one time. And now [inaudible] is changed if I have another section. That is a little bit more tensed. If I have another section, then I can come in and make subsection 3. And now if I make it into a heading 2 style, then it matches the others so you get more consistency this way, too. You don't have to worry about accidentally making a heading level, a font size, bigger or smaller. It's all consistent about the entire document this way. So very simple to do, one of the other benefits of this, and I've got my resolution set up, so hopefully it's easier to see for here in the room as well as streaming out. But it's really helpful because I can open up this navigation pane and see my heading structure. So this is in Office 2015, this is in the view tab. It think it's the same in 2010. And there is a check box in the show group. This has a navigation pane and what this will do is that [inaudible] by the front, shows me all of the headings throughout the document. And in terms of document and navigation and certainly with these reports and many of them are 150-250 pages long, this makes it really easy for somebody looking at the Word version, such as navigate with the document and not have to sit there and scroll page after page after page. When this gets sent over to the PDF, the stuff carries.

You may have used PDF that had bookmarks in it before. Well these become your bookmarks. So the same navigation is possible in the PDF. And it all comes back to where the heading style is and making sure that you use those styles to-- and then you apply those styles to the headings of all of the sections of the document. Any questions there? It's a pretty strict forward operation. Like I said, I think that this gets a-- this makes it more efficient. This isn't [inaudible] to be make up time when you group any Word document together. Even for a two-page report, I've gotten where I don't do without using styles. One other thing about styles is that you can save a set of styles, so let's say that you have a particular format that you want for these reports you're creating or this project. I'm just going to bold this and make it black for the first level heading. And Bryan can attest to the fact that it's messing with my mouse corner. So I just changed section 1 to be black and bolded again. The nice thing too, is that I can save this as a style set. There we go. There it is.

I'm going to try to renounce instead of my track ball it's doing [inaudible]. Let's say this is one of the things they changed this design tab. Maybe we're out there to save style. And if my mouse pointer wasn't, not going where I wanted it to go, this is will be a lot easier. I'm trying to get there. It really is jittery. Is it jittery out there? Yeah, so what you all are seeing, that's what I got with the mouse pointer. That's going to have to go very slowly. I'm trying. Do you see my mouse pointer? How it's one step forward three steps back. Yeah this is exciting. What you're seeing on your screen is how it's working. Let me just call that. Let me skip the demo on this part.

The point is, you can save a set of styles and apply to another document. So, you can even do that by just stating the set of styles that you changed or by creating and then saving a document theme, which is basically a document template. So either one will save the changes that you have made. And there's not really any reason you know, if you're producing a few of these reports, it makes sense to at least save the style set that you can use later. No, I'm not going to [inaudible] forward because of this mouse pointer. So heading style is very important. This -- Hopefully it will be quick if the mouse pointer cooperates.

The end of your issue you have and this is kind of a recurring theme. What we're doing by using more heading styles is matching what's visually on the page with what's on the screen. We're matching that structure in the presentation with one another.

We're going to do the same thing if we have a bulleted or ordered list. We want to make sure that Word knows that that's a list. What we're basically doing is making smarter documents that can then tell us, the technology more information. In the later versions of Word, it does this for you. So you know, when I was learning how to do this stuff, here we go. And most of us learned to make a list by just having over, hitting the asterisk and then starting to type our list. Well, if you're watching the screen, it changed a little bit. So I type an asterisk and it automatically recognized. It looks like you're typing an unordered list. Looks like you're typing a bulleted list. And Word jumped in and converted it into a list for me. Let it do that. There's no reason to manually format your list. For any of a number of reasons, from the accessibility perspective, again this matches the presentation on the screen up with the information behind. So if I have a ten-item list, some of you think the assistive technology, a Braille display or a screen reader, the first thing that they will hear when the reader gets to that list is list with ten items. So they'll know that that's distinct content. Otherwise, they're just going to give basically systems fragments.

So typically, lists are made up of fragments that are really brief. So, the other thing that this gives us is that, and I'm typing double [inaudible] this, you are seeing correctly. This handle the indentation for us. Right, if we go half at the end of the line, then this keeps the indentation nice and clean. Whether you format the list manually, ideally, you're in the tab over to try to line things up or you're going to mess with the margins. Word can do this automatically for you. You can do all kinds of things with the bullets. You can use different bullets in about where I am now. I've gone, I'm in the home tab at the paragraph group and up at the upper left of that is where I can come and select different kinds of bullets if you want to use different bullets, then that's entirely possible. You can also do a numbered list and there are a ton of options for doing nested items within a numbered list. And so you can see some of them here where you can go from one to a lowercase case page to a lowercase I. You can just keep running out with additional increments.

There are a lot of options for a numbered list as well. And I'll just pick a pretty basic one and you can see here that now, I'm getting the incrementing going in my numbers. I think about the student, then if I ask something else later on, then it will take care of the numbering for me.

I'm trying to navigate that through the chat. That's not coming-- come through. Just trying to check a comment on the chat now here.

Press in the inner button it starts a new bullet. Yeah, so that after your, the first item that you've entered, let's do that the end. And it depends on, this may depend a little bit on which version of Word you're using. It's when Word recognize that you're creating a lift. If you have existing content and you want to turn it into a list, you want to put it in a list structure, all you have to do is highlight it and then go up to the top of that same paragraph group in the home tab. And select what kind of list you want to create. So let's divide and create, well obviously this. So I'm just typing list item 1, list item 2, list item 3. And if I want to put this into a list format after the fact, then I just highlight those and I'm going to go up to he top in that paragraph where I'm going to make this into a bulleted lists just by clicking on the bulleted list. And so you can do it as you're writing or you go back to do it after the fact.

There's not a hard and fast rule of how many list items it takes to justify taking a list out of the paragraph. No, it makes sense a lot of the times to have a brief list of items in a paragraph. But I think if you get much past three items, it's helpful to break it up into its own list. Especially, you need to get five, six things, it's just difficult to keep up with you know, list item 1, comma, list item 2, comma et cetera. And it's not a hard and fast rule there. But I will say the rule of thumb, when you get to three or four, you may want to consider splitting it up into a list. Just because it is much more unique content than a regular paragraph.

Well I have to check the chat widow up. Any other questions? Those are the basic stuff. Again, that may be that no one ever kind of mentioned to you how to do it using the tools that are built into Word.

The other piece of these reports, this content, you have a fair number of-- or a [inaudible] fair number of reports that have equations in them. And I advise really strongly in using either just the built-in equation editor in Word or one of the many plug-ins that's out there that's much more sophisticated. Because again, equations are very different forms of content. And you can use the special characters from the keyboard, but there are a lot of breakdowns of communication between that end and assistive technology, a reader that's looking format. So, in a similar kind of way that we're looking to match the presentation on screen with the structure behind, when you type equations out, even really simple equations, getting to have reviews in the editors that are built in, because that will let an assistive technology know, this is a math equation and they literally change modes. Assistive technologies are content-specific.

So context-aware is probably a better way to put it.

So when they get into a list, again they know if it's accessible that it's a list and they can report that to the reader. And it's the same with mathematical equations. They can report to someone, hey this is a mathematical equation and they change the way they interpret that. And there are some tools that can read even really complex equations in a very effective way. Let people let students or readers set through them a variable at a time at the whole thing read to them. But all of that depends on making sure that it's actually an equation to begin with.

Yeah OK, so the question is about basically defining the terms in the equation and you do that in the editor. It's OK to use that in text, you know with Word.

One of the things that we missed with documents formats, with non-web. For the web, there is actually a standard for accessible math authoring called Mathml. But we don't take a play on that world with Word in PDF. And so, we're a little bit more limited in what we can do. I don't know that you've been at the wrong either way.

Any other questions about math?

I'll just have it up here as one single line. But any other questions about putting equations into these reports?

I had to keep an eye on the chat here.

Any questions in the room? Any additional questions?

Oh Elizabeth you're back. OK excellent.

Some best practices. These are recommendations that are not as critical to the functional accessibility of the reports. They are still very helpful.

I would say that the first about link text is probably one that is the most helpful. It's kind of rare in my experience to see a website address in one of the reports. But I have seen them often as a citation at the end. And in that case, you're formatting it different, now because you're referencing back to very specific place on the internet. But I have seen a few website addresses and links in the body of the report. And so, it's very helpful again thinking about different ways that people are going to use these reports. They're going to be read online on a computer that might be downloaded and run on a computer. People are going to print them out too. And so with websites, there are some things that we want to do for our digital consumers that we need to make sure we don't kind of mess up with folks we print them off.

So, there's a different between link text and a URL. I'm going to insert a link into this document real quick. I'm going to go if my mouse pointer will let me to the Insert tab. And I'm going to move over to the option for links.

Oh my gosh. So I made it to links and so now I'm just catching up.

So in 2013, this looks slightly differently in 2010. Hyperlink was in this menu. It may be that a higher resolution it still would be. But I go into the Insert, look for links, I'm going to Insert a hyperlink, a web link here. It's going to be with a little menu and this might be familiar to many of you. And so, there are two fields that we want to pay attention to. At the very top, we have something like text to display. That's going to be the text that describes what happens when someone follows the link. And so, a quick example and I don't know how to pull URL for this but that's OK. I'm going to state evaluate the webinar here. Now down at the bottom of this box near at the bottom, I have another field that's labeled address. And let's see if I actually have this entered. Now there's [inaudible] members.

I have a really good website address for this. That's ridiculously long. So this is not actually a web form but the problem with a website address, the actual URL is that once the screen reader user navigates over it, it accepts the website address, those often are descriptive. They don't usually tell someone in language what to expect when they follow the link. And that's where the link text which is what I entered into that text to display box is so helpful. It kind of pied the website address behind something that's much more descriptive. And so, if I hit OK on this, this is automatically, it's going to give me my blue underline text which is kind of international sign before this is a link that you can click on. But again, knowing the people may have printed these out, you probably want to have the website address visible as well. And so what I recommend is to hide it back behind this link text and then I just use parenthetical notation and put the website address in, I then copy and edit. Put the website address in immediately following. And I will often actually remove the hyperlink from the actual link text. So I just, I went up to the website address, I did a right click with my mouse and I get a menu that let's me select an option label remove hyperlink. So when I do that, now it's just plain text. Because again, the audience that I have in my tier is the audience that's going to print this out, and they might see it later on and then have to try to type this address in. I use URL shorteners pretty often, especially for longer links. They just take up less real estate. [Inaudible] is you know, one of many that is really commonly used and literally, you copy your URL, you paste it into a field on Bitly and it gives you a shortened URL.

Now just a couple of those that I did earlier on in the slide deck. So that practice here is to use descriptive link text and also to include the URL for those in the audience that might print this out or read it in a printed form later on. I already touched on when to maybe take a list out of a paragraph. That's more than three or four items justified to moving it out into its own list. And then, try not to leave empty heading styles. As you're typing along, it's very easy to leave a heading style when you delete some content and make a change.

It seems that if I sneak up on it and do a whole lot with the mouse really quickly, it does better. I hit the enter key. No matter how many live demos I do, sometimes I get surprised.

You can take a look over in the navigation pane and see if there are heading styles basically in these apps because you'll see a line in the navigation pane that won't have any text in it. And so, just go in and deleted that line. Not a big deal, but when you're adding end up with an empty heading up there. So it's a good practice to go in and then clear that up. So, I'm missing the importance of heading when it comes to the table of contents. Let Word create that for you. Same with the list of figures and tables. The list of figures and tables, they don't go up with the heading. They go up with the caption. And every report that I've seen had a caption on it that's been inserted through Word and all of those handful over the years have used those captions to create a list of figures and a list of tables. Word is pretty -- This will let me do it. We can edit the sudden pause-- We can edit the long pause of that. Look at what they do. So in 2013, table of contents is at the references tab at the far left. And so there is a button with the dropdown over here that is labeled table of contents.

It's not responding. The keyboard is [inaudible] either, still.

Use the table of contents there. Again, that's going to gauge off of the headings and it creates the table of contents. And like as before, the nice thing about it is that if you update the document, if you add or remove something, you can go in to the table of contents, listed figures or listed tables. Right click and from a context menu, select that option that says update table. So it will do it automatically for you.

So, another benefit of using the heading styles [inaudible]. There we go. Another note is -- I have all tabbed too many times. Set this more readable, if it is left up [inaudible]. Some of the reports I've seen are fully justified and that really changes the word shape and the sentence straight. And a lot of reading comes down to our brains recognizing the shape of words and the sentences and paragraphs. So when you fully justify, it changes that enough to where it makes it more difficult to read, especially for people with print disabilities. But really for everybody is just a little bit awkward because sometimes the way that Word does the spacing, is a little bit awkward. Depending on you know, the link of words that you have typed and such. So, one of the things, if I evaluate a report, one of the things you will see is a quick note if you do have fully justified tests to go ahead and just let justify, should be an easy thing to do. I'm not going to demonstrate it because I don't know how this will work. But, if you go into the styles in Word, one of the styles is labeled normal. Normal is what all of your regular text is like from the very beginning. Everything starts out as normal. So, you should be able to go in there and without having to go through and highlight all of the paragraphs, you should be able to go into normal and set the justification back to the left. And it should change it throughout the entire report. You might look from a very-- depending on how you've done at justifying in the text, but that's the first thing that I would try to do. And again, you should be able to cover all of the body text that way.

>> Or affect the graphics, or whatever.

>> No. It shouldn't affect the graphics, and it should just be for-- it just applies to anything that is regular text. So, it won't affect your headings. It won't affect anything that is identified and messed up with another style. That's why I think it's a good technique to go in and then use to try to undo it, because it could be that you still have to go in and select each paragraph and move back to the left. But then, going forward with future reports and future work, go ahead and justify them to the left.

So I want to talk a little bit now about color contrast and color use because color is really a central part of much of the visual content in these reports.

So I've got some relatively basic examples, and this is-- usually this projects pretty well if you're looking on the screen. This is a better demo if we're in a room with a projector because it's almost always white [inaudible]. So there's a text that says the quick brown fox jumps over the lazy dog and it's a very light gray. I don't think anybody would use this light of a shade on a white background but I have seen a few especially on charts or graphs. I've seen instances where the foreground's text color does not contrast very well at all with the background color. In the body or typically, we'll have white. That's high contrast that you can get, but in your visuals, if you entered a text box to point something out, think about the background color behind it. The best thing to do, I've seen a few where the background varies a lot between lighter and dark, it helps. And if you just type text over that, then the contrast is going to be in [inaudible], put a color background behind your text labels. So that's for example, if you have a black text label, put a white background behind it, so that if someone encounters and they're going to be able to read all of that text consistently, all right? You can also take labels and set them outside of the actual visual and you can use tools inside Word at you know, arrows and such to point out pieces that are of interest within the image. But that's the place in these reports where I've seen color contrasts be a problem. And I'll show some examples here in a little bit as well.

I want to give you a couple of quick examples of the use of color. Lots of charts and graphs in these reports and colors is usually one of the indicators to distinguish between different lines and line graphs, for example. So this is a really, really simple line graph, pretty lines on it, three series of data, series 1 is represented with the blue lines, series 2 with the red lines, and series 3 with the green line. The problem is that for people that can't distinguish between red and green or just generally can't receive color effectively either way, this chart looks like it's just all shades of gray. It's really hard to tell which line is which.

So, I'm not saying not to use color. We don't want to take away because color is a really helpful way for a lot of people to distinguish between lines or slices in the pie chart or bars on the bar chart. The key is to use something in addition to colors.

So here, I had the same data sets, same colors. But on the blue series 1, I've added a triangle. I've added a diamond to the red series 2 and a square to the green series 3. You can do this in Excel if you copy and paste the chart. You can do it in Word natively. If you build the chart in Word, most every opening tool will let you add markers to your charts and graphs. And it's really [inaudible] to do that. It's incredibly important to do something like this. I've seen a couple where there are some of the lines on the graph that there's no other way to label them. I've seen a couple where someone labeled each one of the lines on one end and I had this in an example.

Let me take a look at some examples here.

I'm waiting for it to scroll.

This is one of the examples. But this is not the example that I was planning to show. You can see here, I can speak to this, it does kind of show what I'm—

We might take a break and I might restart my machine.

This is a good example of making sure that there's [inaudible] contrast between a test label and the background. So, instead of just putting the black text into the image, this author actually put a colored background behind the text. So, this is a technique that I really highly suggest, especially if you have labels and this one does in the actual image. Again, if we're all out to decide, you probably have a white background, the black text is just fine. If there's any image, then-- about the only way to guarantee contrast with most of the images that you all have is by either very carefully placing the text on a place where you know the contrast is high enough or doing something like this and putting a background color behind it. So, I highly recommended putting a background color behind it.

I don't want to go past this next one, so I'm trying to get it to scroll so that we don't—

So this was taken from some previous work and there's a note with this, let's say IDs for-- I'll try to get back. It says IDs for columns and spans at the little river overflow bridge, and there's a note that says, highlighted are those involved in the field testing. So they didn't test every single one. What they've done is they've put column 1, column 2, column 3, column 4 or 5 or 11 and spend 2, 3, 4, and 5 in red. So, what we're doing here is we're using text to convey very important meaning. So meaning is, that these are the ones that we actually did field testing on. We didn't do field testing on the ones that are in black. Again, if someone can't perceive the difference of color, then that message is totally lost. So even in your figures, it's important to account for color contrast and how you use color. And this is the place wherein some of you who received notes from me have already seen. This is the place where these color issues are the most common.

The body of the document is usually not an issue. It is usually in the figures that are in the reforms.

 I think I'm-- now, it's been about an hour. You might do an unscheduled break. I'm going to restart my machine and see if it will behave better. So everyone take a minute. I am going to restart this thing because this is going to be-- It's going to be challenging to get through everything in the time that we have allotted. If I could sit here and wait 2 minutes for everyone. So talk amongst yourselves.

Just to talk about color here again, and then also to just talk about complex images and the text equivalence that needs to exist to make sure that again, people who can see them or can't see them very well can still consume the information.

So this, we've got a couple of issues. One, we have color being used to convey meaning. So we have red text, blue, dark blue, and so again, we have colors that they must use to convey a meaning. I do believe that this was represented in text as a text equivalent. So it kind of took away the impact, the negative impact on that front. But if you have an image like this, again, works on its own because of the complexity. If you do use color to convey meaning, you need to describe that in text somewhere. And I'll talk more about text equivalence here in just a minute and we can come back to this.

The bigger issue here is with color contrasts, just an example of color contrast barrier that exist in an image, this is a good one. And I'm going to hopefully use a tool that-- demonstrate a tool that I use really frequently. So this is a tool, I've got the link at the end of the slides called the color contrast analyzer. An accessibility consulting group out of Europe created it, called the Paciello group. Well, that would be created outside of Europe and an American company. This has -- This puts you test contrast and it gives you object of color contrast ratios in any digital format. If it's on your screen, then you can test the contrast between the foreground and the background. This tool is super lightweight, you don't have to install it. You just download in a compressed folder and you just unzip it and run it. So there's no install required and it's again really low over head tool. It gives you an eyedropper to select the foreground color so I'm going to click on the eyedropper icon and it also, once you do that, it gives you a little bit of a zoom where you aimed the pointer.

So I'm going to come in to this blue and try to get in to basically the darkest pixels in the letter. And I just select by clicking with my mouse. It's on a white background so the background was already set to white. And down here, it shows me the contrast ratio. What we're aiming for, with [inaudible] is 4.5 to 1 or higher contrast ratio between the foreground and the background. This comes out at 2.58 to 1, so we're not sig-- well, we're pretty significantly below that threshold. You can see and now I'll describe it. We have right below that ratio that it calculates, it tells me on a close [inaudible]-- let me get back into the room. It tells me that it fails and if you can see it says fail and in parenthesis, it's got double A and triple A. This is referring to our web standards. At the very least, look for the [inaudible]. You want to look at that double A line? You'll note that we've got a fail for text and then we also have a fail for large texts. The standard state of large text, which says 16 point or higher, not as hard in fact when it comes to the size, large text can be 3 to 1. I think in terms of best practice, aims 4 and a half to one across the board. But if you have large enough text in an image, then you might be able to get by with that 3 to 1.

 And it will show, if we have for example, a [inaudible] real quick, I'll have my eyedropper move over to the darkest section of the red. And here it shows me the ratios of 6.1, 3 to 1. So we passed across the board at double A. We failed at the triple A level for regular text but again, they've sent me to that level A. I do have this link at the end of the slides.

I strongly suggest using it especially for text and images. And you can, since using an eyedropper, if you see a note by me that says the color contrast is low in the lower left hand label of an image, that's because it can be really the size and I can recognize that you know, one side of an image is lighter that the other or darker than the other. And so I'll test around a few of the characters in a label. So, it's really precise, really easy to use and again it takes away the subjectivity, just kind of the leaning and squint test when you use a color who doesn't contrast very well. Any questions on that tool?

>> I do, I have a question.

>> Yes.

>> Does the tool offer even though it shows a fail, does it offer a quick fix? If you can--

>> It does not. However, I'm glad you asked. That was not a plant. There is fortunately another tool. Because I think I also have links at the end. This is from an accessibility consulting group out of Utah State University of WebAIM, who I highly, highly, highly recommend [inaudible]. They have articles about accessibility in every form that you can imagine. And they also have their own color contrast checker. I use these to-- in conjunction with each other. So I'm going to go back in to this document and I'm going to select the blue. And the reason I'm doing this with the Paciello group tool is because it gives me the color code, basically. It gives me a hexadecimal value.

OK, Elizabeth thank you and I'll try to remember. Elizabeth has a question. I'm going to select this hexadecimal value.

I'm going to copy it from here and I'm going to go into the WebAIM checker. And I'm going to paste it here. Now, it shows me fail and it shows me the same ratio but the nice thing about this tool is that I've got the links right here to the right. One that says light and one that says darken. And what this will do is it will darken the color, or keep it in the same family. So this, so if I click on darken, it takes the shape darker. We see that now for double A large text, that passes. This is regular text. I'm going to click on that darker link again and I'm looking for it to get to that 4 and half to 1. So, what this does, is it tells me the hexadecimal value of a color in the same family that's darkened of the contrast to get to that white. So a two-set process. So I use the Paciello tool to grad the color code. And then I click that color code into the WebAIM tool and I lighten more darken to find out well, what color should I actually use. And Elizabeth, let me jump up. Did you have a question that you have? If you want to ask questions about that process, I can go through it again as well.

>> The WebAIM tool is something you can link to your [inaudible] bottom.

>> No. Yeah, the Paciello group tool, yeah. It's something that you can just put into the toolbar across the bottom because it's a little standalone piece of software. And so I'll just have it there on its town. And I use it for test-doing on the web and documents, in any format that you can again see on the screen. If you just want to type your question, I'm more than happy to address is there. So again, any of the image is really important. The other issue with color that I see and I think I mentioned this earlier, they have a cross section of a rock sample and you've applied different colors to distinguish parts of the sample from another part.

This moves in to where we need a text equivalent, so I think this is a good segue. So, whenever you have a visual, you needed sometimes an equivalent that is text-based. And for this content, this is where I'm going to just say it's been a-- it takes a little bit of extra work on your behalf to create the text equivalent. But you'll get the benefit out of that. Text equivalents for figures are always in the context of a that's used. You know, the possible exception of like a company logo which is always a logo for that company. The text equivalent is probably going to be different.

And so the example that I'll give very briefly is this is a picture of a scissor-tailed flycatcher, right? So, as an author, if I'm writing an article about state symbols, my text equivalent might just be scissor-tailed flycatcher, state bird in Oklahoma. If I am an ornithologist and I'm writing about the third, it's going to be dramatically different. But I might be talking about the way that it uses tail feathers to be more quick when it hunts or something along those lines. So contact is always really, really important.

And so having filled this down which I need to do because we're running short on time is think about how would you-- how you would describe the visuals to someone over the telephone. Because, if you're talking to someone on the phone, you're going to not only describe the image but that description might not be what's as important as additional meaning behind it, right? So in context, if you think about-- let me back up. If you think along the lines of how would I describe this to someone on the phone? Then that's going to help you describe the context and really pick up and boil down what's important in this visual that I need to convey. So it may be trends and chart or graph, but it might also be in the same chart or graph, specific data points that are important. Anything that you would tell somebody on the phone needs to go into a text equivalent.

So, where do we put a text equivalent? Well there are actually three different places that you can place your text equivalent. Or relatively simple images with relatively brief text equivalents, use the alternative text attribute.

And that's pretty easy to access. So I'm going to come back over into my Word file. And if this gets well-achieved, then I'm just going to describe everything. But it seems to be staying with me. But I'm going to insert another image real quick. So I'm in the insert group and I have all kinds of pictures.

So this is a picture of an onion. In Microsoft 2010, and previous versions you can do this in while I was preparing-- well not preparing as we start and we talked about how an Office for Mac. The way you go about doing this slightly differently, but you start in the same place. You just right-click on the image and select the format picture from the context menu, that pops up there. In 2015, it gives me everything off to the right hand side. In previous versions, it pops up the dialogue box for you. And what you look for is the all-text attribute in that dialogue box. Here in 2015 and newer versions, it's this land and properties selection that you'll make and there is an option there that is a drop down to all text. And this is where I would type in a short text equivalent. Be sure you type [inaudible] the description to you here. It's just that technology don't recognize the title field, so it's important to put the text equivalent and do the description. Here, I'm going to say-- Onion that didn't have showing layers. So, for the particular context, I'm using the sentence that's all there is to it. If you have two to four sentences and then especially shorter senses that are conserved as you get text equivalent. Put them here in the all-text. Because there's usually less benefit having that available in plain text or everyone. However, for you all as you brought these reports, your pictures are often worth a lot more words in two or three short sentences. And that text equivalent still needs to be there. You can, to an extent use the bigger caption. Again, it depends on just how much information it takes to create a good text equivalent.

Many of the images in these-- is true for charts and graphs. This is also true for pictures of experiments that I've seen in the reports. You're going to have a long enough description that doesn't fit into all text or into the caption? And then it comes down to typing a narrative, and then maybe a paragraph of narratives, since it really convey all of that meeting in text. But especially with an image that is that complex where you get the benefit of, you know, helping people to just process information in different ways. So you have that there in front of them in a way that hopefully, it makes it easier to consume and understand. So, there are our benefits beyond accessibility in doing this. Again, it does take time. I've seen a lot of alternative texts that we'll be able to receive some feedback from me already. There is usually a lot of feedback about the text equivalent not being quite thorough than not. And I admit that I can't always determine the specifics. I can't get in and really nitpick a text equivalent. But if it says, a picture of a rock sample, but the image has a wholeness of meaning and there's no description of why it's important in the body of the report. It probably needs-- But my advice to write that text equivalent is probably not in this place. You can for charts and graphs, you may be able to use the data sets as well. Now, some of the charts and graphs have huge data sets, so it may be seen that that's not as helpful and you might-- It's the one who boiled it down to what did we take out of this? What are the high points from the data that's on the charter graph? What's trending? But a data set can be an effective text equivalent for a set of data. Well the setting-- they're going to. You're not telling me precisely how to do this. I can't. You want me to give you some resources that will scare you more precisely. But again, the text equivalent has been very based on the image, based on what's in the picture. And you will have to determine. The author has to determine what are the most important pieces of visual information that need to be in text. I don't know in the room, you had a question. Did you have a specific question about this? I just kind of mentioned before we get started [inaudible].

[ Inaudible Remarks ]

Stimulates? Yeah. Yeah. There are-- go ahead. I'm sorry.

>> But yeah. You have the same-- [ Inaudible Remarks ]

>> OK. So the question was basically, if I have a lot of visuals in my report, is there a world limit that I need to be considerate of? And the response is no. No word limit. I'm trying to think of others. Let me see if there are other examples here that I can pull from. Yeah, I know this is not a very good example. This one-- excuse me, I needed to talk next week. So, this is a good example where there's a lot of information. And just as one part of this image, I will zoom out a little bit so we can get the whole image on the screen. And this is all one figure. So, we have a view from above, view from the end, view from the side, a profile view and then a detailed view. So there's a lot of information in here. I can't tell you exactly what the most important pieces are because it depends on what this is-- what this image is conveying and again, you know, it may be that the section of the report that this falls in actually emphasize just something about the plan view more than the others. And so, that's where your text equivalent would focus. It would focus more on that. The text equivalent that was used here, so it says this figure shows a couple of drawings that indicate the layout at [inaudible] and SD sensors during a field testing. That's helpful, but I want to assert that that's just the beginning. That kind of gives you a really high level view, but it doesn't tell you anything about what the locations actually are. So information like that is probably what needs to be teased out. But again, no one downstream, no one after I'm reviewing it, no one wants to submit this report and go back in and make this up for you. You all as the document authors have to create these text equivalents, because you're the only ones who know what is important about a year like this. What am I really conveying? So this is something from the accessibility perspective like many things no one downstream can do, reliable and then make it effective. See if I've got any other examples.

With charts and graphs, this is again one that pulls from a previous that have worked-- this is a pie chart. Now, we've got five slices in the chart. Each one is labeled that's actually, the color contrast issue with the block text on blue and red background. But, this had the beginnings of a very good text equivalent. This is out-- was in the original report. There is a bulleted list up above that, basically, identifies which one of these vendors is represented in the chart, but it doesn't show a percentage of market share. This chart shows a percentage of market share. And so, the percentages, are only in the graphic. So this one was really, really close. And this is a situation where it would be very simple to come back in to each one of the bullets in my bulleted list. And I could just add the percentages to that text. So if I do that, for each one of those five bullets, then that lives in and of itself serves as a text equivalent for this visual. So sometimes, it's not that difficult and sometimes, the information is already there or to be ganging up, it is already there.

>> Scott [assumed spelling]?

>> Yes?

>> Can you discuss a little bit, if we were going to do some alt text and we have quite a bit of description in and around the figure, I know we're not just to copy and paste that same information in the alt text, but say that it's really in lay man's term that the description around it is in lay man's terms.

>> Yeah.

>> What do we do with the alt text at that point?

>> What I would do is I would use the alt text throughout people and to whatever that is. So, I would just say, you know, text description in paragraph, the board paragraph after. Because that description is already in the body, which again, with a lot of these ideally it will be. You can use the alt text to just refer the leader to where that text equivalent is. So you don't want to repeat or your alternative text, your text equivalent in the alt text, but that's a really good question. I think it's the one on the slide, but this is a really good time to talk about using the alt text, then to just give an instruction as to where that text equivalent is. The other note that I'll make about that situation is ideally, that equivalent is uniquely adjacent to the figure and not in an appendix, because it's difficult then for people to navigate, you know, from the visual to an index especially in a longer report. So, ideally the text equivalent is immediately adjacent to the figure as well. And so, it makes that much easier then in the alt text, just say, text equivalent, you know, you just read the text equivalent-- text equivalent immediately follows. Does that make sense [inaudible]? OK.

>> I'm on meeting, give me a second, but yes, it's perfect. Thank you.

>> OK, great. Any other questions about alt text? I'm going to jump over to see-- Outside of text equivalents, there are some other considerations. One is grouping. I tend to see situations where there are four or five images that are all in one place, visually on screen at one caption under them, but there're actually four, five distinct images. You want to group this stuff together and I'll go back to an example that I've shown earlier. When we look at this image, we've got an image, but then we have text [inaudible]. And these are actually all separate boxes of content. And so, you want to find a tool that will let you group these together. Word is-- 50 words will not let you group things together that are different file types, actually. So, if you insert a jpeg and you add text boxes, you're not going to be able to just multiple select everything and group it in Word. So, there are-- I think change might do it. There are plenty of free and open source tools that will let you do that and just insert the image as one image into the content. Because it's really confusing for somebody navigating using a system technology to hear that there are four images but there's only one caption. So this is something that will help to ease readability if you go in and group all of the multiple facets into one. One of the image editors, open source image editor called Campus actually is much more powerful than we need to do that, but it's open source. You can download it, and run it and it will do it for you. You don't need a Photoshop to do this.

Remember, how we used some contrast, I think I've stressed about enough in figures. Dominique referenced this. You don't want to repeat your text equivalent more than one time. I've seen a lot of instances where the alternative text attribute, that description is the same as the caption. If the caption describes the image, you don't need to put it into the alt text. And Word doesn't really do a great job of handling blank alt text, so you might go in to say caption describes image or something like that. But try to avoid repeating it because somebody using screen reader of Braille displays is going to hear the same thing many times if it's available in the text, so you're adding overhead. I've been looking at the examples as we go through. I will talk about tables. And we'll see many times. I know we're over official time and we do have the room for another half hour. So the tables of course are a big part of these reports as well.

>> I have one question before we get in.

>> Yeah. Sure.

>> Come back up just a little bit. On the alternative text and I don't know how true this is or no. But I've been told, if you were successful, when you place the cursor over the image, you will get a pop up that shows the alternative text that you applied to that figure, true or false?

>> False. What that looks for is the title attribute. So in that little alt text, I'll jump over there to show you. It's a good question. In principle, I will say that I think if it's worth showing in text, it should just be in text and it shouldn't be available as the mouse over. But I'm going to come in-- tell me if [inaudible] a single image. So this has-- This image actually has a title, figure six, da-da-da. So now, let's see if I moused over, it will pop up for now. On the web, it works this way but I'm going to try this in [inaudible].

>> You know what I'm talking about.

>> I do-- yeah.

>> OK.

>> Yeah. And it's not showing-- it should be here.

>> I only bring that up because I don't want folks with [inaudible]. [ Inaudible Remark ]

>>Yeah. And I think we're on the same track where if it's worth?

>> Yes.

>> If it's worth the text being visible, it makes it visible. In the caption or in the body or in the report itself. And we're just having the side conversation here that may be available, that title attribute may be available in PDF on mouse over. But again, just in my mind it makes a lot of sense if it's worth. So I think, if that gets much information, it may get obvious that it's there and just put it in the body or in the caption. Tables, a lot of data in these reports, very complex table structure which can be a challenge on a number of levels. The ideal world in terms of tables is for readability and accessibility. And then no, we don't live in the ideal world. So, [inaudible] anything I do when I say this, but you would ideally have one row with column headers, one column with row headers, a very simple table structure. But that's really difficult to pull up with some of these data sets. And I'm going to talk about a couple of techniques and show a couple of techniques that might help. So, this is a table that is structured, very similarly to one that I encountered a few years ago. And it's one thing that the table would merge cells, you know, with header cells that go across two columns. That doesn't-- we can work with that. We can help to make that more accessible. This table is basically, I don't know five or six tables all in one. And so what we have is we have a table that represents a data set. We're tracking data for three different groups. Two items within each group, three different experiments run on each group over the course of two weeks and this is all in the table. You know, this is hard for anybody to keep up with, frankly whether you can see or not because this actual table went across multiple pages. This is a really long table. And so in a case like this, it's very difficult to figure something that, for instance, usability challenges and make it accessible. So to make this more usable, well, I ended up steering the [inaudible] to do was actually pull some of the table header data out and put it into captions and create multiple tables. And so what if-

- So I think this should be side by side. So now, if we look at these side by side, what I basically did in table 1 is I took the data from group A in experiment 1 and that let me plot just item 1, item against a week in the table. So I went through it and then continued-- and you would continue with more of the group B, experiment 1, group C experiment 1 and then repeat for groups A, B, and C for experiment 2. So multiple tables to keep track of, but each table is much easier to understand. So much more usable in general and that means that if I can-- we can work to make it accessible and it actually is. Now, the original structure again because it's so complex, really couldn't make it very accessible. I could go in and make it function like technically accessible, but it was very difficult to keep up with.

And what are the most-- the table has ended up to somewhere between these, somewhere between having table header cells and with the data and kind of the most simple that we could get. And that's OK. Now, we don't have-- have to simplify down to the most simple level but the more simple it is, the more accessible and usable it's going to be to the reading audience, the folks who come in to the transportation library and sit down and look at it, are going to be able to get the information out that as much overhead, whether they can see it or they're using assistive technology or not. So this-- I think it's kind of an extreme example but it is an example that comes from some previous content. If you have more complex table, if you have certainly, you have invested header cells in among the [inaudible], even if you have merged a number of cells, it's a good idea to add a description, alternative text attribute to the tables. And the mechanism is very much the same as with images. So I'm going to come over here. I'm going to select the entire table which if you run your mouse over a table you get a little cross there at the upper left hand side of it. And then I'm going to right click, and I've got table properties that I can open here. So again, it's really similar to doing this for an image. I've got an alt text box and again, I'm going to type that into my description. And that's someone who can't see, can still understand better. Has a better opportunity to understand the complex table structure. So you describe the structure, maybe some high points of the data here. If you have a simple table, this may be overkill. I don't think you need to do it if the other table, especially you have a table just as a single row of column headers. But if you do have merged cells, you know, like with this table up on the left hand side, we have Group A that spans two rows and then item one and item two under that. It's worth describing that structure in the description and that's equivalent for this table as well. If you have a table in your report, don't put an image of the table in the report. It's basically impossible to make that accessible. If you put a table in the report, then it needs to be an actual table. I've run across several actually where someone is just popping and pasting something else or they would just grab the screenshot and pasted it in. I suppose the flipside is that if you want to re-paste the table and then there it is, then that's up to you. But I would save yourself the work and just make sure that the table is

text-based, it has the table structure. I can't do anything-- no one can do anything to make that accessible. If an image is a text, so even the data that's in the table is hidden from assistive technology. And the level of effort to recreate that text again is worth it. Try to avoid keeping a table heading in the table content. So, if I go over to our example again, you can see here that I just had this heading. This is a complex table structure. I've seen tables where that's not outside or that's inside the table. Yes, and I was going to do that, it's starting to hesitate on me. I'm not going to confuse it anymore. I've seen where this text is in its own row of the table, where the first row of the table spanned the entire width and just as what is actually a heading. It's not table data. Tables are for data, especially in these reports. There are lots of data table. So if you have additional information, pull it out of the table and basically it does not type in or either header information or data, don't include it in your table. Keep it as regular text elsewhere. Do try to avoid, just comes back to the complexity. Try do avoid nesting header cells in with table data. And if you use the tables just to lay content out on the page, keep in mind that assistive technologies, screen readers and Braille displays can only read tables left to right and top to bottom. I have seen people use tables to basically put several image to this with a caption under each one. And so you'll have a row with three images and then row with new captions. When they're in the table, there's no way to change this. It's going to read the alternative text for each image and then it's going to read the caption. It's going to be a very, very confusing. So just be careful if you use tables for layout. Ideally use words, lab tools that are built in if you want to use columns, where it has-- the actual, especially in the later versions. That let you setup columns and do a lot of formatting without using tables for layout. So try to avoid it if you can and just be really careful if you use table for layout. And I'm going hit on that. Any questions? Make up for time. So I might have gone through things a little more quickly.

These resources should be very helpful especially again for those of you who are writing these report. The first two, give you a lot of information about creating alternative text and text equivalent. The diagram center, they specifically focus on complex images that we've seen in the content. So they have resources that really should be helpful for you all. They have resources about creating you know, type of graphics and 3D printing as well, but they have a lot about text equivalence for very complex images. So, I strongly suggest taking a look at some of the information in there. When we get to more accessibility techniques in Word, the next two links, is that-- again, a link over to WebAIM, so I mentioned earlier because they have some of the most approachable content about how to make Word documents accessible, Microsoft, government team recently produced some videos that will walk you through making Word documents more accessible as well. The short, you know, the nice thing about it is that they're broken up by types, and we'll talk about using heading styles and such. A few minutes here or there if you want to reinforce more and looking to something more specifically. I've got the link to the Paciello group contrast checker here as well. And then, I've got a bunch of additional resources. I have most of these and some others on the ABLE Tech Resources page. And then finally, if you really want to do a deep dive into wed standards as they apply to Word Documents and PDFs, you can jump off into the Web Content Accessibility Guidelines as they map over to "non-web content document." So otherwise, thank you for your patience as we run into technical difficulties. The 888 number that I have here, let me replace that with one that will work out of state. But you can get a hold of me-- you can wrap questions with me [inaudible] questions are going to fire back to you all. So if anyone has a question about a specific [inaudible]. So any other questions? I don't see anything coming in through the chat window. Everyone here is on their phones.

>> Rob, this is Sonia [assumed spelling] Donna [assumed spelling] is asking if she can have access to the PowerPoint presentation.

>> Yes. Yeah, we'll get the PowerPoint out. And everyone should get an e-mail. I'm not sure exactly where it was posted. It's maybe in a couple of the slides but we'll have the PowerPoint slides out here pretty soon.

And it looks like there's a question that I'm-- absolutely, I'm sorry, this question. The usage of mean text, for lack of a better term with the outline and [inaudible] and still is white. How do you gauge the accessibility of that text? You can look at the pixel on either [inaudible] and using an outline is a good way to make sure that that contrast is high enough when you have a different gradient pattern behind the text. So that is another technique that you could use to, if it's white text, you can use a black outline. If it's black, just use a white outline. I think it's a way to make it more accessible. I think it's making sure that you got a consistent background. Makes it easier again in terms of processing work shapes and such, you know, if you have a light to dark background even when you have highlighted the individual characters in words. The word shaping makes it still harder to distinguish. So I think it's better around that best practice. It's better to just make the background consistent all along the text. But this is a way, it's just not going to work for you to do that, at least highlighting the text will help quite a bit with the contracts. And so I overlooked that. Anything else? OK. Thank you all very much. Remote audience, I really appreciate it.

>> Thank you so much, Rob.

>> Thank you Arni [assumed spelling]. And look for the e-mail with the link to the slides when we get that out.