

CITY OF JACKSONVILLE  
ADAPTATION ACTION AREA WORKING GROUP  
MEETING

Proceedings held on Monday, March 11, 2019,  
commencing at 9:00 a.m., Ed Ball Building, 214 North  
Hogan Street, 8th Floor Conference Room, Jacksonville,  
Florida, before Diane M. Tropia, FPR, a Notary Public in  
and for the State of Florida at Large.

PRESENT:

- EMILY PIERCE, Chairwoman.
- MICHELLE TAPPOUNI, Vice Chair.
- SHANNON BLANKINSHIP, Working Group Member.
- ELAINE BROWN, Working Group Member.
- CHIRADIP CHATTERJEE, Working Group Member.
- SHANE CORBIN, Working Group Member.
- MATT GALNOR, Working Group Member.
- JOSEPH LORETTA, Working Group Member.
- JEFF MARTIN, Working Group Member.
- SAM NEWBY, Working Group Member.
- ERIK OLSEN, Working Group Member.

ALSO PRESENT:

- SUSAN KELLY, Planning and Development Dept.
- HELENA PAROLA, Planning and Development Dept.
- SHANNON ELLER, Office of General Counsel.

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1 introduce himself. I have a program I started  
2 four years ago called Councilman For a Day;  
3 that's where high school students come and they  
4 spend a whole day with me. So I'm going to let  
5 Councilman Griggs introduce himself.

6 MR. GRIGGS: Hi. I'm Brandon Griggs. A  
7 lot of the work I do is, like, with juvenile  
8 justice. I'm in the (inaudible) movement. I'm  
9 also on, like, the Harvard Youth Advisory Board  
10 and the task force. So it's cool to be here  
11 because, like, I know you guys are talking  
12 about, you know, like, water and, like, stuff  
13 like that, but, you know, I think it will be  
14 interesting, so I'm glad to be here.

15 THE CHAIRWOMAN: I'm Emily Pierce. I'm an  
16 attorney with Rogers Towers. I do governmental  
17 relations and land use and zoning.

18 W/G MEMBER TAPPOUNI: I'm Michelle  
19 Tappouni. I'm the property development  
20 director for Ability Housing.

21 W/G MEMBER OLSEN: Erik Olsen. I'm a  
22 consulting engineer, a coastal and  
23 oceanographic engineer.

24 W/G MEMBER MARTIN: Jeff Martin. I'm a  
25 climatologist at Jacksonville University.

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1 PROCEEDINGS  
2 March 11, 2019 9:00 a.m.

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4 THE CHAIRWOMAN: We're going to get  
5 started. Welcome, everybody, to our second  
6 meeting. And if you missed our first meeting,  
7 welcome to our second meeting.

8 We're going to go around the room really  
9 quickly with brief introductions so we know who  
10 is here. And we're going to start with Susan  
11 Kelly.

12 MS. KELLY: Hi. I'm Susan Kelly. I'm  
13 with Planning and Development Department.

14 MS. PAROLA: I'm Helena Parola, Planning  
15 and Development Department staff.

16 W/G MEMBER LORETTA: Joe Loretta, a land  
17 planner with Genesis/Half here in town.

18 W/G MEMBER GALNOR: Matt Galnor. I do  
19 communications and public policy for the Jax  
20 Chamber.

21 W/G MEMBER CHATTERJEE: Chiradip  
22 Chatterjee. I'm an assistant professor at the  
23 University of North Florida.

24 COUNCIL MEMBER NEWBY: My name Sam Newby,  
25 and I'm with the Jacksonville City Council.

Also, I want to -- I'm going to let him  
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1 MS. ELLER: I'm Shannon Eller from the  
2 City's OGC.

3 THE CHAIRWOMAN: Excellent.

4 Hopefully, all of you received a copy of  
5 the minutes from the first meeting. Does  
6 anybody have any comments or changes you  
7 would --

8 (W/G Member Brown enters the proceedings.)

9 THE CHAIRWOMAN: Oh, come on in.

10 The Honorable Elaine Brown has just --

11 W/G MEMBER BROWN: There was a wreck on  
12 the Mathews Bridge, seven cars. I wasn't in  
13 it, thank god.

14 THE CHAIRWOMAN: Would you like to  
15 introduce yourself real quick?

16 W/G MEMBER BROWN: Elaine Brown, Mayor of  
17 Neptune Beach. I see a lot of faces that I  
18 know. I'm glad to be here and I'm so sorry  
19 about that.

20 THE CHAIRWOMAN: No problem. Thank you.

21 All right. Did anybody have any changes  
22 that they wanted to make to the minutes?

23 WORK GROUP MEMBERS: (No response.)

24 THE CHAIRWOMAN: Since it's a transcript,  
25 hopefully not.

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1 Can I get a motion to approve them?  
2 W/G MEMBER TAPPOUNI: Motion to approve.  
3 COUNCIL MEMBER NEWBY: Second.  
4 THE CHAIRWOMAN: All right. All in favor?  
5 WORK GROUP MEMBERS: Aye.  
6 THE CHAIRWOMAN: Excellent. All right.  
7 We have approved the minutes.  
8 I'm going to introduce to you, and give  
9 you a quick rundown, actually, of a couple of  
10 things before we get started. So a couple of  
11 reminders from last week. Thank you to our  
12 court reporter. Please remember to only speak  
13 one at a time and to speak clearly and slowly.  
14 Because the meeting is being transcribed, we  
15 cannot have back-and-forth conversations. If  
16 you looked at the minutes from last week, you  
17 will see number of times where it says everyone  
18 talking or "inaudible." That's because we all  
19 have to get used to this process, but we will  
20 try.  
21 The other thing I want to remind you is,  
22 please remember that we are acting in the  
23 capacity as a public body, so we need to  
24 remember not to discuss the business of this  
25 work group outside of this meeting with other  
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1 members of the work group. I know that's  
2 difficult because many of you, this is what you  
3 do on a daily basis, this the topic that your  
4 profession deals with. And, certainly, you can  
5 obviously do your own work, but we need to  
6 monitor ourselves. And, please, don't hesitate  
7 to remind each other. If we're talking before  
8 the meeting or after the meeting, just don't  
9 talk about this topic. You can talk about what  
10 you did over the weekend, that's fine, but try  
11 and remember that this is a public body.  
12 And one final reminder that, based upon  
13 the mission of our group and the tasks that  
14 have been presented to us, the focus of our  
15 group is not to draft specific standards or  
16 criteria, but instead we have three focuses:  
17 We are to understand to the best of our  
18 abilities the impacts of coastal flooding  
19 within the AAA, which includes the impacts to  
20 population, infrastructure, natural resources,  
21 and the economy; we are to evaluate the City's  
22 existing programs and policies in relation to  
23 the AAA; and, ultimately, to provide the  
24 Planning Department and the City with  
25 recommendations regarding actionable items or  
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1 steps over the long planning horizon, such as  
2 studies and the consideration of policies  
3 and/or regulatory changes.  
4 It's going to be hard, I think, as a group  
5 to stay focused because I know we all want to  
6 solve the problem and everybody has different  
7 opinions, but staff has been wonderful in  
8 planning presentations for us, and if we can  
9 just absorb it all and then work on our  
10 recommendations and policies, I think that this  
11 group is going to be very successful.  
12 Our first speakers are from the Northeast  
13 Florida Regional Council, and I'm very excited  
14 to introduce to you Beth Payne. She is the  
15 chief executive officer of the Northeast  
16 Florida Regional Council. She actually took  
17 office on March 1, 2019. Beth is going to tell  
18 you a little bit about herself and then  
19 introduce who she has with her.  
20 MS. PAYNE: Yeah. Thanks very much for  
21 having me. This is definitely the start of my  
22 second week on the job, so I'm definitely  
23 taking advantage of coming to meetings and  
24 introducing myself and getting to know people.  
25 I actually worked at the Council for ten  
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1 years doing emergency preparedness work. So I  
2 just wanted to come introduce myself and really  
3 tell you how important the work on sea level  
4 rise and climate change resiliency is to our  
5 office. We value the program.  
6 (W/G Member Corbin enters the  
7 proceedings.)  
8 MS. PAYNE: And I think, most importantly,  
9 our board of directors, which is 30 members  
10 representing seven counties in North Florida,  
11 also very much values the work that we do. We  
12 have board members here. Ms. Brown is here;  
13 she's on our board. And we've been funding  
14 this work for the last several years because  
15 it's so important to us.  
16 So I'm going to introduce Margo Moehring,  
17 who is our director of policy and planning.  
18 She leads our resiliency program. She's going  
19 to talk with us about how it got started, what  
20 we've accomplished, and, most importantly, what  
21 we have coming in the future.  
22 So thank you very much for having us  
23 today.  
24 THE CHAIRWOMAN: Thank you, Beth.  
25 MS. MOEHRING: So, again, we're thrilled  
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1 to have Beth at the Council as the CEO.  
2 I'm the policy director at the Regional  
3 Council, and I'm going to kind of take you back  
4 in history. This was -- you know how you go to  
5 conventions and they ask for a poster? We did  
6 a poster on how we got started working on sea  
7 level rise and climate change. Don't worry,  
8 I'm not going take you through it.

9 (W/G Member Blankinship enters the  
10 proceedings.)

11 MS. MOEHRING: But all of this is to say  
12 we've been working on a vision for the region.  
13 Some of you may have played with Legos -- we  
14 did a reality check trying to establish a  
15 growth pattern for the region. But what came  
16 out of that was First Coast Vision, which is  
17 now a part of the Strategic Regional Policy  
18 Plan which guides the Council and its work.

19 There's an action items page in First  
20 Coast Vision that were things that we couldn't  
21 achieve at that time but that needed to get  
22 done. And I'm paraphrasing, but one of the  
23 action items was figure out if we're  
24 susceptible to climate change -- and we talked  
25 a long time ago -- and if so, what to do about

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1 it.  
2 So the Council works with a nonprofit  
3 called the Regional Community Institute. They  
4 work as a kind of think tank for the Council,  
5 and they have committees. So the Council  
6 decided to start with sea level rise and to  
7 assign that topic to their Emergency  
8 Preparedness Committee, which they did. This  
9 is the summary and Regional Action Plan that  
10 came out of that work from the Emergency  
11 Preparedness Committee in 2013. I noticed that  
12 in your working materials on your working group  
13 page you have the compilation of all the  
14 background materials that went into this. So  
15 that may -- we hope it's helpful.

16 We tend use this -- and one thing in  
17 particular -- there's two things I'll mention  
18 now. The Regional Community Institute, the  
19 nonprofit, has as one of its guiding principles  
20 that they only recommend doable actions. So  
21 they don't advocate for the state to change a  
22 law or the federal government to fund  
23 something. They recommend doable actions that  
24 they can get done. In partnership, not that  
25 they can do everything themselves.

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1 This is a nine-page document. It's not  
2 very big. But one big action item came out of  
3 it, and that's the Public/Private Regional  
4 Resiliency Committee. The idea in 2013 was  
5 that leadership in Northeast Florida on the  
6 topic of sea level rise or climate change had  
7 to come from the business community. Their  
8 view was that it was not time for government to  
9 do it, that folks were not necessarily  
10 particularly receptive, so it was the business  
11 community. So that was the biggest action item  
12 that came out of the Regional Action Plan.

13 Now, this group got together, had a  
14 presentation from several data sources,  
15 including the Army Corps, and came up with  
16 these assumptions: 1 to 3 feet by 2060, 3 to  
17 6 feet by 2110. They are not scientists. They  
18 are businesspeople or people who are kind of  
19 involved in business. They said keep an eye on  
20 the science, but start planning -- we assume  
21 this is going to happen, so let's get working  
22 on it.

23 So they did maps. Those have been the  
24 levels of sea level rise that they have been  
25 looking at from the beginning. So you see on

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1 the left 1 foot, 3 foot, and 6 foot, and then  
2 they put critical facilities at all of the  
3 different -- there's a whole bunch of different  
4 versions of these maps, and there were  
5 vulnerability assessments done with nine  
6 communities in Northeast Florida based on these  
7 assumptions.

8 They also looked at the potential for  
9 private investment vulnerability, and these  
10 are -- these numbers are discrete. 1, 3, and  
11 6 foot of sea level rise is separated out, and  
12 then storm surge would include all of those sea  
13 level rise layers. But just to give folks an  
14 idea of what we're talking about and the  
15 potential magnitude.

16 And this is kind of their mantra: The  
17 world is changing; we work to position  
18 Northeast Florida to thrive in that change.  
19 And I actually have -- if it's helpful, I have  
20 copies of the op-eds that I'm happy to share  
21 with the group. They kind of launched in 2015  
22 with that as their mantra.

23 And the reason I included that they  
24 weren't starting anything is because they went  
25 through a period of being concerned about

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1 getting out front on this issue, and then they  
2 looked around Northeast Florida and realized  
3 that the Navy had been doing environmentally  
4 responsible development for years, we've been  
5 working for years on alternative fuels; there  
6 was plenty of stuff already happening in  
7 Northeast Florida. And so they said, we're  
8 not -- we're part of the movement; we're not  
9 starting anything.

10 So they then set action items for the  
11 Regional Council. The first thing they did was  
12 looking at building resiliently. They thought  
13 they would have an easy time kind of putting  
14 together, here is how you build resiliently in  
15 Northeast Florida. Not so much. They had to  
16 do some kind of basic -- ultimately, they did,  
17 essentially, a brochure for how to build  
18 resiliently or if you're thinking of building  
19 or retrofitting, how to address flood, fire,  
20 and wind.

21 They borrowed, with permission, the  
22 infrastructure checklist of San Francisco and  
23 made it kind of work if you didn't have the  
24 same level of data that San Francisco had. But  
25 before a local government was planning an

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1 infrastructure project, they could take a look  
2 at what it might mean as far as the life of the  
3 building, the kind of structure, and how sea  
4 level rise might impact it.

5 And then there's a No Adaptation Cost  
6 Benefit Approach that they also made available.  
7 They looked at more resilient areas. This  
8 was -- not all their action items have been not  
9 rocky. This was one of the more rocky ones,  
10 kind of, because they were looking at values  
11 and they did an exercise to see, you know, can  
12 we determine where are the best places to  
13 develop given the information that we know  
14 about vulnerabilities. And, of course, what  
15 came out of that is that some of those areas  
16 that might be higher ground might also have  
17 gopher tortoises or something, so there -- you  
18 know, it's not as straightforward. So they  
19 learned from the experience.

20 They talked about how to pay for it. They  
21 basically came down to special districts having  
22 viability. And they kind of -- they talked  
23 about Property Assessed Clean Energy, PACE, as  
24 a mechanism, but, of course, you can't use that  
25 unless resilient improvements are included in

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1 that program, and that's a State program. So  
2 they observed that, but that's not something  
3 they're pursuing.

4 There are a couple banks represented on  
5 the committee and adding resiliency to the kind  
6 of training that you do when you're going in  
7 for a mortgage, for a first mortgage. Regions  
8 Bank was very interested in including that in  
9 their curriculum that they dealt with  
10 first-time mortgagees.

11 After Hurricane Sandy, the Northeast had  
12 done a design challenge of after the disaster  
13 has struck, what do we do? So that orange area  
14 on the map is all the vulnerable areas in  
15 Northeast Florida. Let's assume they have all  
16 been destroyed. What do we do? Someone is  
17 laughing. Someone in the biz is laughing.  
18 But, actually, it is sort of an interesting  
19 story.

20 You'll recognize Beth in this picture. I  
21 think it's a particularly good one of her and  
22 her friend. This was at the Jacksonville Zoo.  
23 And we talked to a lot of young people on Earth  
24 Day in whatever year that was, 2016 maybe, and  
25 they joined the team and they told us how they

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1 would like to rebuild.

2 Now, we -- and this is why -- the fact  
3 that Joe is laughing is kind of significant  
4 because we were hoping grown-ups would respond  
5 to this challenge. They didn't. Only the  
6 young people did. But, ultimately, we didn't  
7 mind because they gave us images that we're  
8 still loving. We've got quite a few of them.  
9 And if you can't read it, "We could have houses  
10 in the marsh that are bolted down that have  
11 floating floors. This way, we can be safe and  
12 keep an eye on the animals." That was  
13 Annabelle, age six. Young people are going to  
14 save the world, so we need to reach out to  
15 them.

16 Insurers have always been represented on  
17 the Committee. Another one of the Committee's  
18 underlying tenets is they are dubious that the  
19 National Flood Insurance Program is  
20 sustainable. So they have been looking at what  
21 we can do locally, not assuming that the  
22 National Flood Insurance Program is going to be  
23 what saves us.

24 The State, in 2015, adopted a requirement  
25 for parallel flood to be addressed in

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1 everyone's Comprehensive Plan, and so there's  
2 some Comp Plan policies that are out as  
3 recommendations. They have always been  
4 extremely clear that there is a link to  
5 emergency preparedness. These are not --  
6 mitigation and adaptation are not unrelated to  
7 emergency preparedness, and everyone needs to  
8 be sort of singing that same tune. So they  
9 have always thought that was important.

10 They have done this without funding other  
11 than the support of the Regional Council, but  
12 then the National Fish and Wildlife Foundation  
13 chose the St. Johns River basin as a Coastal  
14 Resilience Assessment Area, and that takes in  
15 all seven counties of Northeast Florida. So  
16 they have done a very detailed -- from an  
17 ecosystem perspective, a very detailed  
18 assessment of our vulnerabilities. And we're  
19 getting that data in GIS, and they are aware  
20 that we want to add additional layers to make  
21 it a vulnerability assessment that we all  
22 understand, we can answer a follow-up question  
23 on when the public asks it, but make it a  
24 vulnerability assessment for Northeast Florida.

25 As part of that, we'll also be looking at  
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1 the cost of doing nothing, running the model of  
2 what happens if we do nothing. That's a  
3 compelling part of the argument.

4 And we -- in order to determine whether  
5 our issue was how to build new construction  
6 resiliently or how to retrofit older buildings,  
7 we mapped pre-flood map buildings, and that  
8 gave us our answer. Those are the parcels  
9 (indicating). The purple areas are the parcels  
10 that contain a private structure that's  
11 residential, commercial, or industrial. We did  
12 it for just that one reason. But we do not  
13 know the vulnerability of those structures, so  
14 we then need to include retrofit in our  
15 discussions of how to build. It's how to build  
16 and retrofit for Northeast Florida.

17 And then here is the good news: We  
18 received a -- based on the vulnerability  
19 assessment work that's been done to date, the  
20 Economic Development Administration has funded  
21 us for a community conversation based on that  
22 vulnerability assessment. So you can kind of  
23 see where the P2R2 group -- they are the ones  
24 who are writing these op-eds that I'm putting  
25 up on the screen, but a region that is having

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1 the discussion about vulnerabilities is  
2 marketable and attractive to businesses and  
3 residents. And, more importantly, they said we  
4 will all be happy to have community and  
5 regional discussion regarding how to build,  
6 where to build, and where not to build back.  
7 So those are kind of the hard discussions, and  
8 P2R2 and staff at the Council is about to  
9 embark on them.

10 We're at the stage where the vulnerability  
11 assessment has been given to us in draft, but  
12 we are expecting that it will be launched  
13 sometime in April. And once we launch it, we  
14 will be able to begin the community  
15 conversations. We, too, intend to launch a  
16 more robust vulnerability assessment that isn't  
17 only emphasizing ecosystem services, and then  
18 we also intend to launch a how-to-build and  
19 how-to-retrofit discussion.

20 So that's my very brief overview about  
21 what's been going on in the Northeast Florida  
22 Regional Council and the Public/Private  
23 Regional Resiliency team.

24 THE CHAIRWOMAN: Excellent. Thank you.  
25 We would certainly request a copy of the  
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1 vulnerability assessment when it comes out in  
2 April.

3 MS. MOEHRING: Absolutely.

4 THE CHAIRWOMAN: This committee will still  
5 be going on, so that's perfect timing.

6 Okay. We are going to do questions  
7 between the speakers. I think that that will  
8 work out best because we've got different  
9 topics coming up. We've got two different  
10 speakers today with fairly different topics.

11 So does anybody in the work group have any  
12 questions for Margo?

13 W/G MEMBER MARTIN: Why did you use  
14 San Francisco as the model?

15 MS. MOEHRING: Because they were already  
16 done. They were way in advance of us and they  
17 already had their Capital Improvements Program  
18 linked to -- to the checklist.

19 W/G MEMBER MARTIN: In other words, nobody  
20 on the East Coast had that, like Miami?

21 MS. MOEHRING: Well, I can't say for sure.  
22 It's just I knew the guy from San Francisco.  
23 It's kind of as simple as that. I met them at  
24 a meeting, and they told us that they had done  
25 an infrastructure checklist.

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1 Now, if you looked at it now, it's pretty  
2 generic. So we just -- they were kind enough  
3 to let us use kind of the approach and then  
4 make it more generic, because it -- you know,  
5 we didn't necessarily have the assumptions  
6 about what analysis needed to be done for each  
7 kind of structure. But it sort of suggests  
8 what you could do as a local government. It's  
9 not -- we're not there yet, but it's a place to  
10 start.

11 W/G MEMBER MARTIN: And did you have  
12 anybody from the private insurance industry on  
13 your committee?

14 MS. MOEHRING: We have the representative  
15 from NAMIC, the National Association of Mutual  
16 Insurance Companies. Liz Reynolds has been  
17 with us from the beginning, and she tends to  
18 have a kind of broad overview. She's been very  
19 helpful with insurance.

20 W/G MEMBER MARTIN: And do we have anybody  
21 on this committee from the private insurance  
22 industry?

23 THE CHAIRWOMAN: I do not -- do we?

24 MS. PAROLA: We do not yet, but we're  
25 trying to get a representative. So we're  
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1 working on it.

2 THE CHAIRWOMAN: If nothing else, we are  
3 going to have somebody come speak to us from  
4 private insurance because that is definitely  
5 a -- something we're going to have to factor  
6 in.

7 W/G MEMBER BLANKINSHIP: For the benefit  
8 of the work group, can you explain the time  
9 frame of the vulnerability assessment so that  
10 if we maybe don't have it in April that we're  
11 not all waiting on it? But the time frame of  
12 when they started and sort of the trajectory of  
13 its release date.

14 MS. MOEHRING: Sure. It's been going on  
15 for a couple of years now, and it's a little  
16 late. But they are doing analysis in our  
17 region, and that's huge. If we had to pay --  
18 we always had a vulnerability assessment on our  
19 list of action items and thought we were going  
20 to have to pay several hundred thousand dollars  
21 in order to get it done, so having the National  
22 Fish and Wildlife Foundation do it is huge.

23 I'm cautiously optimistic that the April  
24 date is realistic, and I'm in very close  
25 contact with them. They have done this around  
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1 the country, and they have said we are the  
2 region that seems most excited about it because  
3 we know exactly what we're going to do with it  
4 when we get it. We're going to have that  
5 community conversation based on it. So I think  
6 they are pretty committed to launching in April  
7 so we can get started.

8 W/G MEMBER LORETTA: So you mentioned you  
9 had lenders in your group?

10 MS. MOEHRING: Yes.

11 W/G MEMBER LORETTA: So, I mean, a big,  
12 intriguing aspect to this is if lenders start  
13 continuing to get wind of all of this, I mean,  
14 it just seems as though there's going to be  
15 opportunities for a lot of homes that cannot  
16 sell or resell in the future because a lender  
17 may be unwilling to take a loan within a lot of  
18 these vulnerable areas. Has that been  
19 discussed?

20 MS. MOEHRING: In the abstract.

21 I mean, I think it's very clear both from  
22 the insurance folks and from the banks that  
23 they're doing their due diligence and they're  
24 looking at vulnerability. And, you know, do  
25 they want to be at the table? Yeah. But are  
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1 they taking a hard look themselves? Yes, they  
2 are. So, you know -- which is why where not to  
3 build back is an important part of the  
4 conversation, because that at some point is  
5 going to be a real thing.

6 THE CHAIRWOMAN: Anyone else?

7 WORK GROUP MEMBERS: (No response.)

8 THE CHAIRWOMAN: Thank you very much.

9 MS. MOEHRING: Thank you.

10 THE CHAIRWOMAN: Appreciate it, both of  
11 you.

12 Okay. And Denise.

13 All right. We have Denise Bunnewith. She  
14 is a 30-year transportation professional.  
15 She's the planning director for the  
16 independent, four-county North Florida  
17 Transportation Planning Organization, or as  
18 most of you know, TPO. The TPO is an  
19 independent regional transportation planning  
20 agency, and they work with Clay County, Duval,  
21 Nassau, and St. Johns.

22 Correct?

23 MS. BUNNEWITH: Correct, yes.

24 THE CHAIRWOMAN: Denise, you may know her,  
25 she was with the City of Jacksonville Planning  
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1 and Development Department since 1988, and she  
2 was in various different positions. At one  
3 point, she was the division chief for the  
4 Transportation Planning and the MPO staff  
5 director. So we welcome Denise.

6 MS. BUNNEWITH: If you're not familiar --  
7 and, of course, I know who Mr. Newby is because  
8 he's on our board, but the TPO is responsible  
9 for the federal transportation planning process  
10 in the four counties. And what we do is we set  
11 priorities for the expenditure of the federal  
12 highway and transit funds that come to the  
13 region. And if -- the way we do that is  
14 through our Long Range Transportation Plan.  
15 And if a transportation investment is not  
16 identified in that plan, then DOT or JTA or  
17 Sunshine Bus can't make that investment.

18 We're in the process of updating our  
19 Long Range Transportation Plan now, and we have  
20 a new planning factor based on the last  
21 reauthorization of the transportation bill, the  
22 FAST Act, that required that we look at  
23 resiliency. So this is the first time that  
24 we're looking at resiliency and vulnerability  
25 in the Long Range Transportation Plan. They

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1 added an additional planning factor -- we had  
2 seven, and now we have nine. The other one  
3 they added for the first time this time is to  
4 look at tourism and the impact of our  
5 transportation investments on the tourism  
6 industry, so we're doing that as well.

7 So we're doing a resiliency and  
8 vulnerability assessment. Our consultants in  
9 this effort are Reynolds, Smith & Hills, and  
10 Rob Palmer with RS&H is here with me, and  
11 Cambridge Systematics. We're looking at it  
12 from a different perspective. We actually --  
13 we didn't want to recreate all the good work  
14 that Margo and her team have done, so,  
15 actually, we're starting with that, but we're  
16 really looking at it from the perspective of  
17 transportation, our transportation  
18 infrastructure and our future investments.

19 So we started looking at what's out there,  
20 what the requirements are. And we're looking  
21 from the big picture. We're looking at using  
22 this in our Long Range Transportation Plan. We  
23 want to make sure that we're addressing some of  
24 the impacts we expect from sea level rise, from  
25 hurricanes, nuisance flooding, all of that.

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1 And what the federal government envisions  
2 in our Long Range Transportation Plan -- and I  
3 want to make it clear that they don't give us  
4 any extra money. They always add requirements  
5 every time they do a reauthorization. They  
6 don't give you any additional funding to do the  
7 planning effort, and they don't give you any  
8 additional dollars to make the investments.  
9 They just want you to use the dollars that you  
10 have more prudently. So we're -- they want you  
11 to include in your Long Range Transportation  
12 Plan -- and that's what we're doing now. We're  
13 doing Path Forward 2045. We adopted it in  
14 November of this year, November 2015. And I've  
15 given you a brochure.

16 And in addition to resiliency, this is an  
17 interesting long range plan because we have  
18 some new challenges that we've never had  
19 before. We're looking at automated and  
20 connected vehicles and the impacts of that,  
21 mobility as a service.

22 You know, one thing I think that is really  
23 certain is that 20 years from now, we won't get  
24 around the way we do today. Things will be  
25 very different. So we're looking at those

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1 challenges.

2 But we're doing some scenario planning,  
3 looking at different levels of inundation, so  
4 to speak, and seeing what impacts that would  
5 have. We're assessing our vulnerability, and  
6 then we'll give this information to the  
7 Department of Transportation and the agencies  
8 as they make their investments in the future.

9 So we've adopted our goals and objectives,  
10 and what we haven't done yet is the measures.  
11 We're still working on those. But the measures  
12 will be used in project evaluation.

13 The first objective is to incorporate  
14 climate risk in the project planning system  
15 preservation and maintenance. We want to make  
16 sure that we're providing reliable mobility.  
17 The most important aspect of any long-range  
18 plan is making sure that people and goods can  
19 move through the region.

20 We want to support our evacuation needs.  
21 And it's identified in each of the emergency  
22 management plans for each of the four counties.

23 And then we hope to address social equity.  
24 We are obligated to look at Title VI and  
25 Environmental Justice requirements in making

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1 sure that we're addressing the needs of those  
2 communities, because they are vulnerable  
3 communities and are sometimes in vulnerable  
4 areas.

5 So the stressors that we're looking at,  
6 we're looking at the storm surge, sea level  
7 rise, and inland flooding. And those are the  
8 resources that we're using. We're not  
9 recreating to do this. The data sources, we're  
10 looking at the surge zones from 2013 evacuation  
11 studies. We're looking at the GeoPlan Center  
12 projections and NOAA projections for 2050. And  
13 inland flooding, we're looking at the new FEMA  
14 maps. To assess roadway impacts, we're using a  
15 tool that was developed by the University of  
16 Florida GeoPlan Center for the Department of  
17 Transportation. That tool identifies the  
18 transportation facilities within those areas  
19 that are at risk.

20 So here is -- you've got to see this.  
21 Some of these maps are going to be the exact  
22 same thing you that saw in Margo's thing,  
23 except they show our counties. This is for  
24 storm surge. You see the areas at risk. And  
25 this is for a Category 3 storm. And here it is

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1 by county. This is Duval. This is for sea  
2 level rise. And we've got the intermediate and  
3 the high levels of sea level rise. And then  
4 this is the FEMA maps for the region. So we  
5 have potentially quite a bit of area. On the  
6 left is the 100-year flood, on the right is the  
7 500-year flood risk.

8 So our next steps. We're going to  
9 identify individual assets within those areas  
10 that are at risk. We're going to try and  
11 collect additional data for those facilities.  
12 And we're going to have to make some decisions  
13 going forward. I think in a lot of cases we'll  
14 be looking to identifying facilities that we  
15 need to harden for the future. I don't know --  
16 I don't anticipate that we'll have too many  
17 facilities at this point that we'll say we want  
18 to abandon. We may need to relocate some  
19 facilities that are at risk. But we want to  
20 make sure that as we maintain those facilities,  
21 if it's possible, to make investments that  
22 harden them so that they will have a longer  
23 life.

24 You know, transportation investments,  
25 first of all, it takes many years to get from a  
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1 plan, from the Long Range Transportation Plan  
2 to construction, and they are substantial  
3 investments. They are going to be there for a  
4 long time. So we want to make sure that if we  
5 need -- those facilities that are at risk, that  
6 when they do go out and make improvements, they  
7 are making the necessary investment to harden  
8 them and that they are maintaining those  
9 improvements.

10 We'll be using the measures that we  
11 identify for the -- for the goals and  
12 objectives to prioritize projects. And we'll  
13 give higher priority to those projects we know  
14 that are in Title VI Environmental Justice  
15 areas, but we'll also -- you know, the  
16 facilities on an evacuation route, for example,  
17 is going to have a high priority.

18 Our technical report so far, we have two  
19 technical reports, and they are available on  
20 PathForward2045.com under Documents. And you  
21 can see some more about the update there.

22 I want to say that this is our first time  
23 looking at vulnerability and resiliency. It  
24 will not be the last time. This is going to be  
25 an ongoing requirement, and so we -- you know,  
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1 in future updates -- I'm sure in the future  
2 we'll get a lot more and we'll build on some of  
3 the work that you're doing now, but this is our  
4 first venture.

5 And Federal Highway, they don't -- they  
6 don't tell you exactly what they want, usually.  
7 They come back and tell you when you have your  
8 certification, when they come and visit you for  
9 a few days, what you -- what they -- oh, well,  
10 we wanted this. So we're feeling our way  
11 through it. But I think we will have enough  
12 information to make some intelligent decisions  
13 and recommendations for the future.

14 This is my contact information. Our other  
15 website is [www.NorthFloridaTPO.com](http://www.NorthFloridaTPO.com), and  
16 everything we do is on that website. You know,  
17 Path Forward 2045 is the project-specific  
18 website for the Long Range Transportation Plan.  
19 And that's a hard date. We have to adopt it.  
20 The Long Range Plan has to be updated every  
21 five years. We adopted our 2040 plan in  
22 November of 2014, so we have to adopt in  
23 November of 2019.

24 Does anybody have any questions? We're  
25 learning. We're not experts on this. We're  
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1 learning as we go, too.  
 2 W/G MEMBER MARTIN: It sounds as if your  
 3 organization primarily is concerned with  
 4 private transportation and the distribution of  
 5 private transportation. Did you look at any  
 6 public transportation?  
 7 MS. BUNNEWITH: We primarily look at  
 8 public transportation and state and federal  
 9 roads. We're investing state and federal  
 10 dollars, where FTA is investing. However, you  
 11 know, we do look at the local roads as well.  
 12 As far as, you know, into the future with  
 13 mobility as a service, that's Uber, that's  
 14 Lyft, that's privately funded, but that is  
 15 going to change the dynamic of how we travel.  
 16 We're not looking to fund any of that, but  
 17 we're looking to see the impacts of what does  
 18 that do to travel in the future because I think  
 19 in the future we probably will own fewer cars  
 20 and will rely more on mobility as a service.  
 21 So maybe instead of having two or three cars  
 22 per household, like some of us do, we may have  
 23 one and use mobility services. Especially as  
 24 it becomes automated, with no driver in it, the  
 25 cost will go down. So it just may be, you

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1 know, more efficient for all of us not to  
 2 insure another vehicle, not to pay for a  
 3 vehicle that sits parked 19 hours a day.  
 4 THE CHAIRWOMAN: Ms. Blankinship.  
 5 W/G MEMBER BLANKINSHIP: When it comes to  
 6 resiliency, you kind of focused on the impact  
 7 of storms on roads, but is there a section of  
 8 the report that focuses on roads' impacts to  
 9 themselves flooding out adjacent property?  
 10 MS. BUNNEWITH: No, we are not. We're  
 11 looking at storm water. So I guess from that  
 12 perspective we are. We are looking at the  
 13 impacts of storm water. But mostly, from the  
 14 federal perspective, I think they are mostly  
 15 interested on what it does to the roadway  
 16 itself and impacting whether or not you can  
 17 travel through that corridor and use it to  
 18 evacuate or whatnot. I don't think they are  
 19 necessarily so concerned about the negative  
 20 impacts of that flooding from the roadway on  
 21 the adjacent properties.  
 22 W/G MEMBER BLANKINSHIP: Okay.  
 23 MS. BUNNEWITH: So I don't think -- in the  
 24 future, that may be something that they ask us  
 25 to look at, but I think at this point the

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1 biggest takeaway we're going to have is we're  
 2 going to know which facilities, which roadway  
 3 facilities are at risk, and that's our first  
 4 step.  
 5 As I said, we're learning as we go for  
 6 this. I think it's new to a lot of us. But  
 7 this won't be the first time we look at it.  
 8 This will be something that's required moving  
 9 forward that we look at every update. And then  
 10 what gets included in the long range plan gets  
 11 incorporated in everything else we do.  
 12 THE CHAIRWOMAN: When you talk about  
 13 hardening roads, do you know exactly what types  
 14 of processes you think you're going to do? Are  
 15 you talking about raising roads? Putting  
 16 barriers along the roads?  
 17 MS. BUNNEWITH: Well, I'm not an engineer.  
 18 I'm a planner. So --  
 19 THE CHAIRWOMAN: I'm looking over here at  
 20 RS&H.  
 21 MR. PALMER: Yeah. It's all of it.  
 22 Certainly, elevation is usually the key, and  
 23 that -- usually, you're going to have to  
 24 elevate. And then just elevating on the  
 25 current soils and whatever is probably not

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1 enough, and that's where the hardening comes  
 2 in, is how we actually harden at elevation.  
 3 MS. BUNNEWITH: In some areas, it may just  
 4 be, you know, better drainage improvements,  
 5 too. You know, I think it's going to be on a  
 6 case-by-case basis. They're going to have to  
 7 look at it. But if we have identified that  
 8 it's an issue and we've given it a high  
 9 priority of addressing some of those issues,  
 10 they will have to look at it on a case by case.  
 11 And part of it -- I'm sure that part of  
 12 it, the decisions they make are going to be  
 13 driven by available revenue. But we will try  
 14 and incorporate funding in the plan to do some  
 15 of that. What always happens in the Long Range  
 16 Transportation Plan, though, is our needs far  
 17 exceed our resources, and the final adopted  
 18 plan is fiscally constrained. It can only  
 19 include as many projects and programs as we can  
 20 identify funding for. So that's always a  
 21 constraint.  
 22 W/G MEMBER CHATTERJEE: One comment -- or  
 23 question. When you say that, raising the level  
 24 of the road, does it invalidate what Shannon  
 25 was asking, that interdependency? I mean, if

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1 you raise the level of the road, then the  
2 properties nearby are in some kind of trouble.  
3 So are you looking into that interdependency as  
4 well or are you just --

5 MS. BUNNEWITH: Well, I think if you get  
6 to the point that you have to raise the road,  
7 it's probably because the properties on the  
8 side are flooding. So the properties on the  
9 side are probably -- you know, the uses along  
10 the road are probably at risk themselves, and  
11 so it's a larger issue. You can't address the  
12 roads without addressing the whole thing, and I  
13 think that's what the adaptation is about.  
14 Because if the problem -- you're going to  
15 elevate the road, you're going to raise the  
16 road and put it on a structure, well,  
17 obviously, you're impacting access to the  
18 adjacent properties when you do that. So --  
19 but I think it is part of a larger issue.

20 Now, keep in mind, we're doing a 20-year  
21 plan. Some of these things we're identifying  
22 are going to be out in the outer years, and  
23 technology may improve, conditions may improve.  
24 Well, we're not going to -- conditions aren't  
25 going to improve, but it's going to -- it's

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1 also going to have to make sense in the context  
2 of the land uses around that property, I'm  
3 sure.

4 W/G MEMBER CHATTERJEE: And this is just  
5 my personal view, but the way I'm looking at it  
6 is if somehow you elevate the roads too much  
7 and the properties around it might be below the  
8 road level, that might be trapping the water in  
9 the properties.

10 MS. BUNNEWITH: It could.

11 W/G MEMBER CHATTERJEE: And that might be  
12 good access for the road, but bad for the  
13 properties. So without that interconnection  
14 being addressed, I just -- it's just kind of  
15 hard for me to grasp that. I feel like  
16 tackling these two problems on a different note  
17 or -- there is no combination of them. So if  
18 the roadway is the property line, I kind of  
19 feel like they should be addressed together.  
20 And I don't know if there is anybody or there  
21 is any organization that's in charge of making  
22 that connection, but if it is not, I kind of  
23 feel that it's incomplete.

24 MS. BUNNEWITH: I don't think that when  
25 the DOT does an investment like that -- first

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1 of all, they have to do a lot of public  
2 involvement in the project. When it moves into  
3 the project development phase, they are going  
4 to contact all the adjacent property owners,  
5 they are going to contact the local governments  
6 that are impacted. So it's not going to be  
7 done in isolation. This is only the first  
8 phase of any project. It's just the planning  
9 phase before it can move into another phase.

10 But I think that -- you know, it has to be  
11 taken -- looked at holistically, but I think at  
12 this point we're too far out from any of these  
13 projects to look at it in that depth.

14 W/G MEMBER LORETTA: Well, and that's  
15 where -- when the DOT starts moving forward  
16 with the plans, I mean -- what I believe Denise  
17 (inaudible) identifying is Heckscher Drive or  
18 whatever needs to be raised a foot and a half  
19 within these certain sections of road, and so  
20 when they actually move forward and do  
21 engineering plans, then at that point they are  
22 going to have to look at how it's going to  
23 affect storm water for the adjacent areas, but  
24 they can't really be analyzing how it's going  
25 to affect storm water in the adjacent areas in

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1 their work effort that they're doing right now.

2 MS. BUNNEWITH: And the other perspective  
3 is, you know, we can't leave communities  
4 isolated because you can't get to them. Some  
5 of these routes are evacuation routes, they are  
6 major routes. So, you know, part of the issue  
7 is going to be balancing to make sure that  
8 people can get to and from their properties and  
9 they can get out when there's a storm. So it's  
10 going to be a delicate balancing act, I think,  
11 that we haven't had to deal with before. But  
12 it is our future.

13 And I don't even know that we'll be that  
14 specific to tell the DOT how much they have to  
15 do, but we're going to say this property is at  
16 risk and you need to make sure that you're  
17 addressing it. And we'll let the engineers --  
18 we're not allowed to do engineering, but we'll  
19 let them decide what the best alternative is to  
20 address it. But we need to put them on notice  
21 that it's an area of concern.

22 MR. PALMER: Denise, I think really the  
23 key here is that we're putting environmental  
24 factors into decision-making and putting it as  
25 part of the matrix of recommendations. We

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1 might be recommending certain facilities need  
2 improvement that have nothing to do with  
3 capacity, which is unlike typical  
4 transportation. I mean, it's always been  
5 around do we need to four-lane that, do we need  
6 to six-lane that, and so forth. So I think  
7 putting this into the context of -- in the  
8 decision-making, not that you'll divorce one  
9 from the other, but at least it becomes a  
10 factor.

11 MS. BUNNEWITH: Right. We've always had  
12 to look at wetland impacts in our  
13 decision-making and impacts on the gopher  
14 tortoise and all of that. I mean, we have  
15 to -- in our planning process, we have to do  
16 that. We have to coordinate with all of the  
17 environmental agencies. We just haven't looked  
18 specifically at resilience and vulnerability  
19 before. So it's just another thing that we're  
20 required to look at. But we do, when we're  
21 identifying, we try and avoid wetlands, and we  
22 have a lot in this area.

23 THE CHAIRWOMAN: Councilman for the day.

24 MR. GRIGGS: This is just a question on my  
25 part, but given that you mentioned you guys  
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1 have limited funding, is there any mechanism  
2 you're using to identify these roadways that  
3 need the improvements the most such that we're  
4 using our money wisely?

5 MS. BUNNEWITH: Yes. First of all, the  
6 funding that's available pretty much comes from  
7 the gas tax, which, as you know, is not a  
8 sustainable revenue source for transportation  
9 going out 20 years, because we're switching  
10 to -- we're switching fuel sources, basically,  
11 to electric vehicles, and they are right now --  
12 in this state, at least, they don't pay any tax  
13 to use our roads. And we're getting -- our  
14 vehicles are more efficient, so we're using  
15 less fuel. So moving out 20 years and into the  
16 future beyond that, our funding source is  
17 really not sustainable. It's not significantly  
18 growing.

19 The way we identify the projects that are  
20 needed is we have a travel demand model that  
21 we're simulating traffic in 2045. And the way  
22 we do that is we begin by making sure that our  
23 model can replicate traffic in the base year.  
24 In this case, it's 2015. It has to be behind  
25 you so you have all the data available. So the

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1 model is calibrated to simulate conditions in  
2 2015, and that's with transit and highways.  
3 And we have data, socioeconomic data for  
4 2045, and what we're just doing now is we've  
5 added to the base here all of the improvements  
6 that are programmed through the year -- through  
7 the end of our transportation improvement  
8 program, which is out five years from now. So  
9 all of those improvements are in there, and  
10 we're running the 2045 data over that network.

11 And when we do that, we see where all the  
12 choke points are, and there will be very many,  
13 and we will identify solutions to resolve  
14 those -- that congestion. That will become a  
15 needs plan. And then we will prioritize the  
16 projects in the needs plan. We'll determine  
17 how much they cost, not only the cost to  
18 construct, but the cost to maintain over the  
19 life of the plan, and then we'll use the  
20 performance measures that we have identified to  
21 prioritize those projects.

22 But that's only going to be the first cut,  
23 because sometimes when you do that -- the first  
24 cut isn't always perfect. We need to make sure  
25 that we're equitable for the underserved. And  
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1 in most of the older areas of the city, we're  
2 not going to be adding roads, we're not going  
3 to be adding lanes, we're going to be making  
4 sure that their roads are maintained and that  
5 they have adequate transit. So there is a  
6 balancing there.

7 We have -- we are a four-county MPO. We  
8 need to make sure that all of our resources  
9 aren't just in Duval or just in Clay. They  
10 have to be balanced that way. And sometimes,  
11 because we have broken projects up into  
12 segments, part of it gets in and part of it  
13 doesn't. Well, we have to make sure that it --  
14 it needs to make sense. So it's a balancing,  
15 but we will do that.

16 We will be in the needs phase probably  
17 July or August, and then September or October  
18 moving into cost feasible, with adoption in  
19 November. And you can follow us on our  
20 website. We will be doing some podcasts and  
21 some e-Town Hall meetings. We're trying to do  
22 electronic media this time because we -- you  
23 know, we've always done a series of public  
24 meetings, and nobody comes. But everybody is  
25 glued to their phones and their computers these

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1 days, so we're trying to do more electronic.  
2 We did an online survey in 2017. We did a  
3 household survey asking people where they go  
4 every day. Last fall, we did a survey specific  
5 to the long range plan. And so we use that  
6 input as well. But we will do some public  
7 meetings.

8 And if anybody has an organizational  
9 meeting that they would like us to come and  
10 talk about the plan, we'd be happy to do that.

11 COUNCIL MEMBER NEWBY: So to your point,  
12 so what are the -- what ways are y'all trying  
13 to advertise, to get the word out? The only  
14 reason why I knew about this, like she was  
15 saying, is because I'm on board of directors of  
16 the TPO. But other than that, I didn't see any  
17 advertisement or -- how do we get that word  
18 out? Because it's very important that the  
19 constituents in the city of Jacksonville be  
20 involved in the process.

21 MS. BUNNEWITH: On the long range plan?

22 COUNCIL MEMBER NEWBY: Yes.

23 MS. BUNNEWITH: We will be going to each  
24 of the CPACs, and we're doing the electronic  
25 media. We're doing a series of focus groups,

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1 small group meetings where we're targeting  
2 specific communities. The environmental groups  
3 we'll be meeting with. We're meeting  
4 individually with the ports and the airports.  
5 We're going to meet with -- we're going to try  
6 and meet with representatives of the  
7 underserved, with veterans that have  
8 transportation issues, different communities  
9 like that. And then we're going to do the  
10 e-town halls, which we will advertise the  
11 availability of those when we do that. And  
12 offering to go out -- you know, we have the  
13 website. We're trying to push people onto our  
14 website. People can request a presentation.  
15 They can make a comment. But if you know of  
16 any organizations that would like a  
17 presentation, we would be happy to do that.

18 So moving forward -- we want to make sure  
19 that when we go out, we have enough to talk  
20 about, so we want to get through this first  
21 analysis to see where the choke points are so  
22 we can actually start talking projects when we  
23 go out. I mean, right now, we can go out and  
24 talk about the plan in general and some of  
25 these things we're doing, but hopefully by

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1 April we'll be able to do some of the project  
2 discussion.

3 COUNCIL MEMBER NEWBY: And I'm glad you  
4 said that about the CPAC. I think that's real  
5 important. Also, you might want to have -- go  
6 to some of the homeowners associations.

7 MS. BUNNEWITH: Yes, yes. Homeowners  
8 associations, yes, and other civic  
9 organizations. In the past, we've done a lot  
10 of Rotaries and -- you know, anything like  
11 that. Churches are very good, too, if they can  
12 make time for us. We're really open to doing  
13 just about anything.

14 W/G MEMBER LORETTA: So does the TPO or  
15 DOT, have y'all set -- or maybe even the  
16 Regional Planning Council, have y'all set,  
17 like, a minimum base elevation that -- and a  
18 basis for that that you all are recommending  
19 roads for the future to be, you know, paved at?  
20 Meaning, is it -- you know, we show the  
21 100-year and the 500-year floodplain; are you  
22 saying it's got to be one foot above the  
23 500-year floodplain? Is there anything -- any  
24 tangible basis that actually have been set or  
25 that you are setting?

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1 MS. BUNNEWITH: At this point, I really  
2 don't think so. I think we're going to  
3 identify the facilities at risk and some  
4 potential -- because it's not going to be every  
5 road that's at risk. It's going to be specific  
6 areas, specific facilities that are at risk.  
7 And so if -- you know, when you have a  
8 general -- you say one foot. It may need to be  
9 one foot here and not be one foot there. We  
10 don't want to tie their hands. So I think  
11 it's -- again, it's getting to be too specific  
12 for them.

13 One of the things that I always tell  
14 people in the planning process, you know, a lot  
15 of times, a new road for us is a line on a map.  
16 It's not a specific alignment. It's not a --  
17 we don't want to divide the right-of-way.  
18 We've identified that line by trying to avoid  
19 wetlands and protected species, but it really  
20 takes more. You need to go a lot further in  
21 the project development phase. It's really  
22 when you get to (inaudible)that you can get to  
23 the specifics of the project.

24 So, you know, people, when they see a line  
25 on a map, they say, oh, that's exactly where it

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1 is. That is not really the case. It's just  
2 the first step in the project development  
3 phase. So I don't think that we'll get that  
4 specific.

5 W/G MEMBER LORETTA: It just seems like we  
6 need to get that specific. I mean, it seems  
7 like -- JTB going across the Intracoastal. You  
8 know, so on the 500-year map, if that thing is  
9 flooded, we need to understand the 500-year  
10 elevation is at elevation eight and we need to  
11 be thinking that this road needs to get up to  
12 elevation ten. I mean, to me, that should be  
13 what your guys' objective would be, would be my  
14 thought.

15 MS. BUNNEWITH: Yeah. I think that -- you  
16 know, I think that they have been trying to  
17 elevate the approaches, you know, raise the  
18 approaches on those bridges, and I think that  
19 will be something that they will have to look  
20 at in the future, but I don't know that we have  
21 the expertise to tell them exactly what that  
22 should be.

23 MR. PALMER: Just getting it in the  
24 system, getting it in the plan that the  
25 environment will impact the facility is really

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1 pushback from the Department if we did that too  
2 fast.

3 W/G MEMBER TAPPOUNI: Yeah. I think, just  
4 piggybacking on some of what everyone is  
5 saying, starting with, I think, Shannon's  
6 really on-point question, and Denise, you  
7 mentioned that holistic view, I think what was  
8 really impactful to me among a million things  
9 after Michael went through the Panhandle were  
10 the houses that have been built now to a higher  
11 code, the houses are there, but people can't  
12 get to them because the roads are gone. And  
13 this idea that we have been working on the  
14 infrastructure, or the structures for the  
15 houses and the commercial buildings but we  
16 haven't been working on the infrastructure for  
17 the road at the same time, I think that's what  
18 strikes me in this whole conversation and what  
19 Joe is kind of pinning at. I hear that we're  
20 going there and that there's going to be this  
21 conversation. And, in my mind, I'm thinking we  
22 are already late. And I know you know that.

23 So anything that, you know, we can do in  
24 some of these plans -- and that -- really  
25 driving the holistic or the all-encompassing

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1 the big step here, so that there is a -- it's  
2 not a capacity issue; it's a vulnerability  
3 issue of this road is potentially vulnerable to  
4 a storm flood of X, Y, and Z, and therefore it  
5 can now have a factor that says that it might  
6 actually outweigh a widening factor --

7 MS. BUNNEWITH: Somewhere else.

8 W/G MEMBER LORETTA: So, Margo, is your  
9 group kind of looking at specific details down  
10 to elevations and the thoughts that I'm kind of  
11 discussing or questioning?

12 MS. MOEHRING: We're kind of not there  
13 yet, and I'm not sure we'll ever kind of get  
14 there. But we're going to start the community  
15 conversation, and then we would expect that  
16 each of the local governments would kind of  
17 decide what's right for that local government,  
18 if that makes sense.

19 MS. BUNNEWITH: You know, and I'm not --  
20 you know, it could be that five years from now  
21 that they do that. But this is our first time  
22 through this, and so I don't think we're going  
23 to be prepared to go to that extent this time.

24 THE CHAIRWOMAN: Michelle --

25 MS. BUNNEWITH: And I think we would get

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1 view, because each section is doing their own  
2 thing, but they're not doing them at the same  
3 time, so it's like chasing a roof leak. You  
4 patch it here, and then three days later it's  
5 over here, and you're never done. So just to  
6 kind of pull all those other comments together.

7 MS. BUNNEWITH: You know, I think the  
8 Regional Council started the discussion. And I  
9 think as we all start including this, and just  
10 the way we think about everything we do moving  
11 forward, that's the whole -- it has to be  
12 holistic. But we have to -- you know, we're  
13 just at the beginning. We're just starting.  
14 And we're doing it, you know, because the  
15 federal government recognized in the last act  
16 that this was important. And what we do is  
17 primarily funded by the federal government.  
18 Our direction comes from them and from the  
19 state.

20 THE CHAIRWOMAN: Yeah. It seems like TPO  
21 might not be the umbrella organization that  
22 would deal with all of the issues. I'm sure  
23 some of you watched the *Sinking Cities* and the  
24 Miami example where there is a very elevated  
25 road on what used to be a patio, which is now

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1 feet below the road, and it just looks like  
2 it's going to be a swimming pool whenever it  
3 rains. That immediately came to mind.  
4 But it seems like, Margo and Beth, your  
5 group is more the correct umbrella  
6 organization. Even the City of Jacksonville,  
7 we -- our focus is obviously local and City  
8 roads and those things. So I think we will be  
9 looking to the Regional Council to do the more  
10 broad overview in coordinating with TPO, the  
11 City, and others.

12 MS. BUNNEWITH: I think every local  
13 government likes to have some control in the  
14 decisions they make within their community, but  
15 it has to make sense in the perspective of the  
16 region. But I think we can learn a lot from  
17 what's been done in South Florida because,  
18 obviously, they are experiencing a lot of these  
19 issues today. And they have done some things  
20 right and maybe they have done some things  
21 wrong, but I think we can definitely learn from  
22 them.

23 THE CHAIRWOMAN: Thank you very much for  
24 your presentation.

25 MS. BUNNEWITH: You're welcome.  
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1 as we can.

2 THE CHAIRWOMAN: So that's going to be one  
3 of the discussions, and I believe Erik Olsen  
4 brought it up at the last meeting, about what  
5 the boundaries are that we are to look at.  
6 Clearly, from the Comprehensive Plan, we have  
7 an obligation to look at the Adaptation Action  
8 Areas which appear to correspond with the CHHA  
9 areas. We are not prohibited from looking  
10 beyond those areas. I think those probably  
11 need to be our priority one. But in listening  
12 even to the Regional Council presentation and  
13 TPO's presentation, we need to probably take a  
14 more holistic approach than only looking at the  
15 Adaptation Action Area.

16 So I believe -- Erik, if it's okay, I can  
17 turn this over to you, because I think you had  
18 some information for us.

19 W/G MEMBER OLSEN: Yeah, I do. I'm a nuts  
20 and bolts guy. I'm a consulting engineer, so I  
21 get into the weeds, particularly when it comes  
22 to flooding and surges and sea level rise.  
23 I've been doing that for decades.

24 One of the first things I noticed and  
25 inquired about is the derivation of the maps  
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1 THE CHAIRWOMAN: All right. We're going  
2 to move into our impact assessment data. And,  
3 staff, you were going to provide us some basic  
4 data on acreages and talk about the Adaptation  
5 Action Area.

6 MS. PAROLA: What you have in front of  
7 you, I believe with your agenda, is -- there's  
8 a sheet that we provided the total acreage of  
9 the current boundaries of the Adaptation Action  
10 Area, and then each land use within those  
11 current boundaries and how many acres of each  
12 land use are within there. That's our current  
13 data. And then as we move forward, as the  
14 group identifies some more data that they would  
15 like and we have that data, we'll provide that  
16 as well.

17 THE CHAIRWOMAN: Do we have data about  
18 the -- how much of the acreage is actually  
19 developed within those areas?

20 MS. KELLY: Not offhand. We could get  
21 that.

22 So part of what we were hoping for is what  
23 group -- what is the boundary of the group you  
24 would like for us to look at, and then we will  
25 flood you, no pun intended, with as much data  
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1 that we're using for the CHHA. And I have  
2 significant concerns, particularly with respect  
3 to the downtown area, to the historical  
4 neighborhoods of Ortega, San Marco, Riverside,  
5 Avondale. Basically, the maps purport that  
6 none of these areas are -- that the high hazard  
7 area actually exceeds, basically, the hardened  
8 shoreline, the sea walls. I take exception to  
9 that.

10 I think I know why it's mapped that way.  
11 Whenever you do mapping like this, you use  
12 various models, numerical models. We talked  
13 about the FEMA model for flood insurance. The  
14 model that was used for the CHHA is called the  
15 SLOSH model. It's one of the oldest numerical  
16 models around. It was used early on for some  
17 flood insurance mapping, I think back when the  
18 Corps of Engineers was doing flood insurance  
19 mapping, the Department of the Interior was  
20 doing flood insurance mapping, all of those  
21 consultants to the federal insurance agency.  
22 One of the things they noticed back then, we're  
23 talking about, probably, the mid '70s, was that  
24 there are great derivations when they go from  
25 county to county or state to state. The models

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1 didn't correlate very well.

2 So what FEMA did is they hired a firm  
3 called Tetra Tech, which actually I worked for  
4 for about five years early in my career, and  
5 they were requested -- they were contracted to  
6 come up with a flood insurance methodology.  
7 And the flood insurance methodology that is  
8 used today is a derivation of that. So there  
9 was a standardization of how we predict the  
10 effects of hurricanes and the associated  
11 flooding and probabilistic results of a  
12 100-year storm, a 10-year storm, a 500-year  
13 storm.

14 The model that was used, basically, for  
15 the CHHAs was the SLOSH model, which is a very  
16 old model. It has some strengths and it has a  
17 number of weaknesses. And one of the main  
18 weaknesses is that it is not highly applicable  
19 to a riverine system such as the St. Johns  
20 River. Most of these models, if you really  
21 look at them, if you've ever gotten into them,  
22 most of it is modeling the coastline and the  
23 effects of the storm surge on the coastline,  
24 and then propagating the surge inland, up  
25 rivers, up creeks.

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1 Of course, the St. Johns River is a very  
2 unique river. It's three, four, or five miles  
3 wide in various areas, and so it's a body of  
4 water unto itself. None of these models  
5 realistically model the actual effects of  
6 hurricanes that can affect the St. Johns River.

7 Case in point is Hurricane Irma.  
8 Hurricane Irma caused record flooding downtown  
9 and in the historic neighborhoods. Hurricane  
10 Irma was not even a hurricane when it got to  
11 Jacksonville; it was less than a Category 1  
12 storm. And as I understand it, the CHHA is  
13 defined as the limit of the Category 1 storm on  
14 the landforms of interest. And what doesn't  
15 make a lot of sense, or what didn't make a lot  
16 of sense to me when I began to look at the  
17 mapping for downtown and the historic  
18 neighborhoods, was that the limit of the CHHA  
19 stops at the boundary between the land mass and  
20 the river, irrespective of how much flooding we  
21 had well beyond the perimeter of the existing  
22 sea walls and the downtown flooding that  
23 occurred.

24 So what I would suggest to the group is  
25 that, at least for these areas, the CHHAs are

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1 not applicable as given to us. I would -- and  
2 I would like the opportunity, perhaps at the  
3 next meeting, to give a PowerPoint presentation  
4 that helps the group here understand the nature  
5 of flooding, particularly for a Cat 1 storm, as  
6 a more realistic flooding, which would dictate  
7 the more realistic limits of the CHHA for these  
8 particular areas, downtown and the historic  
9 neighborhoods.

10 I also would like the group to understand  
11 what nuisance flooding is about. You saw -- we  
12 talked very glibly and you've seen things about  
13 nuisance flooding in Miami. Nuisance flooding  
14 already occurs in Jacksonville. It occurs  
15 particularly in San Marco. They have  
16 significant nuisance flooding today,  
17 irrespective of any rise in sea level. The  
18 reason is drainage. The drainage  
19 infrastructure is extraordinarily dated.

20 Over the last hundred years, we've had a  
21 rise in sea level in the downtown area of about  
22 eight-tenths of a foot. Part of it -- no one  
23 actually, I think, was well aware of this or  
24 has discussed it, and it really hasn't come  
25 into the point of discussion until we start

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1 talking about sea level rise in the future.  
2 And we're looking at rises of -- our group has  
3 looked at -- we're supposed to look at two feet  
4 of rise by 2060. That's a significant rise and  
5 has significant impacts on flooding downtown,  
6 both overbank flooding, nuisance flooding, and  
7 the drainage facilities that exist there.

8 So I think we would be remiss in abiding  
9 by these maps for those particular areas and  
10 not discussing the actual implications of the  
11 rise of sea level, particularly in areas that  
12 are developed and areas that are -- the City  
13 proposes to develop. One of the main areas to  
14 be developed, and certainly we talk about it  
15 almost on a daily basis in the newspapers and  
16 the press, is the downtown city core, including  
17 Lot J and all the areas around the stadium.  
18 The implications to those areas is huge with  
19 respect to the rise in sea level. Right now,  
20 we're not -- we can't talk about it, because  
21 these maps don't even include those areas.

22 So what I would like to do is give an  
23 overview, a more detailed overview, as a  
24 coastal engineer to the group, with respect to  
25 the physics and physiographic aspects of this,

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1 not the fiscal, but the fiscal will be  
2 implicit, and the reason why the mapping in  
3 these areas needs to be expanded. There is  
4 better mapping. Even the FEMA mapping, for  
5 example, downtown is -- it's not perfect, but  
6 it is a better mapping and a better resolution  
7 of areas that have the potential for impact  
8 from a Category 1 storm.

9 So if I -- I guess, if I may, or what I'd  
10 like to put forward is the opportunity to give  
11 a PowerPoint next week which gets into the  
12 weeds and which supports better the  
13 modification of the CHHA for consideration by  
14 this group for the downtown areas.

15 THE CHAIRWOMAN: So two things. One, I  
16 actually have your name written for our next  
17 meeting, so, hopefully -- can we fit that in?  
18 Right now, we have -- Kristen Reed is going to  
19 talk to us more about the Comprehensive  
20 Planning system and how it works, but I think  
21 that your presentation would be very helpful.

22 And two, I had reminded the group at the  
23 beginning, our goal is to make recommendations  
24 to the City. And, certainly, we're not at the  
25 point of making recommendations yet, but,

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1 clearly, I think one of them that we should add  
2 to our potential list is to expand the AAA.  
3 Right now, the City has the AAA tied in with  
4 the Coastal High Hazard Area, but that -- our  
5 recommendation to the City may be that the AAA  
6 should not simply be equal to the Coastal High  
7 Hazard Area, that it needs to encompass more of  
8 the city.

9 W/G MEMBER OLSEN: Exactly.

10 THE CHAIRWOMAN: Michelle.

11 W/G MEMBER TAPPOUNI: I totally support  
12 this. I had the same reaction when I saw this  
13 map, as someone who lives in Springfield. We  
14 have flooding all the time in Confederate Park,  
15 Silver and 8th. And McCoy's Creek is not  
16 indicated on here, which we all know is a major  
17 issue. There are some great things coming,  
18 but -- and then Northwest Jax, the  
19 constituency, the citizens in the north,  
20 northwest, every time there's rain, they're  
21 having the same issues. And I agree, the  
22 infrastructure has a lot to do with that.

23 But, yeah, I was really dismayed when I  
24 opened up the map. I was, like, what's  
25 happening here? So I'm happy to hear that

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1 we're going to look at that.

2 W/G MEMBER GALNOR: And I apologize for  
3 missing the first meeting. I know there are  
4 two different committees that are kind of on  
5 parallel tracks, right?

6 THE CHAIRWOMAN: Correct.

7 W/G MEMBER GALNOR: So there's one that's  
8 addressing infrastructure and resiliency, and  
9 then there's our committee that's looking at  
10 coastal flooding. And I just -- are we  
11 getting -- are we kind of bleeding into the  
12 other scope?

13 THE CHAIRWOMAN: I believe, and Helena  
14 can --

15 MS. PAROLA: Well, the other committee is  
16 storm water resiliency. I think it's headed up  
17 by Sam Mousa. They meet every other week, and  
18 they are looking at more of a short term --  
19 short term things to do right now to help the  
20 City with the current flooding problems.

21 W/G MEMBER GALNOR: Okay.

22 MS. PAROLA: Some of it might overlap, but  
23 in general that's the difference; we're looking  
24 at a longer-range solution, they are looking at  
25 a shorter-term solution.

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1 W/G MEMBER GALNOR: Got you.

2 THE CHAIRWOMAN: Joe.

3 W/G MEMBER LORETTA: Erik, so do you  
4 think, just off the top of your head, with,  
5 like, the NOAA 2050 map, do they have the NOAA  
6 2050 map that also includes storm surge  
7 analysis on top of that? You know, because a  
8 NOAA 2050 map should show a lot of the areas  
9 that I think we probably should be thinking  
10 about, because that's showing the actual 1- to  
11 3-foot rise of sea level and the vulnerability  
12 already that's been set for this region,  
13 basically. But do they have -- does NOAA have  
14 how storm surges sit on top of that at this  
15 point, that you're aware of, or is that even an  
16 applicable map in your mind?

17 W/G MEMBER OLSEN: Well, actually, what  
18 we're supposed to -- by definition, if I  
19 understand it, we're supposed to look at the  
20 limits, or at least these maps imply the limits  
21 of a Cat 1 storm, and that defines the area  
22 within which we look at a 2-foot level of sea  
23 rise and other effects. You can pull up FEMA  
24 maps, for example, for a Cat 1 storm, and  
25 you'll find that they are different than this

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1 because they do go -- they will go overbank  
2 because the surge level within this part of the  
3 river is greater than the surge level predicted  
4 by the SLOSH model. So they form one basis, a  
5 fairly legitimate basis, and if we stick to the  
6 Cat 1 definition, although I'm not exactly sure  
7 you need to, that is readily available. And  
8 you'll find that the areas of inundation exceed  
9 those within the maps here.

10 Within that, we then look at the -- and  
11 the other maps may play a part in the ultimate  
12 analysis, but then we look at the implications  
13 of the 2-foot level rise on top of that, and  
14 that gives you a different perspective as to  
15 areas that will be physically flooded on a more  
16 frequent basis.

17 W/G MEMBER LORETTA: The NOAA map is  
18 not -- it's not, like, 2 feet everywhere,  
19 because as you continue further inland, it  
20 becomes less. Basically, it's all tidal,  
21 right?

22 W/G MEMBER OLSEN: Well, that's part of  
23 the problem. The St. Johns River where we live  
24 right now is not well mapped by any of these  
25 models. The models basically look at the

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1 models -- well, they are the tools you have and  
2 you're not going to go out and remodel this in  
3 any way, shape, or form, but you can look at  
4 the results of all of them, and you'll find  
5 that all of them exceed what we're looking at  
6 here vis-a-vis the SLOSH model. So all of the  
7 other databases will have benefit. And I can  
8 pull up and will show you just the Cat 1 as  
9 predicted by FEMA.

10 As a matter of fact, you can go online and  
11 do it yourself. I can get you the pull-up, and  
12 you can say, okay, I want to see a Cat 1, I  
13 want to see a Cat 5, I want to see it 20 years  
14 from now with sea level rise on it. There are  
15 depictions. You can pull this stuff up on the  
16 web, and it is more meaningful than what we're  
17 looking at here based on this type of model.

18 THE CHAIRWOMAN: If we are going to ask  
19 the City to expand the boundaries of the AAA,  
20 we will need to give them a specific area. We  
21 need to give them the source of why we've  
22 defined the area. So we would be looking to  
23 you, Erik, and others in here for that  
24 information because we would need to be able to  
25 provide that information to the City to say we

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1 storm -- you know, it's a Monte Carlo process  
2 whereby you look at hundreds of storm tracks  
3 that theoretically can affect an area of  
4 interest, and you're looking at a three area --  
5 maybe a three-county area of interest up here  
6 just to do Duval County. So you model 3- or  
7 400 storms and you look at the surge associated  
8 with each of these, and then probabilistically  
9 you evaluate that.

10 But none of those models propagates water  
11 or actually models water within the St. Johns  
12 River. It's looking mostly at coastal effects  
13 that then get propagated up the river. And,  
14 again, I'll just use Hurricane Irma. It wasn't  
15 even a hurricane, and it caused record flooding  
16 equivalent to Hurricane Dora. And so it's  
17 basically -- if you take those two events,  
18 which are completely different events, types of  
19 events, that means that we're looking at a one  
20 to 50, one to 60-year storm because they  
21 occurred about 60 years apart, just for  
22 cocktail knowledge. So Dora is not necessarily  
23 the 100-year storm anymore once we've had the  
24 effects of Irma.

25 What I'm saying is that none of these  
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1 think the boundaries are insufficient, here is  
2 what the boundaries should be, and here is what  
3 it's based on.

4 W/G MEMBER OLSEN: I can do that also, and  
5 I actually have tried to verbalize some of this  
6 in a manner, because I originally was just  
7 going to hand it out, but I think the power of  
8 PowerPoint is far more impactful and  
9 instructive. And I'd like to just get -- you  
10 know, I'd like for the group to understand what  
11 nuisance flooding is, you know, why does  
12 drainage not work. I mean, I'll just show you  
13 the layman's perspective in graphics so that  
14 you understand why San Marco floods today. And  
15 you'll understand that when it rains over  
16 there, why it does not drain. And we can do  
17 that very easily graphically.

18 THE CHAIRWOMAN: We would appreciate that.  
19 And yes, if you could present at our next  
20 meeting, that would be fabulous.

21 W/G MEMBER OLSEN: Okay.

22 THE CHAIRWOMAN: All right. We're moving  
23 quickly. Let me take a look at my notes real  
24 quick.

25 So a quick question to staff, since our  
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1 current Comprehensive Plan dictates that we are  
2 to look at the AAA, do we need to do this as a  
3 two-step process when we are making  
4 recommendations, here's what we think about the  
5 current area and then make this as a  
6 recommendation in the second?

7 MS. PAROLA: Well, the current boundaries  
8 definitely need to be addressed, so we'll have  
9 the current boundaries and then, potentially,  
10 the expanded boundaries. We could do a tiered  
11 approach where you make recommendations for the  
12 AAA or maybe the -- not for the AAA, for the  
13 CHHA as it currently exists, and there could be  
14 different action items for each area.

15 Just different things for the committee to  
16 consider. We could do, like you said, a tiered  
17 approach to what is more vulnerable and what  
18 needs different types of action items in one  
19 area versus another area.

20 MS. KELLY: You could do something -- so  
21 since our maps show the CHHA, which we can't  
22 touch, that's by Florida Statute, but since it  
23 correlates with the AAA, you could, if you  
24 wanted to make certain recommendations  
25 applicable to the CHHA, which technically takes

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1 into account what is defined as the AAA, and  
2 then going under the assumption of the  
3 recommendation is that the City expand the AAA  
4 to X, the following recommendations apply. You  
5 could do something like that because based on  
6 Florida Statutes that line on that map isn't  
7 going anywhere. It's just currently -- it is  
8 definitely defined as the CHHA, and we can't  
9 touch that, but the AAA can be changed.

10 THE CHAIRWOMAN: I think that's a good  
11 approach. Does everybody agree?

12 So, Erik, quick question, does the CHHA  
13 area, is it a subset of the bigger maps that  
14 you're looking at? Does it correlate?

15 W/G MEMBER OLSEN: It's a subset, but the  
16 other maps would be a physical expansion into  
17 the upland of it.

18 THE CHAIRWOMAN: Perfect. Great.

19 W/G MEMBER OLSEN: So you are expanding  
20 it.

21 THE CHAIRWOMAN: Mr. Martin.

22 W/G MEMBER MARTIN: I don't have a  
23 question.

24 THE CHAIRWOMAN: Sorry, I thought you  
25 raised your hand.

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1 Great. Okay. That's fabulous.  
2 Staff, have we run down everything that we  
3 needed to for today?

4 MS. KELLY: I think so. Is there anything  
5 that you would like for us to bring to that  
6 next meeting in preparation for the discussion?  
7 Obviously, we'll cover the land use component  
8 that Kristen Reed is going to discuss.

9 W/G MEMBER BLANKINSHIP: I'm just curious,  
10 other counties in Florida, since this is  
11 mandated by the State, maybe you could pick out  
12 a few examples of what it is they did. And I'm  
13 also curious how many other counties have sort  
14 of completed this process or if they are still  
15 sort of at the same level within this process  
16 as we are here in Duval County.

17 MS. KELLY: Okay.

18 THE CHAIRWOMAN: And the other question  
19 would be, if the data is somewhat available or  
20 readily available, to find out how much  
21 development is actually within the acreage of  
22 the CHHA.

23 MS. KELLY: Okay.

24 W/G MEMBER BLANKINSHIP: And one more  
25 thing. I think what I was picking up from

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1 Erik, and obviously knowing a lot about the  
2 St. Johns River, it really is a huge difference  
3 between coastal counties that are only looking  
4 at impacts from the ocean versus the inland  
5 impacts. And so I don't believe that the state  
6 law required inland counties to do the same  
7 process. So, like, Alachua County or Clay  
8 County, for example, didn't have to, but  
9 St. Johns County did. So maybe just another --  
10 some other counties that have major inland  
11 rivers.

12 I honestly can't -- I work for the  
13 St. Johns Riverkeeper, so I don't know that  
14 much about other rivers in the state of  
15 Florida, but it just seems like that is really  
16 what the question is, is sort of not just the  
17 coastal impacts, but inland impacts and how  
18 they sort of grappled with those different sets  
19 of recommendations.

20 THE CHAIRWOMAN: All right. We're  
21 supposed to open the floor to public comment.  
22 Our public were our presenters. Do you have  
23 anything else that you would like to add,  
24 ladies and gentlemen?

25 MS. BUNNEWITH: When we went to the

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1 presentations for the new coastal FEMA maps,  
2 they did mention that the next step is they  
3 envision revising the riverine maps for FEMA,  
4 but I don't know how far out that is.

5 W/G MEMBER OLSEN: It's typically many  
6 years. FEMA has moved very slowly because they  
7 have to map the whole United States. It's very  
8 difficult for them to make changes. It used to  
9 be that they didn't include dunes, they didn't  
10 include wave setup, they didn't include  
11 erosion. So it progresses, but it progresses,  
12 like, every five to ten years as they come with  
13 an upgrade.

14 MS. BUNNEWITH: And I think we were some  
15 of the first coastal counties in Florida to get  
16 the new maps. So if they -- you know, they  
17 have to go all the way around the state of  
18 Florida until they get to the riverine. But I  
19 think we've had riverine flooding in Clay and  
20 Nassau, as well as Duval, so it's definitely an  
21 issue.

22 THE CHAIRWOMAN: And we're certainly  
23 unique in Jacksonville that we have both the  
24 ocean and the river.

25 One of the things that I was going to  
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1 Thank you everyone for participating.  
2 (The above proceedings were adjourned at  
3 9:26 a.m.)

4 - - -

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1 mention to the group is the American Planning  
2 Association -- so I'm looking at this from more  
3 of a land use and planning perspective because  
4 that's where I come from. The American  
5 Planning Association in August, in their  
6 August/September 2018 online issue, put out an  
7 article called The Silver Lining of Sea Level  
8 Rise. And I'm going to hand it to staff and we  
9 can put it on our site, or the link to it. But  
10 it talks about local governments around the  
11 country who are seeing sea level rise, and a  
12 lot of them are coastal, and using it as a  
13 planning tool and bringing in industries that  
14 deal with sea level rise and flooding, and how  
15 it's actually benefitting a lot of local  
16 governments. They are embracing sea level rise  
17 and flooding and all of the industry that goes  
18 with it, and those local governments are  
19 actually doing very well, earning more money  
20 and building sustainable cities and counties.  
21 I found it to be an interesting article.

22 All right. I think, unless anybody has  
23 anything else they would like to add, we are  
24 going to be adjourned. Our next meeting is  
25 March 25th.

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