

NEW YORK CITY COMMISSION ON HUMAN RIGHTS  
- - - - -X  
PUBLIC ENGAGEMENT FORUM  
AUTOMATED DECISION SYSTEMS TASK FORCE

- - - - -X  
April 30, 2019  
The New York School of Law  
185 West Broadway  
New York, New York 10013  
6:19 p.m.

BEFORE:

JEFF THAMKITTIKASEM, Task Force Chair  
BRITTNY SAUNDERS, Task Force Chair  
KELLY JIN, Task Force Chair

SOLON BAROCAS, Task Force Member  
KHALIL CUMBERBATCH, Task Force Member  
HOWARD FRIEDMAN, Task Force Member  
DAN HAFETZ, Task Force Member  
MICHAEL REPLOGLE, Task Force Member  
SUSAN SOMMER, Task Force Member  
VINCENT SOUTHERLAND, ESQ., Task Force Member  
ANDREW WHITE, Task Force Member  
MEREDITH WHITTAKER, Task Force Member  
MAYA WILEY, Task Force Member  
JEANNETTE WING, Task Force Member

Douglas F. Colavito, Court Reporter

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 MR. THAMKITTIKASEM: All right.

3 Everybody, sorry. Good evening. I just wanted  
4 to kick us off to make sure we value everyone's  
5 time. Thank you for coming out today to our  
6 first public forum of the automated decision  
7 systems task force. It's a great honor to,  
8 kind of, welcome you all here and -- and to  
9 start off this public conversation.

10 I want to introduce myself, Jeff  
11 Thamkittikasem. I'm the director for the  
12 mayor's office of operations and the chair for  
13 the ADS task force. Before I go further, just  
14 from a logistics standpoint, if anyone needs  
15 any Spanish interpretation, please just right  
16 outside, there are people available. So if you  
17 need that, let them know, and they will  
18 identify a person to help you out with that.  
19 But to keep -- keep going, just -- we're really  
20 excited to have you all here and kick off the  
21 series of forums and community sessions  
22 throughout the spring and the summer.

23 Before we begin, I just want to make sure  
24 I introduce my task force co-chairs. To the  
25 left of me, Brittny Saunders, deputy

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           commissioner for strategic initiatives at the  
3           city commission on human rights. As well as  
4           Kelly Jin, our chief analytics officer for the  
5           city, and director of the mayor's office of  
6           data analytics. We are all, collectively, very  
7           thrilled and excited to hear more from New  
8           Yorkers and -- and this opportunity to get  
9           public comment in.

10           I also want to acknowledge and thank all  
11           of the task force members who are here and who  
12           are not yet here. But these are members who  
13           are volunteering their time. And this is  
14           important work, and they are putting their own  
15           valuable time to it giving a lot of attention,  
16           thought, and energy. And it's an amazing group  
17           of people in their own right, but even more so  
18           as they contribute the range of experiences and  
19           expertise here. So their perspectives are  
20           going to be crucial for helping answer some of  
21           the more really complex and difficult questions  
22           we have going through the task force.

23           Now, I want to take a second just to go  
24           down the table and have the task members  
25           mention their name and their organizations.

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           MR. HAFETZ: Hi. Good evening. My name  
3 is Dan Hafetz. I am representing the  
4 Department of Social Services, which is also  
5 representing the Human Resources Administration  
6 and the Department of Homeland Services.

7           MS. WING: I am Jeannette Wing. I'm the  
8 director of the Data Science Institute and  
9 professor of computer science at Columbia  
10 University.

11          MR. BAROCAS: Hi. I'm Solon Barocas. I'm  
12 a researcher at Microsoft Research, and  
13 assistant professor of information science at  
14 Cornell University.

15          MS. SOMMER: I'm Susan Sommer, general  
16 counsel for the New York City Mayor's Office of  
17 Criminal Justice.

18          MR. FRIEDMAN: Howard Friedman, general  
19 counsel at the city Department of Education.

20          MR. WHITE: I'm Andrew White, deputy  
21 commissioner at the Administration for  
22 Children's Services.

23          MS. WHITTAKER: Hi. I'm Meredith  
24 Whittaker. I'm the co-founder and co-director  
25 of the AI Now Institute at NYU.

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           MR. SOUTHERLAND: Hi. I'm Vincent  
3           Southerland. I'm the executive director of the  
4           Center on Race, and, Equality, and the Law at  
5           NYU School of Law.

6           MR. CUMBERBATCH: Hi. Khalil Cumberbatch,  
7           chief strategist at New Yorkers United for  
8           Justice.

9           MR. REPLOGLE: I'm Michael Replogle,  
10          deputy commissioner for policy at the New York  
11          City Department of Transportation.

12          MR. THAMKITTIKASEM: Thanks everyone. And  
13          there's more information on all of the members  
14          of the task force on the website. So feel free  
15          to, kind of, look that up, as well. So  
16          tonight, obviously, is a very big event for us,  
17          because it starts off our engagement with the  
18          public in a more concrete manner. And it's a  
19          really big, deal because this work needs your  
20          input and your feedback; so we really  
21          appreciate all of you being here. It's a great  
22          turnout, and so thank you all.

23          Before we start, I want to share a little  
24          more about the task force itself, our work  
25          up-to-date, and some of the plans for the

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 future. The task for is ultimately charged  
3 with coming up with a set of recommendations.  
4 They are recommendations to help city agencies  
5 understand and address there how automated  
6 decision systems effect New Yorkers and  
7 increase transparency around ADS. It's an  
8 ambitious task in and of itself. But first, we  
9 have to ask: What is an automated decision  
10 system? And it turns out that's not a easy  
11 question to answer. Even the city needs  
12 guidance on that. So the local law that formed  
13 this task force defines ADS as the computerized  
14 implementation of algorithms, including those  
15 derived from machine learning or other data  
16 processing or artificial intelligence  
17 techniques, which are used to make or assist in  
18 making decisions. The definition is a bit  
19 broad, and I think that's something that the  
20 task force is, kind of, taking a look at and  
21 sometimes struggled with, because it could even  
22 include a pocket calculator. Just because a  
23 calculator processes data and helps people make  
24 decisions isn't a reason, necessarily, to keep  
25 it within the scope of this conversation.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Instead, I think people are thinking about more  
3           complex systems. Like an algorithm that the  
4           DOE uses to match students to middle school  
5           placements. But what does that mean for us,  
6           and what does that ADS mean in reality? I  
7           think, for us, we mean tools or complex data  
8           processing or analysis is being done through  
9           computerized means, and then those decisions  
10          are being made through those processes.

11                 In general, ADS are tools that agencies  
12           can use to get services to residence, engage  
13           with people more efficiently and fairly, and  
14           use data more effectively. But, as you can  
15           imagine, these systems also have, very much,  
16           the potential for perpetuating bias and  
17           disproportionately impacting certain folks. In  
18           fact, they can hurt people, and they can  
19           misalign resources. And that's partly why this  
20           task force was created, to address those  
21           issues. The work is crucial because the ADS --  
22           ADS on their own, from different agencies, can  
23           also connect New Yorkers with valuable city  
24           programs, improve services and benefits, and  
25           sometimes make decisions fairer and more

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           equitable for the people they're meant to  
3           serve, and that includes all of you. And for  
4           policy decisions, something we have to  
5           consider.

6           So with all that being said, thank you for  
7           being here again. Today is about that next  
8           phase of our work, and it's an important one.  
9           Our members have a wide array of experience,  
10          but we need to hear from New Yorkers. So we've  
11          invited expert speakers, who will give us  
12          commentary about their own experiences in these  
13          areas. This commentary is meant to not just  
14          help inform the task force members' thinking in  
15          coming up with recommendations, but to also set  
16          the stage for all of the public commentaries,  
17          as well.

18          After our speakers, we'll open up the  
19          floor to public comment, and we can hear more  
20          directly from each of you. Our task force  
21          needs to hear and will document a lot of those  
22          things within our final report and our  
23          recommendations, as well.

24          So the theme of tonight's forum is  
25          fairness and accountability. We want our final

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           product to have those values. They are  
3           important to what we're doing.

4           We're also holding a second public forum  
5           on May 30th in this same space with the theme  
6           of transparency. So for all of you who are  
7           here, please feel free to come to that, as  
8           well, to contribute in that -- for that area as  
9           much as you can. And anyone is welcome to  
10          submit written testimony or written commentary  
11          on our website. Any commentary for our  
12          speakers, the public, and members' own research  
13          will all be part of the process as we build our  
14          recommendations. We'll even be giving -- we'll  
15          even have more opportunities for New Yorkers to  
16          get involved as we advance and include  
17          round-table meetings with community groups  
18          throughout the summer. So they are probably  
19          built off some of the commentary we hear in  
20          these public forums.

21          We are really excited to get this phase of  
22          our work started. It's ambitious and  
23          challenging task, but at the same time, it's  
24          very important for our future. It's not just  
25          about trying to make recommendations for

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           tomorrow, but setting up the stage for longer  
3           discussions that can go into the future, and  
4           address the fact that these systems and their  
5           uses are going to change. So we want to start  
6           that and continue it and build a framework for  
7           that longer-term discussion. We are determined  
8           to make our recommendations meaningful and  
9           practical to keep New York the fairest big city  
10          in the country.

11                 And so with that, I want to invite up one  
12           of our special guests, Council Member Peter  
13           Koo, who is chair of the Technology Committee  
14           for the New York City Council. He will give a  
15           couple of remarks, and then we'll continue on  
16           with some commentary. Thank you.

17                 MR. KOO: Thank you. Good evening,  
18           everyone. I like to welcome all of you to this  
19           evening's automated decision systems task force  
20           public forum. Thank you to New York Law School  
21           for hosting us. Thank you for all the task  
22           force members and administrators from different  
23           agencies, and thank you for our panelists, and  
24           Natalie Evans Harris, Sarah Kaufman, Jamai  
25           Nelson, and Andrew -- and Ginger Zielinskie.

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           I think I can say with confidence that we  
3           are all very happy that this forums have been  
4           created. This is a great chance for the task  
5           force to hear from the public, especially the  
6           many applicants who wish to contribute their  
7           talent, expertise, and ideas to the technology  
8           that runs the city. As the first of what I  
9           hope to be several forums, we aim to establish  
10          a medium for more transparency, public input,  
11          and participation.

12          Most of us know that the history of Local  
13          Law 49 of 2018. This law hopes to allow to us  
14          to gain an understanding on how the city use  
15          algorithms. These automated equations create  
16          the statistics that are responsible for  
17          everything from the school zoning to resource  
18          allocations.

19          Earlier this month, I chair a technology  
20          committee hearing on the task force where many  
21          questions were posed as to where we are in the  
22          implementation of the ADS task force goals.  
23          Well, since then, progress on this front is  
24          slow. I'm encouraged that we they are here  
25          today to continue these discussions.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Ultimately, our efforts about coming together  
3           to bring transparency to an overlooked process  
4           that has existed behind closed doors, but one  
5           that has tremendous power in city government.

6           I look forward to continue our work  
7           together. Thank you.

8           MR. THAMKITTIKASEM: So with that, I'd  
9           like to turn it over to my co-chair, Kelly, to  
10          introduce our speakers.

11          MS. JIN: All right. Thank you, Jeff.  
12          And thank you to all who are actually joining  
13          us physically in person here in -- in New York  
14          City, as well as by live stream. I think the  
15          -- the furthest attendee we have is someone who  
16          emailed me saying they are dialing in from  
17          Australia. So a lot of folks around the world  
18          are interested in the conversation this  
19          evening. So this evening, we're really, really  
20          pleased and really excited. We have five  
21          esteemed panelists joining us, a handful of  
22          folks who make time this evening, who also came  
23          in from out of town. And so really, really  
24          appreciate you all taking some time.

25          I want to walk through just a few

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           logistics as we segue into the panelists  
3           portion and then before we segue into the  
4           public comments forum. So the first is that  
5           we'll have two panels this evening. Panel 1,  
6           which is situated right here with three folks.  
7           And then Panel 2 with two. And so we'll go  
8           through, and we'll actually read the -- each  
9           individual will read their public commentary.  
10          And then after that closes, we'll open it up  
11          for task force member questions and answers.  
12          And then we will shift from that -- from Panel  
13          1 to Panel 2.

14                 I -- as part of the preparation for this  
15                 evening, we wanted to be really mindful that  
16                 you all didn't have to listen to me speak  
17                 everyone's esteemed bios here. So we have  
18                 asked all the panelists to provide more  
19                 information about themselves, their  
20                 organization. But also, I think, more broadly  
21                 the -- the policy and national context behind  
22                 their work, as well. We've heard both from  
23                 Jeff, as well as from Council Member Koo, that  
24                 this is a first-of-its-kind task force, and  
25                 what we're doing here is really a step one.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           And so without further ado, I will list  
3 the names, titles, and organizations of the  
4 first panel, and then I will turn it over to  
5 Andrew to kick things off. So first off on our  
6 first panel, we have Andrew Nicklin, futurist  
7 at large, John Hopkins University Center for  
8 Government Excellence.

9           Second up, we will have Sarah Kaufman,  
10 associate director, New York University Rudin  
11 Center for Transportation.

12           And third, we will have Janai Nelson,  
13 associate director and counsel at the NAACP  
14 Legal Defense and Educational Fund.

15           So I'll turn things over to Andrew.

16           MR. NICKLIN: Thank you. So I fully admit  
17 that "futurist at large" is a title I invented  
18 myself about four months ago. But I do think  
19 that it -- it reflects the kind of work that I  
20 personally focus on in my organization.

21           So I'm Andrew Nicklin. I'm from the  
22 Center for Civic Impact as we just renamed  
23 ourselves yesterday. So my name tag is already  
24 out-of-date in this very fast moving,  
25 innovative world. And we're based at John

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Hopkins University, as you know, which is down  
3           in Baltimore.

4           The organization umbrella is the Center  
5           for Government Excellence where I worked for  
6           the past four years. We work with governments  
7           across the country to help them use their data  
8           more effectively for decision-making. This  
9           happens at both the leadership and the  
10          operation levels of government.

11          And my job is to, sort of, pay attention  
12          to the technology horizon, help governments use  
13          emerging technology and data practices to  
14          better serve the communities and, of course,  
15          some involve the use of algorithms, AI,  
16          automation, and so on.

17          Prior to this, I spent two years in  
18          Governor Cuomo's administration; so here. And  
19          I led the open government programs for the  
20          governor. And then prior to that, I actually  
21          worked here in New York City government for 18  
22          years on a huge number of technology data  
23          projects. So I -- I am very well-versed in the  
24          public sector space and, particularly, in New  
25          York City space. I -- even though I am longer

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           a city employee, sadly.

3           So many of the colleagues we work with  
4           across the country are looking here to New York  
5           City for the transformative work, the  
6           data-informed methods that are used to improve  
7           the lives of your residence, your businesses,  
8           your visitors, and even your government  
9           employees. They are also watching as you face  
10          these challenges. Quite a few have spoken to  
11          me personally and expressed great interest in  
12          the work of this task force, and are eager to  
13          see the recommendations that will come out from  
14          you, presumably, at the end of this year. They  
15          all face similar issues of fairness,  
16          accountability, and transparency. They are all  
17          tackling the same issues of adopting  
18          algorithms, AI, automation into their -- into  
19          their programs. And so I do think that this is  
20          opportunity for New York City to, once again,  
21          set the tone or the pace for what happens in  
22          the rest of the country, at least, at an urban  
23          level.

24          So my opinion, the automation -- the use  
25          of automation in government is going to

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           continue to grow both in adoption and  
3           complexity, and there are three forces that, I  
4           think, are behind this.

5                     First, the amount of data that we have is  
6           growing. You hear statistics every day that we  
7           are just, you know, inundated with data; that  
8           the amount data that we have doubles and  
9           triples every year and grows exponentially.

10           But our capacity as humans to fully comprehend  
11           it does not grow. We don't grow as quickly as  
12           the amount of data we are gathering is. And so  
13           we need tools and we need analytics and we need  
14           ways to distill and understand that. And  
15           that's where AI automation come into play.

16                     Second, is that governments are  
17           continually pressured to achieve more with the  
18           same or fewer resources. This is just the  
19           standard political constraint problem.

20           Everybody wants more services from their  
21           government, but doesn't want to pay the taxes  
22           for it. I understand that. We are all  
23           taxpayers. We all feel that way.

24                     Third, is that contractors, vendors of the  
25           government, will also use these technologies,

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           these tools, these data practices to stay  
3           competitive. And they are going to do so,  
4           because they want to obtain government funding  
5           for their work. Right. I mean, whether it's a  
6           non-profit that's providing social services, or  
7           whether it's a defense firm. All of these  
8           organizations are thinking about how to use  
9           these technologies, how to bring these data  
10          practices into their world, and use them to  
11          provide better services and more efficient  
12          services and so on.

13                 So a large amount of resistance to this  
14          growth comes in the concern of deeply  
15          concerning impacts that the new technologies  
16          are having in our lives as -- as -- as already  
17          been alluded to. We constantly complain that  
18          government is behind the times when it comes to  
19          adopting new -- adopting new technologies, but  
20          perhaps in this case, we should be grateful for  
21          that lag. Because life might be a little bit  
22          better for all of us, but more people might  
23          also be needlessly suffering.

24                 But I think this inevitability of  
25          automation pushes us to think carefully about

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           how it is used to improve everyone's health,  
3           safety, and agency to the maximum extent  
4           possible.

5           So with that national context in place and  
6           the work that I do in place, I'd like to share  
7           some specific recommendations for your  
8           consideration. I've chosen to focus on the one  
9           -- on the ones that were, sort of, defined for  
10          today's discussion. And I'll be happy to send  
11          some additional ones in writing, because I  
12          won't be able to attend next month's session or  
13          the one later this month.

14          First, the criteria for identifying  
15          agency-automated decisions: This is a really,  
16          really tough and thorny issue, as you no doubt  
17          are experiencing, and I heard some similar  
18          reflection when I attended the city council  
19          hearing hosted by Councilman Koo earlier this  
20          month. I have a really strong opinion about  
21          this, and it's very simply that it should not  
22          be technologically centric. So really, we  
23          should be thinking about this in terms of  
24          thresholds, not a decision defined by whether  
25          it's an Excel spreadsheet or a complex case

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           manager system or a network of cameras doing  
3           license plate scanning, but rather whether it  
4           is in certain sectors of the public sector.  
5           So, for example, public safety or criminal  
6           justice or social services.

7           One sort of really obvious threshold is  
8           whether or not there is human intervention to  
9           review a decision before action is taken. We  
10          know in some cases, particularly in the  
11          criminal justice system, that judge -- judges  
12          particularly, often rely upon risk scoring that  
13          they see without necessarily understanding the  
14          mechanisms that are coming up behind those risk  
15          scores. There's still human intervention, but  
16          we also have to question whether the human  
17          intervention is -- but I do think that this is  
18          a useful threshold to have. If there is human  
19          intervention, maybe we want to not consider it  
20          fully automated.

21          Another one might be whether it's an  
22          effort that is one shot or something that is  
23          operationalized. So, for example, when New  
24          York City launched its pre-K programs a few  
25          years ago, there was a lot of analytics work to

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           try to make sure that both the students and  
3           potential students could be reached, but also  
4           that the facilities and services were there and  
5           available for them. That was a -- I think a  
6           very complex operation and a very monumental  
7           achievement for the city. But it was, in many  
8           ways, a one-shot effort. The same analytics  
9           will not need to be repeated.

10                   However, something like teacher  
11           evaluations, which goes on a year-to-year  
12           basis, those are repeated. And so we might  
13           want to consider applying a threshold of -- if  
14           these systems were operationalized, if they are  
15           going to be used continuously over the years,  
16           then they need to have these -- these  
17           requirements applied to them. And one-shot  
18           systems might not. That's not to say that  
19           these one-shot opportunities don't create  
20           disparate impacts, but just that the  
21           opportunity to fix them is also a one-shot  
22           situation, as well.

23                   Or it could be something as simple as how  
24           many people might be effected by these -- by  
25           the decision system that's in question. Who is

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           affected? Are members of the -- are they  
3           members of a vulnerable populations of the  
4           city? Are they business owners or property  
5           owners, or are they even city employees? What  
6           are the potential negative impacts? Will they  
7           result in outcomes, such as poorer education,  
8           changes to credit reports that could hurt them  
9           for job opportunities and the ability to get  
10          housing. Or, you know, will it affect their  
11          incarceration? Will they be kept in prison  
12          longer or remanded without bail and things like  
13          that?

14                 The other questions that I would, sort of,  
15          think about for thresholds are: How long does  
16          the impact last? Is it a week? Is it seven  
17          years? Is it permanent? If it's a shorter  
18          impact, maybe we need to de-prioritize those  
19          and think more about the things that are going  
20          to have longer term sustainable change for our  
21          city.

22                 I think this group can also recommend  
23          tiers. I don't think that the city is going to  
24          be capable of implementing everything all at  
25          once. And so it may be appropriate for this --

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           this task force to think about what are the  
3           most important things to tackle first, and what  
4           are the things that should be tackled later.  
5           And you may be able to use some of these  
6           thresholds or some other thoughts that you have  
7           on ways to do that. You might want to focus  
8           with, you know, criminal justice first and,  
9           say, automating the decision about which  
10          potholes get filled much later on. I -- I  
11          don't make that call, but I think that those  
12          are very different. And so there's an  
13          opportunity here to shape that.

14                 Moving on to the development  
15          implementation of a procedure that may be used  
16          by the city to determine whether an  
17          agency-automated decision system  
18          disproportionately impacts. I'll abbreviate  
19          that to Item D in the legislation.

20                 I think this is obviously to address  
21          systemic discrimination while related to  
22          individual cases of harm -- individual cases of  
23          harm may need different mechanisms. And those,  
24          I think, are sort of addressed in Section E,  
25          which I don't intend to get into.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 But I think this -- this way to address  
3 this systemic discrimination comes in two  
4 forms: One is by self-correction. So that is  
5 the opportunity for the city. Perhaps MOTO  
6 [ph.] Or DECAST [ph.] Or -- or another, sort  
7 of, centralized city operation. Maybe the  
8 mayor's office can set up contracts with  
9 several trusted third-party algorithmic  
10 evaluation organizations, whether they are  
11 academic, non-profit, for profit, or a -- or a  
12 number - a variety of those. These contracts  
13 should be leveraged by agencies to conduct  
14 periodic assessments of the tools and platforms  
15 that they have in place, or the programs that  
16 they have in place that could be creating  
17 disparate impact. Again, back to your  
18 thresholds.

19 And I also think that the task force to  
20 recommend boiler-plate language to be included,  
21 which requires those parties to not only  
22 cooperate in algorithmic evaluations, but share  
23 n the accountability when issues arise. And  
24 that goes to a vendor piece that I'll get to in  
25 a second.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           I also think that a mechanism is going to  
3           be needed to connect the reporting and  
4           resolution mechanisms in the subsequent item.  
5           The sort of individual reports to figure out  
6           whether there's a systematic issue at play,  
7           right. So we're going to get a series of  
8           individual complaints, and there has to be a  
9           point in which you recognize that this is not a  
10          one-shot problem. This is a serious problem.  
11          This is a systemic issue. And that means  
12          switching lanes in the way this law is defined.  
13          So being -- paying attention to that  
14          connection, making recommendations around it, I  
15          think, would be very useful. So that is, sort  
16          of, an internal, you know, how the city can,  
17          sort of, self-police.

18          And I also think there needs to be room  
19          for external correction. And so my feeling on  
20          this and -- and it's really based upon, sort  
21          of, how other structures that I've seen in the  
22          city work successfully enough. The government  
23          structures around the country works -- is that  
24          perhaps you want to consider creating the role  
25          of an ombudsman. It needs to have the

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           necessary independence and authority, separate  
3           from the mayor, to help city to see all sorts  
4           of public concerns. This could be an existing  
5           entity, maybe the public advocate, or pit could  
6           be something, you know, perhaps even within  
7           CCHR. So that when these issues arise, not  
8           just from advocacy groups, but also from the  
9           media or from the court system or elsewhere,  
10          there's a channel for them to go through and a  
11          way for them to be addressed. It needs to be  
12          people, time, and energy for this work. And  
13          you certainly have the power to make those  
14          recommendations.

15                 So, I think, although it -- it functions a  
16          little bit differently, one potential model for  
17          this exists in New York State Freedom of  
18          Information Laws. There's something called a  
19          committee of open government. I don't know how  
20          many folks have heard of it. If you are  
21          well-entrenched in government, you have. And  
22          the committee on open government is independent  
23          from the governor. And while they do help  
24          state government agencies meet the expectations  
25          of the Freedom of Information Law, they also

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           help those who seek information from the  
3           government, and they use, sort of, both the --  
4           the language in the law, as well as case  
5           precedent to -- to form advisory opinions. And  
6           I think that there is an opportunity here for a  
7           similar model.

8                        So finally, I'll move on to the  
9           feasibility of the development and  
10          implementation of the procedure for archiving  
11          the agency-automated decisions. So as the law  
12          acknowledges, ADS's are not just computer code.  
13          They are also data. And even when the computer  
14          code doesn't change, the data that is used to  
15          inform decisions certainly does. So  
16          documentation of simpler ADS's already happens  
17          in, kind of, a scattershot way.

18                      So, for example, when there's a lawsuit  
19          that the city needs to defend against, or a  
20          metric being reported to the mayor's management  
21          report, it's often the case that there are  
22          written narratives created to -- to provide  
23          context for these data points and the decisions  
24          that are being made. And so there -- there  
25          already are some -- there is already some

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           ground work here that -- that potentially could  
3           be leveraged and built upon.

4           Along these lines, making computer source  
5           code -- source code open is, I think, something  
6           that a lot of folks are very interested in.

7           But I think that that's only half of the  
8           picture. I do think that there are some  
9           intellectual property considerations and  
10          private sector considerations that need to be  
11          taken into account. And so you might want to  
12          recommend the use of code escrows as a way to  
13          ensure that the city has access to the resource  
14          when and if issues arise. But that also  
15          protects the interests of companies that you  
16          are buying and using the services from.

17          Storing the state of complex systems  
18          though, especially those that are designed to  
19          evolve, how they arrive at decisions over time,  
20          remains I think, as quite a few of you know, an  
21          important question in the data science world.  
22          Not certain it's completely feasible. It's not  
23          just a data science problem. It's an archival  
24          problem.

25          And I'll use as a parallel example that --

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           think about how many time capsules have been  
3           buried with CDs full of digital images, and we  
4           are now already in a state where CD drives that  
5           can read CDs are, pretty much, obsolete. And,  
6           you know, these time capsules are not going to  
7           be unearthed for another 50 or a hundred years.  
8           So how are people in the future actually going  
9           to look at and understand and consume this  
10          information is actually a real challenge in the  
11          archiving world. And I actually -- I think you  
12          probably would want to spend some time talking  
13          to professional archivists about this. Because  
14          just dealing with archival in a digital realm  
15          is a very difficult on its own, and then adding  
16          to it the complexity of automated decisions  
17          algorithms, the data behind them, and the state  
18          of a decision machine is -- is very, very  
19          difficult.

20                 So finally, I'd like finish up my comments  
21                 by talking about a few things that, I think,  
22                 the Local Law 49 seem to miss consideration of.  
23                 And I don't know if there's room for -- for  
24                 this task force to consider them. But one  
25                 thing is that the law seems to make the

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           assumption that everything that can be  
3           automated will be. And I think, you know, sort  
4           of given my introductory comments, that's  
5           possibly true. But I also think this task  
6           force could make some recommendation on  
7           gatekeeping and ongoing evaluation methods. So  
8           before decision systems are put into place, are  
9           there, sort of, toolkits that can be used? Are  
10          there criteria that need to be met in order for  
11          those systems to actually be implemented in the  
12          first place? And are there ongoing evaluation  
13          methods that can, sort of, make sure that those  
14          are continuing to be steered and -- and  
15          operated in the correct direction?

16                 Second is, I think, that the middle  
17          managers and senior executives in city agencies  
18          have a massive role to play in this work. I  
19          think that's, to some extent, represented by  
20          the leadership of the city here on this task  
21          force. But I also think that there's a huge  
22          amount of education and training that's needed  
23          for both senior executives and middle managers  
24          in the city. And I think MOTA and DECAST, in  
25          particular, probably have the capacity to

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           develop training resources. Again, not just  
3           for the data analyst and IT staff, who are sort  
4           of hands on the systems day-to-day, but for the  
5           leaders who think about the programmatic ways  
6           in which these work, and have to integrate with  
7           the successes they are trying to achieve.

8           And finally, I don't think the city is  
9           always the end of line when it comes to  
10          products and services. There are many, many  
11          vendors and partners that the city has worked  
12          with. Not just tech companies, but service  
13          providers that use automation. And it's my  
14          opinion that these organizations probably need  
15          to share the risks that are traditionally  
16          solely owned by the public sector. And this  
17          could done through, probably, a variety of  
18          contracting tools, such as requiring insurance  
19          policies provide adequate coverage, making sure  
20          that they are brought to the table when there's  
21          an accountability question; making sure that  
22          they are involved in the conversations as these  
23          issues arise both systemically and individual  
24          cases. But this idea that we are transferring  
25          -- essentially transferring the responsibility

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           that we have previously allocated to people  
3           into machines is concerning. And, you know,  
4           from -- from, sort of, before we spend a lot of  
5           time at the moment vetting senior executives  
6           and managers in government. You all go through  
7           anti-corruption programs. You all sign -- you  
8           all do financial disclosures. We don't have  
9           the same protocols for these technological  
10          tools that are also ultimately going to be  
11          making decisions on our behalf. And I think  
12          we, sort of, need to create that. And I look  
13          forward to your recommendations on that.

14                 So thank you for having me here to spout a  
15          little bit, and I really appreciate it.

16                 MS. WING: Okay. Thank you. Thank you,  
17          Andrew.

18                 MR. THAMKITTIKASEM: Before we -- before  
19          we move on. Can we just have the mic a little  
20          closer to -- to once you're talking about --  
21          just a little closer. Great. Thank you.

22                 MS. KAUFMAN: Is this good?

23                 MR. THAMKITTIKASEM: Exactly. There were  
24          a few people, kind of, flagging in the back.  
25          So I wanted to make sure they have heard.

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           MS. KAUFMAN: Can everyone hear? All  
3 right. Great.

4           MR. THAMKITTIKASEM: Thank you.

5           MS. KAUFMAN: Sure.

6           Good evening. Thank you for having me.  
7 My Name is Sarah Kaufman. I'm the associate  
8 director of the NYU Rudin Center for  
9 Transportation.

10           So tonight, I'm going to discuss automated  
11 decision systems as they pertain to  
12 transportation. So it will be a little more  
13 focused than Andrew's excellent summary of the  
14 -- of the topic tonight.

15           At the NYU Rudin Center, we are heavy  
16 consumers of public data. We look at how  
17 people move around city every day. How they  
18 change their travel patterns when a subway  
19 station reopens, or how they travel to a new  
20 job center. In my previous role at the  
21 Metropolitan Transportation Authority, I helped  
22 open the data to the public and work to  
23 distribute real-time train tracking. More  
24 recently, I worked with the city in opening and  
25 organizing data, advising the Taxi and

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Limousine Commission on its data standards.

3           So I'm pleased that New York City is  
4           considering how to incorporated auto -- how to  
5           incorporate automated decision making systems  
6           in municipal government. Transportation is  
7           often the first step to implementing new,  
8           intelligent technologies as the impacts are  
9           tangible and, often, instantaneously realized.  
10          So the timing for this discussion is just right  
11          for the sector of transportation.

12          This committee, in the evaluation of Local  
13          Law 49, should consider how artificial and  
14          intelligence and -- how artificial intelligence  
15          and data sharing can be used in the  
16          transportation sector, and how to ensure that  
17          the results are beneficial to the people of New  
18          York City; all the people of New York City.

19          In the realm of transportation, Local Law  
20          49 is key to three specific areas: Data  
21          collection, detection of people and objects,  
22          and records retention.

23          Transportation planners collect huge  
24          amounts of data to process and optimize the  
25          movements of large numbers of people. In

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           planning for efficiency, the data often travels  
3           multiple ways between transportation planners,  
4           private mobility providers, and enforcement  
5           agencies. In these data exchanges, the sharing  
6           of movement data, often geolocated and in real  
7           time, can easily identify individuals. Data is  
8           collected at transit turnstiles, ride share  
9           hales, Citi Bike rentals, mobile parking  
10          payments, E-ZPass payments, and soon,  
11          congestion pricing gantries. Although data  
12          collection from these sources can help to  
13          streamline mobility in New York City, it can  
14          also have unintended consequences. Data can  
15          identify where people live, work, play,  
16          worship, and their personal contacts.

17                 For example, license plate readers in most  
18          United States cities are managed by a private  
19          contractor, Vigilant Solutions, which shares  
20          its data with U.S. Immigrations and Customs  
21          Enforcement or ICE. In turn, ICE uses this  
22          data to track persons of interest in real time,  
23          which is neither the goal of  
24          license-plate-reader technologies nor  
25          communicated to individuals who are paying

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           tolls. This data exhaust stream leads to  
3           inequitable treatment of individuals,  
4           particularly, to both -- malignant to those  
5           whose citizenship is in question.

6           When using artificial intelligence to  
7           streamline mobility, it is essential to  
8           consider the nuanced data collection sharing  
9           and privacy concerns, particularly for  
10          protected categories of residents as defined in  
11          Local Law 49.

12          Secondly, the detection of people and  
13          objects is a growing area in the transportation  
14          industry. As vehicles become increasingly  
15          connected and anonymous, New York City must  
16          regulate how these cars communicate and make  
17          decisions in relation to each other, the  
18          infrastructure, and the people around them.  
19          The city is already building anonymous  
20          decision-making infrastructure, including  
21          traffic-light prioritization for emergency  
22          vehicles and automated enforcement of bus  
23          lanes.

24          In the future, the city will build out  
25          rules for how anonymous cars must behave and

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           interact, particularly in collision paths.  
3           However, these vehicles are being designed and  
4           trained by the private sector without  
5           accounting for the entirety of a city  
6           population.

7           One consequence was recently revealed  
8           where antonymous vehicles in testing have been  
9           shown to fail at detecting people with dark  
10          skin. If New York City is not directly  
11          involved in establishing these vehicles'  
12          intelligence, the bias of programming will  
13          emerge during collisions.

14          Furthermore, I encourage this -- I urge  
15          the city to develop a procedure for addressing  
16          instances in which automated infrastructure has  
17          disproportionately impacted or harmed an  
18          individual to report the situation and correct  
19          the ADS for future instances.

20          For example, if it has been found that a  
21          person has been impacted for reasons of  
22          identity, and it was algorithm -- and they were  
23          algorithm -- algorithmically maligned, the ADS  
24          leadership must remain transparent about the  
25          causes and effects. Going forward, the

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           algorithms should be adjusted to account for  
3           the lessons learned in this instance.

4           Finally, Local Law 49 addresses the  
5           feasibility of archiving decision-making data.  
6           Anonymous infrastructure and vehicles produce  
7           an inordinate -- inordinate amount of data.  
8           Current estimates are that each vehicle will  
9           produce approximately four terabytes of data  
10          every hour, according to the anonymous vehicle  
11          intelligence company Aptiv.

12          The data is used to process the  
13          environment for functions like parallel  
14          parking, pedestrian detection, and collision  
15          avoidance. If every traffic signal, city-owned  
16          vehicle, and public bus is automated, archiving  
17          this volume of data will be infeasible. I  
18          encourage the city to predefine a reasonable  
19          period of time for anonymous vehicles' records  
20          retention until contested events, based on the  
21          data, can be evaluated.

22          Overall, Local Law 49 fundamentally fits  
23          New York City's mobility goals, and I encourage  
24          the automated decisions task force to consider  
25          the systems -- the impact related to mobility,

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           especially in the key areas of data collection  
3           and privacy, detection of people, and records  
4           retention.

5           Thank you for your time and attention.

6           MS. NELSON: Good evening, Chair  
7           Thamkittikasem and task force members. My name  
8           is Janai Nelson. I am the associate director  
9           and counsel of the NAACP Legal Defense and  
10          Educational Fund. On behalf of the Legal  
11          Defense Fund, I want to thank you all for  
12          holding these two public forums on fairness,  
13          accountability, and transparency. These are  
14          core components of Local Law 49, and we are  
15          pleased to be here tonight to represent our  
16          view.

17          LDF is the nation's first and foremost  
18          civil rights law organization. We were founded  
19          nearly 80 years ago in 1940 by Thurgood  
20          Marshall. And we have advocated on behalf of  
21          African Americans at the national, state, and  
22          local levels on issues of criminal justice,  
23          education, political participation, and  
24          economic justice.

25          As part of that work, the Legal Defense

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Fund has engaged on the use of data and  
3           technology in the perpetuation of racial  
4           discrimination.

5           LDF has also forged longstanding  
6           partnerships with local advocates, activists,  
7           and attorneys to challenge and reform unlawful  
8           and discriminatory policing in New York City,  
9           including serving as co-counsel in Davis versus  
10          the City of New York, a case which challenged  
11          NYPD's policy and practice of unlawfully  
12          stopping and frisking New York City residents  
13          in housing -- New York City public housing and  
14          their visitors.

15          While Local Law 49 effects decision-making  
16          in a wide variety of contexts, as you heard  
17          from the two previous testifiers, we focus  
18          today on the discrete, durable, and  
19          disproportionate racial impact it threatens to  
20          impose in the area of policing and law  
21          enforcement.

22          LDF is deeply concerned about law  
23          enforcements, including NYPD's increasing  
24          reliance on machine learning algorithms, on  
25          biased data, and on automated decision systems,

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           which I'll refer to as ADS's going forward,  
3           that rely on both.

4           The NYPD's deployment and implementation  
5           of ADS's threaten to exacerbate inequity in New  
6           York City. And given this concern, the task  
7           force's recommendation to Mayor De Blasio and  
8           City Council Speaker Corey Johnson must ensure  
9           that all ADS's are fair, transparent,  
10          rigorously evaluated, and critically, do not  
11          undermine the city's commitment to public  
12          safety practices that are constitutional and  
13          non-discriminatory.

14          The Legal Defense Fund makes the following  
15          eight recommendations toward that end: First,  
16          the city must adopt a uniform definition of  
17          automated decision systems. The chair already  
18          gave us the current definition under local law.  
19          But we recommend adopting the same ADS  
20          definition that advocates and experts  
21          recommended more than eight months ago in an  
22          August 17th, 2018, letter to the task force.  
23          In that letter, the group of advocates and  
24          experts captured a full range of potential  
25          ADS's by defining them as, and I quote, "An

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           automated decision system is any software  
3           system or process that aims to aid or replace  
4           human decision-making. Automated decision  
5           systems can include analyzing complex datasets  
6           to generate scores, predictions,  
7           classifications, or some recommended actions,  
8           which are used by agencies to make decisions  
9           that impact human welfare."

10           This more expansive definition helps to  
11           ensure that all automated decisions that affect  
12           New Yorkers will be subject to the appropriate  
13           scrutiny and the public will be better  
14           protected.

15           The second recommendation is that the city  
16           clarify that all agencies using an ADS are  
17           within the task force's purview and subject to  
18           its recommendations. Neither accountability,  
19           fairness, or transparency can be achieved if  
20           some ADS's are excluded from the task force's  
21           purview. And given the far-reaching  
22           consequences of technological advances in the  
23           hands of the NYPD, coupled with the  
24           department's well-documented history of  
25           discriminatory and unconstitutional policing

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           and enforcement practices, any decision to  
3           include -- to exclude the NYPD from the task  
4           force's purview or recommendation would be  
5           antithetical to Local Law 49's intent and  
6           purpose.

7           The city must therefore clarify that no  
8           agency's ADS's are excluded from its review.  
9           Failing that, it must create an independent  
10          review process before any system can be  
11          excluded that includes an opportunity for the  
12          public to challenge the exclusion of any ADS  
13          from the task force's purview and  
14          recommendations. And we already heard one  
15          possibility earlier this evening that models  
16          the FOIA process.

17          The third recommendation is that the city  
18          must commit to full transparency, and disclose  
19          information about the NYPD's automated decision  
20          systems and how they operate. The NYPD has  
21          already implemented or considered implementing  
22          the following ADS's: Automated license plate  
23          readers, facial surveillance, predicative  
24          policing, and social-media monitoring. Without  
25          meaningful oversight or community engagement,

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           this list is likely under inclusive, because  
3           NYPD continues to consistently conceal the  
4           internal development and use of ADS's from the  
5           public. By concealing its use of ADS's, the  
6           NYPD prevents the public from adequately  
7           studying the impact of these systems and  
8           shields itself from accountability.

9           Equally alarming, the NYPD plans to  
10          continue embedding these systems in their law  
11          enforcement and decision-making processes at a  
12          disturbingly aggressive pace. For example,  
13          just this month on April 3rd, the NYPD's chief  
14          -- deputy chief of policy and programs, Thomas  
15          Taffe, explained that the department hired more  
16          than 100 civilian analysts since 2017 to use  
17          ADS software to analyze NYPD's crime data. For  
18          these reasons, at a minimum, the task force  
19          must recommend that the NYPD publicly identify,  
20          categorize, and share a list of all ADS's that  
21          the NYPD has implemented, plans to implement,  
22          or is developing. Once created, this list of  
23          ADS's should be updated in real time moving  
24          forward.

25                 Fourth recommendation, the city must ban

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           the use of data derived from discriminatory and  
3           biased enforcement policies and practices in  
4           automated decision systems. Because algorithms  
5           learn and transform through exposure to data,  
6           an algorithm is only as good as the data that  
7           is selected to inform the algorithm. Meaning,  
8           an algorithm will replicate any biases within  
9           its training data, which is called training  
10          bias. Bias in, bias out.

11                    This training bias can lead to  
12           discrimination in, at least, two ways: One,  
13           reproducing the biases in the data. And two,  
14           drawing inferences from biases in the data.

15                    In the policing context, this means that  
16           data derived from and reflecting the NYPD's  
17           discriminatory, illegal, and unconstitutional  
18           enforcement practices infect any algorithm and  
19           ADS that is trained with that data. The  
20           resulting algorithms or ADS will then carry out  
21           and perpetuate that same discrimination making  
22           all the ADS's decisions flawed.

23                    For decades, the NYPD engaged in  
24           widespread racial profiling against black and  
25           Latino New York City residents. Between 2004

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           and 2012, the NYPD conducted an astounding 4.4  
3           million stops of city residents as they simply  
4           engaged in their daily lives. A staggering 86  
5           percent of these stops resulted in no further  
6           action. Meaning, a vast majority of those  
7           stopped were not engaged in unlawful conduct.  
8           In about 83 percent of the cases, the person  
9           stopped was black or Latinx, even though the  
10          two groups combined accounted for just over  
11          half of the population.

12          When these discriminatory practices were  
13          challenged in Floyd versus the City of New  
14          York, a federal court found the NYPD liable for  
15          a pattern and practice that violated the fourth  
16          amendment rights of New Yorkers to be free from  
17          unreasonable searches and seizures.

18          The court also found that the NYPD  
19          practices were racially discriminatory in  
20          violation of the equal protection clause of the  
21          14th amendment. And that is just one case.

22          Similarly, in Davis versus the City of New  
23          York, in which the Legal Defense Fund was  
24          co-counsel, the NYPD unlawfully stopped and  
25          arrested people of color who lived in or

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           visited New York City Housing Authority  
3           apartments without reasonable suspicion or  
4           probable cause. The NYPD justified its  
5           racially discriminatory arrests by alleging the  
6           residents and their visitors were criminally  
7           trespassing.

8           Currently, the department's aggressive  
9           military-style gang take-downs primarily target  
10          public housing residents, the overwhelming  
11          majority of whom are people of color. Prior to  
12          executing these sweeping gang take-downs, the  
13          NYPD conducts criminal investigations relying  
14          in part on a secret database that erroneously  
15          designates thousands of New Yorkers as members  
16          of gangs or local street crews, often without  
17          informing the individual or offering any due  
18          process protections. Officers executing  
19          gang-policing strategies rely on vague and  
20          troubling terms and generalizations to justify  
21          their frequently erroneous designations of  
22          individuals as gang members.

23          As a result of these and many other  
24          discriminatory practices, the NYPD datasets are  
25          infected. They are infected with deeply rooted

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           biases and racial disparities.

3           Consequently, any predictions or output  
4           from an ADS that relies on such data, in any  
5           capacity, will reproduce and reinforce these  
6           biases and disparities.

7           We are skeptical that such dirty data can  
8           never be cleansed to separate the good from the  
9           bad, the tainted from the untainted.

10          Therefore, we ask this task force to recommend  
11          that no ADS system incorporate or use any data  
12          derived from discriminatory and biased law  
13          enforcement practices.

14          Recommendation 5, the city must adopt  
15          practices for determining if an ADS has a  
16          disproportionate impact on an individual or  
17          population. Any data derived from  
18          discriminatory, illegal, or unconstitutional  
19          policing enforcement or practices that informed  
20          or is incorporated in an ADS, despite the  
21          previous recommendation that it should not be,  
22          should be presumed to produce a discriminatory  
23          impact. That places the burden on the agency  
24          using the tainted data. It places an  
25          affirmative burden on the NYPD rather than on

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           the individual or a community or a group. The  
3           NYPD will be required to demonstrate that the  
4           biased data has been removed and allow an  
5           independent third party to conduct, at a  
6           minimum, a racial equity impact assessment.

7           In addition, for all data used in any ADS,  
8           including data alleged as not derived from  
9           discriminatory, illegal, or unconstitutional  
10          practices, and data derived from sources other  
11          than the NYPD, the following steps must occur  
12          to analyze the impact of the ADS on individuals  
13          or community groups.

14                 One, an equity impact assessment.

15                 Two, a surveillance impact report.

16                 Three, a pre-acquisition or development  
17          procedure to ensure non-agency experts and  
18          representatives from directly affected  
19          communities are consulted during the  
20          development of an ADS.

21                 And fourth, agencies must maintain a  
22          public record of external participation.

23                 These commitments and fail safes, along  
24          with the previous recommendations, are a strong  
25          starting point for the city and task force to

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           fight against the perpetuation of racial bias  
3           through data and technology.

4           The sixth recommendation is to remedy an  
5           account for proxy factors that also produce  
6           discriminatory results. In addition to dirty  
7           data informed by racial discrimination and  
8           bias, algorithms can learn bias behavior  
9           through proxy factors. Factors that may appear  
10          neutral, but reflect societal and structural  
11          biases.

12          For example, an algorithm may purposely  
13          exclude all references to race and ethnicity.  
14          However, the algorithms still considers factors  
15          that, due to societal constructs, correlate to  
16          race, such as low-income neighborhoods or  
17          employment history, the algorithm's outputs  
18          may, nonetheless, be racially skewed.

19          To ensure against racial discrimination  
20          and bias by proxy, this task force must also  
21          develop recommendations that require agencies,  
22          experts, and community members to address  
23          societal and systemic factors that contribute  
24          to discriminatory ADS's, and determine ways to  
25          mitigate the influence of proxy factors in

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           ADS's.

3           The seventh recommendation is to establish  
4           procedures for addressing harms when ADS's  
5           disproportionately impact individuals and  
6           community members. Continuing to rely on ADS's  
7           without any pre-implementation processes, such  
8           as the recommendations suggested here, risk  
9           subjecting entire communities to continued  
10          discriminatory and unconstitutional enforcement  
11          and policing practices. ADS's could be used to  
12          justify disparate treatment of communities of  
13          color in terms of how suspicion is defined.  
14          Who is chosen as targets for increased  
15          enforcement and surveillance, and where these  
16          machine learning tools are employed. All  
17          raising significant constitutional concerns  
18          under the first, fourth, and 14th amendments to  
19          the U.S. constitution.

20          The use of ADS's threatens to destroy  
21          reasonable suspicion, the expectation of  
22          privacy, and freedom-of-speech doctrines.  
23          These potential constitutional harms further  
24          underscore why the task force must make bold  
25          and expansive recommendations to create

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           procedures and safeguards to protect the public  
3           from potential constitutional and other  
4           violations.

5           Eighth, the city must create  
6           accountability structures that empower all  
7           community members to participate and pre-impose  
8           acquisition decisions about automated decision  
9           systems. The city is experimenting on its  
10          residents by relying on ADS's to make  
11          predictions and decisions without fully  
12          understanding how these systems will affect  
13          community members. Worse, the city has not  
14          required complete ADS transparency or  
15          meaningful community engagement, meaning, the  
16          very communities that will be affected by ADS's  
17          are left out of the equation.

18          To date, the city has not provided  
19          sufficient mechanisms for non-agency experts  
20          and community members to be educated about  
21          ADS's and thoroughly evaluate them prior to  
22          their implementation. The city must reaffirm  
23          its commitment to accountability and  
24          transparency by creating structures that center  
25          community members, not machines, in the

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           decision-making process, and provide meaningful  
3           opportunities to provide feedback and input  
4           about ADS's.

5           That was my eighth recommendation, but I  
6           am going to ad lib with a ninth. And that is  
7           to say: The task force has been constituted  
8           for two-thirds of the time under Local Law 49.  
9           You have approximately six months to get this  
10          right. If it takes you more time to do that  
11          task, I implore you to take the time to do it,  
12          and to extend the time of your existence.

13          So in closing, the NYPD's use of ADS's  
14          already creates an unprecedented expansion of  
15          police surveillance while the expansion  
16          implicates all resident's privacy rights. As  
17          I've noted, the burdens and harms are not  
18          evenly shared among city residents.

19          Communities of color, particularly black and  
20          Latinx residents, will continue to be  
21          disproportionately subjected to profiling,  
22          policing, and punishment, to the extent that  
23          ADS's replicate the biases of the current  
24          criminal legal system and law enforcement  
25          practices. The rapid unchecked deployment of

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           ADS's without effective mechanics for public  
3           input, independent oversight, or the  
4           elimination of racial discrimination and bias  
5           is unacceptable and untenable.

6           Data and technology should not be  
7           weaponized by New York City against its  
8           residents. This task force should therefore  
9           make recommendations that hold agencies  
10          accountable for ensuring that ADS's, including  
11          ADS's currently in use and any future ADS's,  
12          are transparent, fair, and free from racial  
13          discrimination and bias.

14          Thank you for your time.

15          MS. JIN: Thank you to our first three  
16          panelists on our first panel.

17          Taking -- taking the time and being with  
18          us this evening and sharing with us your  
19          recommendations. I would love to -- I can,  
20          kind of, make out all of my fellow task force  
21          members down the row. But I would love to open  
22          things up for questions. I think just a quick  
23          note both for folks in the room, but also  
24          panelists here. All of the -- the comments  
25          will be made available afterwards on -- on our

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           website. So I think we were all taking notes,  
3           because we have questions for you all. But I  
4           will open things up for, I guess, Maya.

5           MS. WILEY: Good evening. I'm Maya Wiley.  
6           Thank you so much for participating in this  
7           panel. It's extremely helpful.

8           I want to ask a -- and I want -- and I'm  
9           going to start with Janai, but I would ask  
10          anybody to answer this. Are there any data  
11          sets that you believe the city might be use --  
12          using that you do not believe are infected with  
13          bias.

14          MS. NELSON: I imagine that they exist,  
15          but I believe that the burden ought to be on  
16          the city to ensure that they are free from  
17          bias. We understand how systemic racism and  
18          discrimination is. There -- I'm sure have to  
19          be some data that is objectively, you know, not  
20          influenced. Perhaps aggregative data that, you  
21          know, counts the number of births in the city  
22          or counts population. But even as we know, the  
23          current debate around the census, that some of  
24          that data isn't necessarily reliable.

25          But I think that that burden is on the

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           agencies that intend to rely on that data to  
3           substitute their own decision-making to prove  
4           that it does not include that bias.

5           MR. NICKLIN:   So I'll be more emphatic and  
6           say no.   At least from - from our work, because  
7           we start with the premise that all people are  
8           biased.   And, therefore, all data is biased  
9           and, therefore, all the automated decisions or  
10          algorithms that are based upon those decisions  
11          people make and the ideologies that they have  
12          and the data they use is biased.   Does that  
13          mean that it can't be used?   That, I'm not so  
14          sure about.   I do think there are ways, in some  
15          circumstances, to -- to -- to address some of  
16          the systemic biases that exist in data sets.   I  
17          do think that that requires a fair amount of  
18          attention.

19          One of the ways that we think about it  
20          actually is -- is when people decide to collect  
21          data for a specific purpose, it is often as  
22          close to as unbiased as possible -- as possible  
23          for that purpose, but the moment you take that  
24          data and pivot and use it for another purpose,  
25          you are actually introducing a whole new realm

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           of bias into it.

3           Does that mean that it's unusable, no. I  
4           think there are ways to address that. But --

5           MS. WILEY: Do you have a concrete example  
6           of one where you could imagine how to address  
7           it?

8           MR. NICKLIN: Not off the top of my head,  
9           but I'm happy to provide something in writing.

10          MS. WILEY: Okay.

11          MS. KAUFMAN: So I think the co-panelists  
12          covered most of it. Most transportation data,  
13          in particular, is -- it happens in the  
14          aggregate. But one aspect that we are finding  
15          in our research at the Rudin Center is when we  
16          are looking at activities of -- of sexual  
17          harassment on public transit and the reporting  
18          rates are -- we believe about ten percent of  
19          what actually occurs. And so when -- when we  
20          develop policies around what we believe is  
21          happening out in the -- in the public sphere,  
22          we need to take into account the full picture.

23          MS. WILEY: Thank you.

24          MS. WHITTAKER: Hi. Thank you so much for  
25          that.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Given that many of these systems are  
3           created by private vendors, I think Andrew  
4           mentioned the issue of IP, and given that,  
5           oftentimes, they are trained on data that may  
6           not be in the possession of the city. So you  
7           have a model that's trained on one data set  
8           that is then used on data inputs that may or  
9           may not be collected by the city. What  
10          mechanism can you imagine to validate that  
11          system prior to implementation to ensure that  
12          it doesn't have traces of bias from another  
13          providence that is not yet part of the city's  
14          data collection practices.

15          MR. NICKLIN: I think, certainly, in the  
16          same way that the city often transports -- or  
17          governments in general -- not specific to New  
18          York City on this. Governments, in general,  
19          transfer risk by hiring tech companies and  
20          having them build products, and then it's easy  
21          for them to say, Well, it was our consultant  
22          that caused that problem. I think that there  
23          is a way to codify that risk transfer or --  
24          into a -- into a way that's shared so that  
25          vendors that come to the table with solutions

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           and products either, you know, are at the table  
3           in the court, which would hopefully be the last  
4           place -- the last step of a -- of a -- of a  
5           much more complex chain of events or, at least,  
6           have some liability for when things go wrong,  
7           which incentivizes them to try and do right.  
8           So that's, at least, one piece of it.

9           I do think that there are opportunities  
10          for third-party reviews. So, for example,  
11          there are private sector companies out there  
12          that will do independent audits of both data  
13          and the algorithms that are applied to them. I  
14          don't have any examples of them being used in  
15          governments at this point, at least at an urban  
16          level, but those mechanisms do exist. I don't  
17          know if they are perfect, but I do know that  
18          they are, at least, a step forward.

19          MS. WHITTAKER: I guess one of the other  
20          issues is -- is a follow up. There is that  
21          proving harm is very difficult without access  
22          to the initial data. So disparate impact or  
23          bias across populations is very difficult to  
24          prove if you don't know the system exists, and  
25          you can't actually get access to the data, the

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           design documentation, and the specifications of  
3           the model that was built by a vendor. So all  
4           of those things would have to be open to have a  
5           claim of harm that would then hit a court and  
6           be able to share liability. So that's one of  
7           the concerns we've been talking through as a  
8           task force.

9           MS. NELSON: Yeah, and I agree. And I  
10          think in terms of process, you can have  
11          independent and private oversight that does  
12          have public input without, you know, breaking  
13          the membrane of the -- of that privacy. I  
14          think there are processes that exist where the  
15          public can have confidence that there are  
16          representatives of their interests in the  
17          tribunal that is determining whether this  
18          information is biased or not, and whether all  
19          of the information has been transferred and --  
20          and the entire process is transparent.

21          MS. KAUFMAN: It also impacts the  
22          procurement process within the city, which  
23          often -- often prefers the lowest bidder. And  
24          often, the lowest bidder is able to be the  
25          lowest bidder, because they are sharing the

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           data where it may not be shared -- possibly  
3           shouldn't be shared. And so, potentially,  
4           taking a long hard look at our procurement  
5           rules would help with that.

6           MS. JIN: I think we're going to go to  
7           Vincent first and then Jeff.

8           MR. SOUTHERLAND: Sure. So Andrew, in  
9           your -- in your remarks, you mentioned in terms  
10          of identifying systems that might be subject to  
11          the kind of -- the oversight process that maybe  
12          one of the thresholds we should look at it  
13          whether or not human intervention played a  
14          role. And I'm wondering if there's -- I guess  
15          I have a concern that we might miss a bunch of  
16          systems if that was a threshold in terms of --  
17          in terms of our kind of oversight.

18          MR. NICKLIN: I'm not sure that's the only  
19          threshold that should exist. So I mean I -- I  
20          -- I think it's a combination of things. And  
21          as I even, sort of, mentioned in my remarks,  
22          I'm not entirely sure that human intervention  
23          or a lack thereof is a great one, but it is one  
24          that could possibly be used.

25          There are lots of decisions that get made

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           by people who are reviewing data. There are  
3           other decisions that are made by simply the  
4           virtue of data collection. So, for example,  
5           you know, a really basic one is when you call  
6           311 to request a service. There is some  
7           categorization of that service that happens,  
8           kind of, transparently to you as a customer of  
9           311. But that effects -- that provides a set  
10          of context for that service. So, for example,  
11          it sets things like how quickly -- how quickly  
12          the city needs to respond to that, which agency  
13          is involved, and so on.

14                 So those are automations, and there's no  
15          human review of that. I'm not necessarily sure  
16          though that those would fall under the purview  
17          of a landscape like this, which, you know,  
18          implies that there could be a lot of bias  
19          there. I mean, there -- honestly, there might  
20          be. 311 is a very self-selecting audience.  
21          But the decision about where a particular  
22          service request will go is an automated, one  
23          and may not need either human intervention or  
24          human review once it's, sort of, set up and  
25          designed well. So I'm -- I'm sort of -- sort

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           of doubling back and forth across that  
3           boundary, because I think there are exception  
4           conditions on both sides. But I do think that  
5           it is a threshold that you might want to  
6           consider.

7           MR. SOUTHERLAND: And then for Janai, I'm  
8           wondering, because I really like this idea of,  
9           kind of, a presumption on the agencies to, you  
10          know, prove essentially that their systems are  
11          not biased. Who do you see as, kind of, the  
12          arbiter of that -- that decision?

13          MS. NELSON: Well, I think we go back to  
14          independent oversight. That there needs to be,  
15          you know, a third-party tribunal or some other  
16          entity that is the screen for the public. And  
17          I also think there needs to be a mechanism for  
18          the public to challenge it. There needs to be  
19          a right of action for the public to disagree  
20          with that assessment and, particularly, if  
21          there's any evidence of actual harm and bias to  
22          be able to challenge it legally.

23          MR. THAMKITTIKASEM: Along the same item  
24          actually, just in terms of once there is a  
25          challenge, I guess I'm -- I'm interested in

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           this idea of what the third party could be.  
3           Because I think that I'm struck almost by,  
4           maybe, the city cannot, kind of, stand it up on  
5           its own. But then how do you set up the  
6           parameters by which a private -- private entity  
7           could do it?

8           So in trying to assess for, kind of, the  
9           -- whether or not a system does have bias and  
10          how it goes about just -- I'm thinking  
11          practically almost -- how to set up a process  
12          by which they do it, and any kind of  
13          recommendations on places you've seen it done,  
14          or whether from a public function, the  
15          government stands up a third party, or they are  
16          bringing in private entities to do it, and what  
17          kind of protocols or criteria you would ask of  
18          that third party. Any experiences or examples  
19          that we could use to -- to look at just to  
20          develop what those more concrete  
21          recommendations might be. Anybody -- just --  
22          yeah.

23                MS. NELSON: I -- I think none of us --

24                MR. THAMKITTIKASEM: It's all right.

25                MS. NELSON: None of us necessarily wants

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           to endorse an existing system as being, you  
3           know, the perfect model.

4           MR. THAMKITTIKASEM: No. I -- just to  
5           learn from the thinking through, kind of, the  
6           options.

7           MS. JIN: This is -- we have not yet  
8           introduced her --

9           MR. THAMKITTIKASEM: Sorry.

10          MS. JIN: -- but Natalie Evans Harris from  
11          BrightHive.

12          MS. EVANS HARRIS: Sorry. Natalie Evans  
13          Harris, BrightHive, but also, I've spent 16  
14          years in the federal government, including most  
15          of that time with the National Security Agency  
16          where we deal with this. We deal with this.  
17          How do we make sure that the data that we are  
18          using is accurate, has high quality, and  
19          actually is leading to the answers that we are  
20          drawing before we make policy decisions. And  
21          there are ways to set up independent boards  
22          that can have other members of the government  
23          in it that you have no undue influence over.

24          We -- I can't get into specifics, but  
25          there are -- there are bodies that can be stood

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           up who -- it's their other job to be convened  
3           in times like this. I would almost equate it,  
4           in the academic community, to the adjudication  
5           process when there's potential fraud. When a  
6           student has conducted a potential fraudulent  
7           behavior. You can set up bodies like that and  
8           -- and -- and create them just as an additional  
9           function in times of crisis or need.

10           Another way to look at it is New York City  
11           has a wealth of civic community data, and  
12           society lives and breathes this stuff.

13           Columbia University -- like the universities,  
14           academics, the -- the non-profit organizations  
15           who only want to see good happen, they are the  
16           ones that you want to be on a board to govern  
17           this.

18           And then you also want to make sure that  
19           any instances of the way that the data is used  
20           and the -- the ADS that's put in place, you  
21           have a community advocate that can represent  
22           the users on those boards. So think about your  
23           board makeup. But -- but there are ways and I  
24           can -- I can look to see if there's  
25           non-classified ways to share the way that these

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           boards can be stood up, because they have been  
3           down in the federal government on a regular  
4           basis.

5           MS. JIN: Thanks.

6           I think -- did -- Susan, you had a  
7           question?

8           MS. SOMMER: Yep.

9           Thank you. This is very helpful and  
10          interesting.

11          Can you consider -- understanding, for  
12          example, as Andrew put it that really, sort of,  
13          so much data does encapsulates, to some extent,  
14          bias from the world in which we live, can you,  
15          nonetheless, give examples or cite research or  
16          experience that, nonetheless, makes it  
17          worthwhile to use an automated decision-making  
18          system, even if it does perhaps embody some or  
19          build in some of that historic legacy because,  
20          in and of itself, it will help to correct bias  
21          that otherwise might be part of human  
22          decision-making. For example, by disproving,  
23          in a sense, some assumptions that might embody  
24          misconceptions about people.

25          MR. NICKLIN: So I'm, sort of, loathe to

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 use this because it's very, very controversial.  
3 And I'm immediately going to get a lot of  
4 groans from people here. But when the issue of  
5 Compass came up, the immediate response was it  
6 may be true that there's some bias in this  
7 work, but what we were doing is normalizing a  
8 whole series of individuals who were already  
9 making biased decisions, such that maybe  
10 there's less bias overall. I can't speak to  
11 whether that argument is true. My tendency is  
12 actually to not believe that. But that  
13 response, nonetheless, was very interesting.  
14 Of course, it was the response from the company  
15 that made Compass; so you have to take that  
16 with a grain of salt.

17 I do think that there are a lot of  
18 operational areas of -- areas of government  
19 that can benefit from automated systems with a  
20 much lower risk of bias than in the public  
21 safety and social service realms. I mean, you  
22 know, we're talking about, like, maybe more  
23 efficient routes for the Department of  
24 Sanitation or, you know, better pothole repair.  
25 I mean, there's a lot of operational areas

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           where these things can make life a lot better.  
3           And it is possible that, even in that work,  
4           there is some small degree of bias introduced.

5           But I think part of the question that has  
6           to be asked is: Overall, are we doing a better  
7           job than we were doing before? That's not  
8           always an easy thing to answer, but it may be  
9           worth -- and I -- you know, I shudder a little  
10          bit to say this: But in some cases, it may  
11          actually be worth that a little bit of pain to  
12          see that much gain.

13          Again, I think in the social services and  
14          public safety space, I think that's a much,  
15          much different set of challenges, and I don't a  
16          feel confident to speak with the same level of  
17          expertise that you have. So --

18          MS. NELSON: So my answer is, I can't  
19          think of an example, off the top of my head,  
20          where I would be comfortable saying that  
21          remediating bias with bias is acceptable and --  
22          and should be subject to a cost benefit  
23          analysis that isn't certain to center the  
24          people who it costs most. So that's my answer.

25          I don't -- I don't -- I can't point to an

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           -- an example. I'm not saying that one does  
3           not necessarily exist, but I would be very  
4           skeptical of the analysis that determines what  
5           -- what is most effective and efficient, and  
6           that it's worth it. You know, how do we  
7           determine what that worth is, and who is that  
8           cost extracted from?

9           MR. NICKLIN: I -- I also feel I just want  
10          to add here that there are also a number of  
11          companies who are introducing technological  
12          tools, you know, IBM, Microsoft and so on who  
13          are, essentially, making the claim that the  
14          tools can reduce bias in the data sets, bias in  
15          the use of algorithms. I have a lot of  
16          reservations about the use of those tools, and  
17          I would actually, kind of, maybe encourage the  
18          task force to consider putting all of those  
19          aside. I mean, these are human issues. They  
20          need to be solved by human beings, not by  
21          layering more technology on top of already  
22          faulty technology.

23          MS. JIN: Okay. Any other questions?

24          MR. BAROCAS: Just sort of a quick  
25          question. I'm curious if there is, sort of,

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 any particular scenario where you imagine there  
3 is some calculating interest that counsels  
4 against full transparency. Under what  
5 scenarios would the city justifiably have a  
6 position that says we can't disclose some  
7 information?

8 MS. NELSON: To whom? I think we've all  
9 been saying that there may be a scenario in  
10 which it's not fully publicly available. But  
11 that there is a set of individuals who  
12 represent the interests of the public, who are  
13 deemed the arbiter of whether that transparency  
14 is being appropriately applied. So I don't  
15 think there is any scenario in which full  
16 opacity is acceptable.

17 MR. BAROCAS: Right. So beyond the IP  
18 concerns to clarify. Right. So I understand  
19 that maybe there's some IP concerns; so we have  
20 a kind of private mechanism to have an advocate  
21 to look at these. But are there other  
22 interests besides IP that you see as legitimate  
23 reasons to actually limit disclosure?

24 MS. NELSON: I mean, I think the natural  
25 one would be security and national-interest

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           concerns that -- that could rise to that level.  
3           And I think, again, those could be met and  
4           addressed by having an -- some -- some  
5           mechanism in place to -- to be the filter for  
6           the public.

7           MS. KAUFMAN: This comes up a fair bit in  
8           the transportation sector. Mostly because not  
9           only do you not want to give people's origin  
10          and destination, specific addresses, but you  
11          also don't want to be able to piece together  
12          their entire lives from all the different trip  
13          types that they take. And so usually with --  
14          in terms of transportation data -- and this  
15          could translate to other sectors as well --  
16          much of the data is, kind of, snapped to the  
17          nearest intersection. So that -- so that it's  
18          not clear who's going where. Especially in  
19          sensitive locations like domestic violation  
20          shelters, where you don't want to show where  
21          people are coming and going from. So that  
22          there -- which compromises their personal  
23          safety.

24          MS. JIN: Okay. Do we have any more  
25          questions from task force members? All right.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 Well, definitely a round of applause for our  
3 first panel.

4 So we will shift and move to our -- we've  
5 already, kind of, shifted into our second panel  
6 already. But if you all can move up to the  
7 first row, that would be terrific.

8 MR. CUMBERBATCH: I do have a request --  
9 I'm sorry -- for Janai. You -- you said that  
10 one of your recommendations was impromptu. I  
11 ask that you submit that -- is it mentioned  
12 that those comments --

13 MS. NELSON: I'm sorry.

14 MR. CUMBERBATCH: One of your  
15 recommendations, you said, was impromptu. You  
16 said that you ad libbed it. And I don't think  
17 that it was in your written notes. And I just  
18 ask that you include that when you submit it to  
19 the task force for putting it on the website.

20 MS. NELSON: Yes. We will be submitting  
21 full -- full written testimony.

22 MR. THAMKITTIKASEM: Thank you. We really  
23 appreciate it. Thank you.

24 MS. JIN: Okay. We are switching name  
25 cards. Hopefully, the mic works, but we will

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           figure things out.

3           So our second panel: We are joined by  
4           Natalie Evans Harris, who you all just heard  
5           from a moment ago. Co-founder and head of  
6           strategic initiatives at BrightHive. And we  
7           are also joined by Ginger Zielinskie, president  
8           and CEO of Benefits Data Trust. So I'll turn  
9           it over to -- why don't we start with you,  
10          Ginger since Natalie have made a few comments.

11          MS. ZIELINSKIE: Can you hear me in the  
12          back? Okay. Good evening, and thank you for  
13          having me here tonight, and for hosting the  
14          first public forum of the New York City  
15          Automated Decision Systems Task Force. I'm  
16          certainly honored to be here with this group of  
17          thought leaders.

18          Benefits Data Trust is a national  
19          not-for-profit organization that helps people  
20          live healthy, more independent lives by  
21          creating smarter ways to access essential  
22          benefits and services. My comments today will  
23          focus on issues of access.

24          Our work is connected to the basic charge  
25          of this task force in that we use data,

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           technology, policy, and service to make it  
3           easier for large numbers of people to gain  
4           access to critical supports so that they can  
5           live healthier, more economically mobile, and  
6           thriving lives.

7           Since 2005, BDT has submitted over 800,000  
8           applications and secured over \$7 billion in  
9           benefits for people that need them. We're  
10          currently working in states across the country  
11          using data-driven strategies to increase access  
12          so that people may better afford food, housing,  
13          and healthcare. I wanted to take a -- a moment  
14          to tell you a little bit more about how we work  
15          with governments to use automated decision  
16          systems to streamline the enrollment process  
17          and increase access, as well highlight some  
18          examples of bright spots across the country.

19          We know from years in the field that many  
20          people are likely eligible for a suite of  
21          supports, like SNAP, Medicaid, WIC, LIHEAP,  
22          TANF, and others, but are not enrolled. There  
23          are many barriers to access, including  
24          awareness, a challenging application process,  
25          language barriers, fear, stigma, and others.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Through partnerships with government  
3 agencies, Benefits Data Trust has been able to  
4 use data to break down barriers by access -- by  
5 targeting individuals who appear on one program  
6 in order to help them with others, thereby  
7 serving people more comprehensively and  
8 increasing participation.

9           For example, Medicaid -- actually, I  
10 wanted to give you another example before I  
11 jump into that one. A specific example that I  
12 wanted to talk about was made possible through  
13 the Medicare Improvement Patient Providers Act  
14 or MIPPA. This act allowed low-income-subsidy  
15 data, which is prescription-assistance data,  
16 which is a federal benefit so you can submit  
17 your application speedily through the Social  
18 Security Administration. That data, with an  
19 opt-out clause in the application, not an  
20 opt-in, but rather would you prefer that your  
21 data not be used, was provided on a two-page  
22 application. When individuals did not check  
23 that opt-out clause, their data was then  
24 transferred back to State Department of Human  
25 Services in order to start an application for

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           the Medicare savings program, which puts about  
3           \$105 a month back into an older adult's social  
4           security check. For individuals that are  
5           living on approximately \$11,000 of income, \$105  
6           a month is a serious increase in your social  
7           security check. So this is certainly an  
8           example about how that decision was made  
9           automatically by application of the low-income  
10          subsidy.

11           A second example of an ADS strategy that  
12          was deployed is around the connection between  
13          Medicaid and SNAP. In Pennsylvania, after it  
14          expanded Medicaid under the Affordable --  
15          Affordable Care Act, Pennsylvania was able to  
16          deploy a policy option called fact track. This  
17          policy option was -- was able to use SNAP  
18          enrollment data that was already verified by  
19          the state agency to dramatically streamline an  
20          application for Medicaid, thereby helping close  
21          to 60,000 people apply for Medicaid with just a  
22          click of a button. Over 40,000 were enrolled.

23           The inverse is also an opportunity that  
24          should be considered. Individuals on Medicaid  
25          are also very likely eligible for SNAP.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Verified Medicaid data with client consent can  
3           and should be used to streamline access for  
4           SNAP. Not only does this automation better  
5           serve people, it also improves health outcomes.  
6           Research is now increasingly robust around the  
7           benefits of increasing access to SNAP as a way  
8           to both improve health and reduce healthcare  
9           costs.

10           In regards to recommendations as you  
11           tackle your difficult charge of how to best  
12           implement automated data systems, I would first  
13           of all recommend that both the developer of the  
14           algorithm and the people that run these systems  
15           must put privacy and security first.

16           Specifically, being proactive in understanding  
17           the role of consents and making sure that they  
18           are clear, concise, and easy to understand is  
19           absolute essentially. I would encourage you to  
20           look at the social security low-income subsidy  
21           website application as an example.

22           Second, the work in developing any  
23           algorithm or automated decision system should  
24           be iterative. An iterative approach creates  
25           the space to properly evaluate the process,

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           tools, and outcomes. The use of automated  
3           decision systems is not a once-and-done  
4           situation, but a cause for continual  
5           evaluation. Some things to consider include  
6           missing perspectives. Have we attempted to  
7           address blind spots in the analysis through  
8           engagement with relevant stakeholders, most  
9           importantly, the individuals that will be  
10          impacted in the community.

11           Data set or collection bias: I would  
12          consider sources of bias that could be  
13          introduced during the data collection and  
14          taking steps to mitigate those.

15           Fairness across groups: Have we tested  
16          the model or result for fairness with respect  
17          to different groups.

18           And finally transparency, which has  
19          certainly been discussed this evening.

20           Even when automated data systems are  
21          developed with talented people with the best  
22          intentions, there is always a possibility of an  
23          unwarranted decision. As mentioned earlier in  
24          the previous panel, we strongly recommended  
25          that there is always an exception process that

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           allows case workers or other frontline staff to  
3           override any decision. The details of this  
4           human intervention should be clearly  
5           operationalized and tailored depending on  
6           specific situations.

7           Similarly, we encourage the panel to  
8           consider language barriers. Specifically, in  
9           regards to clear communication around privacy  
10          and consent, and making sure that it is -- it  
11          is certainly accessible and, again, easy to  
12          understand.

13          Finally, in regards to the issues of  
14          access, context certainly matters. I'd  
15          encourage you to always look beyond the  
16          algorithm or the decision system and consider  
17          the bigger picture. An automated decision  
18          system is not a panacea, rather a component of  
19          an ecosystem of services and supports that  
20          should align on shared outcomes. Obviously,  
21          human-centered design is essential to ensure  
22          that people can be served in a way that's right  
23          for them.

24          Multi-channel approaches that serve people  
25          with dignity across channels, whether that be

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           self-service channel, phone-based work, text,  
3           or in-person will always be most inclusive.

4           Thank you for the opportunity to share my  
5           thoughts on this topic and for creating this  
6           space to engage in this important dialogue.

7           MS. EVANS HARRIS: Hello, everybody. My  
8           name is Natalie Evans Harris. Thank you for  
9           having me here. Thank you for having this  
10          discussion. It's one of many I hope. So  
11          that's one of my recommendations; that this  
12          just keeps happening.

13          So I co-founded and am head of strategic  
14          initiatives for a data technology company  
15          called BrightHive. We are a public-benefit  
16          company, who is focused on enabling states,  
17          local governments, anybody that has data that  
18          can serve the needs of people to increase  
19          access to that data in a responsible, ethical,  
20          and equitable manner. That's what I do. I do  
21          that, because my passion is to see data used to  
22          improve the lives of people in communities. So  
23          I spent 16 years focused in the federal  
24          government on ensuring the responsible use of  
25          data. I did that with the National Security

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Agency. I did that as a fellow on Capitol  
3           Hill. I did that working for the Obama  
4           administration as a senior policy advisor. And  
5           then I started a company.

6           In addition to that, I launched the Global  
7           Data Ethics Project, which is a global  
8           community of practice -- of data practitioners  
9           transparently and voluntarily creating a set of  
10          principles that defines what ethics means for  
11          them, and what responsible data use means to  
12          them. I'll talk about a little bit about that  
13          here. I think their work can help.

14          I've also -- I've also served as a fellow  
15          with Beck Center in Georgetown in order to  
16          start delivering best practices and  
17          recommendation to state and local governments  
18          interested in adopting digital services. And  
19          how do you make data useful in those ways? In  
20          ways that will help and not harm the people you  
21          are most meant to serve.

22          This is the length that I come from today.  
23          It's centered around building trust and  
24          accountability early in your processes. What  
25          you've heard today from your panel, which makes

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           me almost want to just throw this out and just  
3           have a conversation, is that people are most  
4           scared of automated decision systems, because  
5           we don't trust. We don't trust the people  
6           making the decisions. We don't trust the data  
7           that's been collected. And we don't trust that  
8           when a computer is making the decision, it's  
9           going to benefit people that look like me. I'm  
10          a girl from the Bronx. My parents are  
11          Jamaican. I know the fears, because my family  
12          still lives here and is afraid of it. Part of  
13          that is that they don't understand why it's  
14          happening. Part of it is they don't understand  
15          why it's necessary. And if a person can't make  
16          that decision, then how can a human [sic].

17                 So the recommendations that I make today  
18                 are centered around three key things: One is  
19                 it is imperative that before any decisions be  
20                 made around this, that a set of shared  
21                 principles for responsibly using data in  
22                 technology and capacity building is not only  
23                 created, but it's adopted and shared out  
24                 broadly to anybody that wants to see it and  
25                 know it and understand it. And those

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           principles be used to frame all other decisions  
3           that are made around automated decision  
4           systems.

5           It touches on what Janai spoke about. It  
6           touched on what Andrew spoke about. It's about  
7           setting up a framework to be able to  
8           communicate that you value protecting people.  
9           Because as government employees, as members of  
10          the New York City Automated Decision Services  
11          -- Automated Decision Systems Task Force, you  
12          are holders and protectors of people's data.  
13          So it's important that that message come out as  
14          a part of your transparency. And that message  
15          and those principles are what you are then held  
16          accountable for. As a member of New York City,  
17          I need something to hold you to. And that is  
18          what these principles become, almost a  
19          contract.

20          What the global data ethics project  
21          created was something called a FORTS framework,  
22          F-O-R-T-S. It's centered around fairness,  
23          openness, reliability, trust, and social  
24          benefit. That is how you can frame your  
25          principles. It's about fairness, and saying

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           things that before data can be used in an  
3           automated data system, that you have done the  
4           analysis to make sure that it's a of high  
5           quality. That you have confidence that it  
6           doesn't have any gaps in the data that's being  
7           collected to create that algorithm.

8           It is also saying that you've engaged with  
9           the community so that they know that their data  
10          is being used in this fashion. You don't have  
11          to do it every time, but you have to do it in a  
12          way that people know: The data that I provided  
13          in order for my child to go to school is also  
14          being used to determine whether they can get  
15          lunch in that school, or determining whether  
16          the schools get funding. That's not obvious to  
17          everybody.

18          Openness is about saying things like in  
19          your procurement process and in your  
20          contracting -- most -- most state and local  
21          governments contracts when they're doing  
22          technology or data-driven efforts will say that  
23          any work product belong to the state.

24          You can change that language. You can  
25          change that language to be able to say that the

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           things that are produced will be open source  
3           first, and then owned by the state. That way,  
4           the people, that way, the developers, that way,  
5           the academics, that way, anybody that can are  
6           an influence on the quality of your data can  
7           see it and have access to it and not have to  
8           know a friend.

9           Reliability, I equate reliability to  
10          consistency. The rules that you put in place  
11          in one agency should be consistent across the  
12          agencies when it comes to the use of that data.  
13          It should be about saying, Look, if you're  
14          going to make this data accessible, these are  
15          the ways that it can be done, and these are the  
16          ways it cannot. You can analyze data. There  
17          are tools out there. I know Andrew spoke to,  
18          you know, questions about the tools. But there  
19          are tools out there that are available now,  
20          that have been available for a long time, that  
21          can tell you the quality of the data. That  
22          information should be made available. Because  
23          one of the principles should be about  
24          responsibly communicating about the data that's  
25          being used to make those decisions.

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Trust: Everything we're doing is about  
3 trust, and then social benefit. That why  
4 really matters. If I'm going to contribute and  
5 answer questions on a survey, I need to know  
6 that it's going to benefit me, mine, my  
7 community, why? That's how you build trust.  
8 You say the what, and you say the why, and then  
9 you tell them how.

10           The second one -- my second recommendation  
11 is around establishing clear equity and  
12 outcomes measures. Outcomes measures that  
13 guide decisions and ensure purposeful use of  
14 data both in your automated decisions, but also  
15 that the data used represents the communities  
16 you seek to serve. Oftentimes, when you think  
17 about algorithmic bias, the bias is in the  
18 original data set. It wasn't comprehensive  
19 enough. It did not reflect the full community.  
20 It's your responsibility to make sure that if  
21 ADS's are going to make decisions, that the  
22 data that's used to create those algorithms is  
23 comprehensive enough to create data --  
24 algorithms we can have confidence in.

25           Part of the discussion with the first

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           panel centered around how do we make sure  
3           there's no bias in data sets. Well, you can't.  
4           There's bias in all data sets. There's bias in  
5           all people. But what you can do is responsibly  
6           communicate about that bias or about your  
7           confidence in it. And that's the transparency  
8           that you want to look for. You can say, Look,  
9           we collected the data from this borough or from  
10          these districts or from these universities, and  
11          we didn't from these. Therefore, any decisions  
12          that are made based on this data only apply to  
13          these areas. Broad use of automated data  
14          systems, without broad consideration of the  
15          data that was used to create it, is  
16          irresponsible. Let me make sure I said all  
17          that.

18                 And then also -- and then also a  
19                 recommendation that you set up regular times  
20                 when you're communicating. This is the data  
21                 we've exposed. This is how it's used, and this  
22                 is how it's benefited you. It can be done  
23                 through a dashboard. We love our dashboards.  
24                 It can be done through a dashboard. It can be  
25                 done through a community meeting. But on a

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           regular basis, quarterly. It should be made  
3           clear and in open and transparent fashion.  
4           This is what our automated decision systems are  
5           doing. These are the ones that have been --  
6           these are the ones that have been created.  
7           These are the ones that are being used, and  
8           this is how it's being used.

9           My third recommendation: Take advantage  
10          of emerging technologies when appropriate, but  
11          ensure strong data practices underpin that. An  
12          emerging technology that we talk about, and I  
13          see often in cities and it's becoming more  
14          popular, is the use of data collaboratives. So  
15          instead of having MOUs where one agency  
16          delivers data to one company or to one other  
17          agency, data collaboratives allow for multiple  
18          parties to share under the same governance  
19          structure. So it's basically a -- I don't want  
20          to say a one and done, but it's an agreement  
21          that anybody that has access to this data  
22          complies with this governance structure that's  
23          put in place at the very beginning. And people  
24          can walk away. If an agency doesn't like  
25          what's happening, they can walk away and take

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           their data out. Or if somebody wants to join  
3           later, they can join that collaborative. But  
4           it allows for agencies; it allows for  
5           academics; it allows for social sector,  
6           multiple sectors to be able to share data in a  
7           way where everybody is playing by the same  
8           rules. That's the type of emerging  
9           technologies that can help this space.

10           We're doing it in Colorado with workforce  
11           data. Massachusetts -- Massachusetts has  
12           started opening up their administrative data to  
13           other agencies in this way. And it's cost  
14           effective, because in Massachusetts, if another  
15           agency wanted access to another agency's data,  
16           they have to pay them. This is government to  
17           government, and they had to pay them to be able  
18           to access the data, for data that they needed  
19           to solve the same problem. Data collaboratives  
20           help to mitigate some of these things.

21           So I just say look at emerging  
22           technologies with scrutiny. But also make sure  
23           that your data practices underneath are strong  
24           enough and confident enough that you can meet  
25           your equity and outcome measures.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 And then one more that I'll add under the  
3 equity and outcomes measures: Think about --  
4 And they should be -- they should be written  
5 and thought about from the individual. And not  
6 the individual in the education sector or the  
7 individual in the healthcare sector, it's the  
8 holistic individual that makes a difference.  
9 Because oftentimes, an ADS that's written just  
10 with healthcare data can have unintended  
11 consequences on an individual's education, or  
12 decisions made in education can have unintended  
13 consequence on the individual's rights in the  
14 criminal justice system. And it's because we  
15 don't treat people holistically. And we don't  
16 use the data we have to understand the breadth  
17 and depths of the individuals and their  
18 touchpoints in cities and social services.

19 So in closing, thank you. I hope to see  
20 you again in three months, and three months  
21 after that.

22 MS. JIN: Let's give a hand to our  
23 panelists.

24 I -- I would like to selfishly ask one  
25 question since I'm facilitating, but definitely

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 want to get a question in. So, Natalie, you --  
3 you opened and you closed with best practices  
4 around engaging more broadly with the public.  
5 You know, we have the public forums. We'll be  
6 doing community sessions. What else are you  
7 seeing across the country and with communities  
8 on best practices there?

9 MS. EVANS HARRIS: Okay. So some of the  
10 things I've seen is I've seen states and local  
11 governments engage in really interesting ways  
12 around how -- I mean, we do the hack-a-thons  
13 and things like that. But they are actually  
14 meeting people in their spaces. So they'll  
15 partner with another organization that already  
16 has strong community ties, and use those as  
17 feedback sessions. So it's not necessarily the  
18 City of New York is holding a public forum. It  
19 could be data and society is holding a  
20 databyte, and the topic that they're covering  
21 relates to a topic of interest to the city. It  
22 could be community colleges. I've seen some  
23 states and local governments work with  
24 community colleges to meet people where they  
25 are and learn about issues, challenges, all of

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           the things. But -- but it's making it real for  
3           people. It's making it real why you're doing  
4           it, and what you're doing it.

5           There's one locality that I work with that  
6           partnered with MBK, My Brother's Keeper, and  
7           then with churches -- churches in the area. I  
8           want to say it was in Chicago. I can't  
9           remember. But it was -- they realized that  
10          where people congregated the most was the most  
11          effective path to engaging people and sharing  
12          information.

13          Other best practices I've seen are  
14          newsletters are -- are archaic but -- but -- I  
15          hate to say "archaic," because everybody does  
16          newsletters, but it's not innovative. But it's  
17          -- it's -- it's something that has been used to  
18          meet people in the schools. Actually, I want  
19          to say it's Columbia University, or it's -- it  
20          might be -- it might be NYU, but there's a  
21          public -- a public service institute that does  
22          social research by actually going into the  
23          communities and talking to the people.

24          I've seen some -- I've seen some  
25          localities who are interested in getting data,

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           but they just can't get access to through  
3           surveys. Engage with organizations like that.

4           I think the most important best practice  
5           in situations like this, if you want to engage  
6           people, is to meet people where they are.  
7           That's -- that's the best way to do it. And --  
8           and -- and it doesn't have to have your face on  
9           it. Like use other people's already events  
10          happening. There's events happening everywhere  
11          all the time.

12          Another best practice I've seen around  
13          just ADS's is the independent reviews. So some  
14          -- some -- some localities, I want to say  
15          Virginia, while they outsource their IDS, their  
16          integrated data system. They outsource the  
17          development of their integrated data system.  
18          As a part of the contract, they have  
19          independent audits, as a part of the contract.  
20          So even though they can't see the algorithm,  
21          they can have somebody else see it. And they  
22          partner with a -- it might not be Virginia, but  
23          that is some of the best practices that I've  
24          seen.

25          I'm starting to see independent audits

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           come up a lot. I'm starting to see the  
3           development of principles that are measurable  
4           and people can be held accountable, be  
5           incorporated into contracts.

6           So this is where we get back into  
7           procurement; right? So how do you put into  
8           your procurement contracts that if you want to  
9           use New York City data, these are the rules you  
10          have to play by. And they're rules that are  
11          based upon meeting these outcomes and equity  
12          measures. And -- and -- and just on a regular  
13          basis, say, Look, we stood up -- we set up to  
14          create ADS's that would make sure children got  
15          into schools. And because of this ADS, we are  
16          halfway to that goal. That's the type of  
17          information you want to communicate on a  
18          regular basis to show your value.

19          MS. ZIELINSKIE: I would encourage you  
20          take a look at Data Across Sectors for Health;  
21          it's called DASH. And it's a national  
22          collaborative of local community-based  
23          organizations that have connected around some  
24          data-sharing engagement, whether it be around  
25          tackling opioid use or -- but there's a lot of

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           bright spots there. It's funded by the Robert  
3           Wood Johnson Foundation.

4           Also, I encourage you to look at the  
5           current community information exchange  
6           movement. San Diego 211 is certainly far  
7           along. But they are also developing a lot of  
8           materials around how to really think about  
9           community engagement and rebuilding community  
10          information exchanges where -- where social  
11          service and governments and healthcare  
12          institutions are beginning to think about how  
13          to share data. So those are two -- two  
14          specifics that I would --

15          MS. EVANS HARRIS: AISP, they run cool  
16          boards that teach -- not teach, but help cities  
17          and local governments be able to share data and  
18          adopt integrated data systems. They have tons  
19          of resources and materials on the legal and  
20          ethical and technical and -- and all of the  
21          pieces and all of things that cities and local  
22          governments deal with when they have to adopt  
23          strong data-sharing systems, integrated data  
24          systems. They also have case studies and best  
25          practices that they put out there, and it's

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           free resources. I'm happy to connect you with  
3           the person I talk to all the time. She's  
4           awesome, Amy.

5           And then Urban Institute -- no. Aspen --  
6           no. Urban, Urban Institute, Kathy Pettit.  
7           Urban Institute has also done a lot of work in  
8           this space around how do you share data  
9           responsibly and ethically. And they -- she has  
10          some good resources out there, as well. So  
11          those are two folks that I would say are great  
12          for you to talk to.

13          MS. JIN: All right. Thank you, both.  
14          Questions?

15          MR. SOUTHERLAND: I have one question  
16          about -- thank you both for your presentation,  
17          very informative and very helpful.

18          I just have two questions: One was in  
19          terms of the kind of a data collaborative idea.  
20          How do you deal with -- when agencies have  
21          conflicting data? So because there -- because  
22          they may be creating the data themselves. But  
23          the police department has data created in one  
24          way, and another agency has data created  
25          another way. And they're trying to share data,

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           but that data may be telling them different  
3           things, because of their own biases in terms of  
4           the collected data.

5           And then my other question -- well,  
6           actually, let me let you answer that.

7           MS. EVANS HARRIS: I, kind of, have two  
8           answers for that. So data is data. And so  
9           what a data collaborative does is make that  
10          data accessible; so you can do that analysis  
11          and see those conflicts. So that's a good  
12          thing.

13          The question is: What do you do with your  
14          processes on the other side to address those  
15          conflicts? Other than saying, like, talk to  
16          each other, I think what it is is -- and what I  
17          would recommend. So what data collaboratives  
18          do is allow for that data to be connected in a  
19          way that you can identify the different answers  
20          that are coming out based upon the questions  
21          you're asking of the data. So if conflicts  
22          come out of the data, you highlight those and  
23          then you use humans. You use humans to  
24          de-conflict and figure it out. I mean, ADS's  
25          can't answer all things. And if you do it

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 right, you want it to highlight those  
3 conflicts; so that you can then bring in people  
4 to -- to figure it out.

5 Did that -- I hope that answer --

6 MR. SOUTHERLAND: Yeah.

7 And then my other question was: Would you  
8 suggest that people have, kind of, like a --  
9 just a right of action, just have whatever data  
10 is being collected from them, how it's being  
11 used. So if you just like make a request to  
12 the -- to some city agency generally.

13 MS. EVANS HARRIS: So we are starting to  
14 see more and more around self-sovereignty come  
15 up. And I -- I love it. There's some people  
16 who say that, you know, it shouldn't happen.  
17 That it takes a certain amount of knowledge and  
18 understanding in order to be able to say  
19 whether your data could be shared or not. And  
20 also, there's just fear that if people control  
21 whether their data could be shared, data is not  
22 going to be shared; no more things will be  
23 learned.

24 I tend to lean towards the more positive,  
25 hopeful, optimistic side of it. And saying

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 that if people have more control over whether  
3 their data can be shared or not, and you give  
4 them the why, they will choose to share it if  
5 it's of value to them.

6 And so -- and what self -- and  
7 self-sovereignty comes in many forms. It could  
8 be blockchain. It's particularly coming up in  
9 the education sector. University of Washington  
10 has written a really interesting paper around  
11 how blockchain can help with self-sovereignty  
12 and giving parents control over their students  
13 -- of their children's -- access to their  
14 children's data. So that's coming. I haven't  
15 seen a really good solution for it yet; so I  
16 don't want to recommend anything. But there is  
17 a lot of talk around it, especially in the  
18 education and the talent -- talent marketplace.

19 MR. SOUTHERLAND: Thank you.

20 MS. EVANS HARRIS: Yeah.

21 MS. JIN: Meredith.

22 MS. WHITTAKER: I'm going to follow on  
23 Vincent's question. Speaking about the  
24 commensurability of separate data sets that may  
25 have been created differently. Oftentimes, in

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           my experience without very specific  
3           methodological information that documents the  
4           creation process, it's difficult to tell that  
5           those data sets are incommensurate.

6           So if you took arrest data from a city  
7           that had stop-and-frisk implemented and one  
8           that didn't, they may look the same. But if  
9           you didn't understand that there was racially  
10          biased policing going on, you actually wouldn't  
11          be able to recognize that those data sets  
12          weren't commensurate unless, you know, may not,  
13          you know, give you the same results that they  
14          were fed through one ADS or another.

15          So what type of documentation do you think  
16          is required to ensure that people, you know,  
17          using this data can be fully informed about how  
18          it was made, and what it does and does not  
19          represent.

20          MS. EVANS HARRIS: So there is -- there is  
21          -- so that's -- we call that responsible  
22          communication, right. And sometimes when your  
23          data is collected, meta data is collected about  
24          it. So that you know some of that information  
25          and, oftentimes, it's not.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 What I have recommended in -- in other --  
3 in other situations where that has come up, I  
4 have said, You put confidence scores on that  
5 data. There's like there are rules to this.  
6 You put -- you put tiers on it, right. And so  
7 you say, Look, this data is very  
8 well-documented. I have high confidence in  
9 this data. This data, I don't even know where  
10 it came from, and I don't have confidence in  
11 the source. Either don't use it until you can  
12 get that confidence in the source, or put it  
13 back on the police department or whoever  
14 collected that data to increase the confidence  
15 of that data, or you -- I -- I don't -- I don't  
16 want to say it. Or you -- you use it, but you  
17 caveat it, right. I wouldn't. I would say, If  
18 you don't -- I would say, Yeah, you have  
19 thresholds. And if you don't have confidence  
20 in where that data came from, you don't use it.  
21 And -- and you work with others.

22 And then I'll say the other side of that  
23 is there are mechanisms that can force data  
24 that's newly created to have that meta data  
25 attached to it. The City of San Francisco,

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           their CDO, put out a very interesting pilot.  
3           And I want to say that they fully adopted it,  
4           where all the data sets that come out of the  
5           City of San Francisco, in their open data, has  
6           certain meta data attached to it automatically.  
7           So it can't even be released. It can't even be  
8           shared. It isn't even real unless it has this  
9           certain data type, this certain information  
10          about the data associated with it. And that  
11          includes, like, time stamp, and sources, and  
12          not necessarily who collected the data, but  
13          what organizations were a part of the  
14          collection of the data, and so they have a  
15          great template framework for it.

16                 MS. WHITTAKER: Wonderful. Thank you for  
17                 that answer.

18                 Just a quick follow-up: When we talk  
19                 about confidence, of course, we can talk about  
20                 sort of, you know, statistical confidence  
21                 intervals, and that's, you know, nice and  
22                 reassuring, but we are also talking about  
23                 larger social factors. So who should be  
24                 assigning confidence to a data set in the case  
25                 that it is created through, say, a police

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           department that has been found to be -- you  
3           know, again, back to the example, you know,  
4           engaged in racially discriminatory policing  
5           practices. How do we determine confidence in a  
6           data set that's created through social  
7           practices that may be complex.

8           MS. EVANS HARRIS: I like criterias and,  
9           at least in the federal government, that who --  
10          that who makes the decision on the usability of  
11          the data is usually held in the chief data  
12          officer hand or somebody like that. Kelly is  
13          awesome. Maybe you can put it in the chief  
14          analytic officer's hands. But it's somebody  
15          who is responsible for the health and wellness  
16          of your data.

17          I would not, like, put it in your IT  
18          person's hands. I love IT people, but they're  
19          just going to make sure it can flow through  
20          their system. Data owner's hands, they're  
21          biased, right. But if you have a set criteria  
22          where everybody is playing by the same rules,  
23          they know how to make their data usable, then  
24          you can have somebody like a chief data  
25          officer, who is experienced. And that -- and

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           that's their role.

3           MS. ZIELINSKIE: I would just add to that  
4           around just having the right data standards.  
5           So that you have -- and independent of when you  
6           are trying to make a choice or a subject. And  
7           being iterative and erring on the side of being  
8           conservative versus aggressive, right. So it's  
9           just about making very deliberate choices  
10          slowly. I think that's what we've learned  
11          around using -- using state level data is that  
12          you don't want to -- you don't want to, like,  
13          jump over. You want to be very, very  
14          incremental in how you're using that data and  
15          building your confidence about it.

16          MS. JIN: Great.

17          We'll do -- Khalil, I think, had a  
18          question, and then we'll go to Jeff.

19          MR. CUMBERBATCH: Yeah. Thank you.

20          It was mentioned in this panel and in the  
21          previous one about technology that is available  
22          to identify if a data set is good or not. Do  
23          you -- can you give us some of those  
24          recommendation's of ones that are good that  
25          could help us, as a task force, kind of think

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           about which pieces of technology we should be  
3           recommending?

4           MS. ZIELINSKIE: I think it's the benefit  
5           access space. If individual level enrollment  
6           data that's verified by health and human  
7           services agency is strong data, whether we're  
8           talking about Medicaid enrollment or expanded  
9           Medicaid, it's -- it's extremely good data.

10          Now, it can get messy, because it can get  
11          old quickly because of the level of -- people  
12          are transient; so communication information.  
13          But from our experience, using cross-program  
14          enrollment data, it has been extremely strong.

15          MR. SOUTHERLAND: What makes it such good  
16          data? Why is it strong? I'm not challenging.  
17          I'm just asking. Just asking -- just curious.

18          MS. ZIELINSKIE: That's fine.

19          Because of integrity issues. Because  
20          there is -- the use of data to make sure that  
21          people don't get benefits has also -- also  
22          pushed the conversation. So people really want  
23          to make sure that you're not making more than a  
24          thousand dollars a month.

25          MR. SOUTHERLAND: I see. Got you. Okay.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 MS. EVANS HARRIS: All right. I don't  
3 have specific products -- I don't have specific  
4 products that can do that, basically, evaluate  
5 the quality of data. But there are  
6 organizations who evaluate these things on a  
7 regular -- Data Kind, I think, who had -- whose  
8 -- who has a -- who has a spot here. Data  
9 Kind, regularly, is evaluating the quality of  
10 data sets and putting out information on how to  
11 evaluate data sets.

12 Kaggle is a community that, literally, is  
13 set up for data scientists and data  
14 practitioners to push data there, put  
15 challenges around it, and find fault with the  
16 data. These are organizations who -- who might  
17 be able to give you product recommendations,  
18 because they live and breathe this stuff. But  
19 I would pay more attention to the people in the  
20 space that are doing those types of  
21 evaluations, rather than looking for specific  
22 products.

23 MR. SOUTHERLAND: Thank you.

24 MS. JIN: Great. We're going to do two  
25 more questions just because we are -- we're

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           passed 8:15 here. We'll do Jeff and then Dan.

3           MR. THAMKITTIKASEM: I hope this isn't too  
4           vague. I just -- in terms of -- I'm struck by  
5           -- do you have any recommendations or process  
6           in terms of how do you develop or train, kind  
7           of, the people that can this across different  
8           agencies? This idea that you mentioned about  
9           have the confidence around the data itself, how  
10          it was derived; how it was collected. And  
11          thinking through, just from a city standpoint,  
12          like, each of the agencies are going to have to  
13          figure out whether it's from a central place or  
14          in -- I would just say, It's emergent; it's  
15          new. And so any recommendations on places to  
16          go to think about how do we even inform and  
17          train the people to start thinking about it  
18          that way, and then educate beyond maybe even us  
19          as a task force setting up certain standards.  
20          How do you get to the people and make sure they  
21          can do it? Does that -- that makes sense?

22          MS. ZIELINSKIE: Yeah. There's standards,  
23          and then there's culture.

24          MR. THAMKITTIKASEM: Yeah.

25          MS. ZIELINSKIE: And it does have to come

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           from leadership around intent and relying on  
3           outcomes and putting in the right safeguards.  
4           So that, you know, as we were preparing for  
5           this, our chief strategy officer said, The road  
6           to hell is paved with good intentions, right.  
7           So we need to make sure that while we may be  
8           aligned on intent, how, in the wrong hands, do  
9           we have the appropriate safeguards in place.

10                   But as it relates to talent, I think it's  
11           around being extremely deliberate about how you  
12           are leading an organizational culture. And  
13           it's everyone's responsibility to protect this  
14           data. And it's -- it's just leadership.

15                   MS. EVANS HARRIS: Yes to all of that.

16                   There is -- I'll give you more  
17           recommendations. There -- because there are  
18           organizations who -- Andrew, John Hopkins, he  
19           has curriculums and help cities and local  
20           governments and understand how to use data. So  
21           if he had -- if he were here when you asked  
22           that question -- is he here? You should ask  
23           Andrew. Andrew can do it.

24                   Also, GovLab. GovLab does this.

25                   And it's a culture thing; right? So don't

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 trust anybody that says, I'm going to just give  
3 you a webinar, and you guys will be experts on  
4 using data. That's not it. It's a cultural  
5 thing, right. So it's understanding the  
6 changes that have to be made in the -- in the  
7 way that people are making decisions, in the  
8 way that data is used and treated and looked at  
9 and spread across. One of the things at NSA,  
10 which were -- it's a data agency, and so  
11 everybody, regardless of your role, had a  
12 responsibility related to the data and had to  
13 be trained on a regular basis, and reminded of  
14 that responsibility. Not just the policies  
15 that governed it, but also the systems and the  
16 consequences and the implications. And  
17 literally, there were, like, posters all over  
18 the place explaining, you know, this is your  
19 duty and why it's important. That's what you  
20 want to see to build a strong data-minded  
21 culture.

22 MS. JIN: Great. Do one more question.

23 MR. HAFETZ: Thank you. A question, I  
24 guess, primarily for Ginger, but Natalie, also,  
25 can jump in.

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 I think it would just be helpful if you  
3 could talk a little -- and I think it was, sort  
4 of, implicit in some of your statements, but  
5 how automation and benefits enrollment and use  
6 of data systems is a tool to advance fairness  
7 and equity. And then also, how should that be  
8 a criteria or consideration in some of the  
9 issues that were are looking about in terms of  
10 oversight of ADS's that have been talked about  
11 tonight?

12 MS. ZIELINSKIE: Sure. So the way in  
13 which we've been able to use ADS's across the  
14 country is really around serving people better.  
15 So -- and in doing so, you are able to break  
16 down historically fragmented silos of service  
17 delivery areas. And then -- also then align on  
18 better outcomes. So in doing so, all the way  
19 down to the individual level, the role of these  
20 ADS's, in some cases, as it relates to benefits  
21 access. And we can certainly have a  
22 conversation about when ADS's have been used to  
23 be punitive, and that's certainly a  
24 consideration, as well. So which then leads  
25 to, again, back to culture and intent. But as

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           we think about aligning on better outcomes, the  
3           ability to serve people across those program  
4           silos is certainly available through better use  
5           of ADS's.

6           And again, we're asking the same questions  
7           for benefits applications. You know, 80  
8           percent of the information is the same. So if  
9           we can be thoughtful about aligning on  
10          eligibility criteria in order to make it easier  
11          for individuals to be served comprehensively.  
12          I also think that in regards to data  
13          sovereignty, individuals being able to own  
14          their own data and apply it and have the choice  
15          about how they can apply their data to  
16          different programs and services, that would be  
17          of best interest for them and their families,  
18          certainly, has a lot of opportunity in the  
19          benefits access space.

20          MS. JIN: Okay. All right. So we --  
21          another round of applause, obviously, for these  
22          women.

23          I am -- thank you all for being here on --  
24          on a Tuesday evening past 8:00. I'm going to  
25          turn things over to Brittny.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           MS. SAUNDERS: Yeah. And so, again, thank  
3 you, everyone. Thank you so much to our  
4 panelists. I know that -- or I feel that it's  
5 been a really rich and substantive  
6 conversation. And I feel excited, and I'm sure  
7 other folks on this panel feel excited about  
8 the way this information is going to help to  
9 advance the conversations that we are having  
10 amongst ourselves. And also, the tone that you  
11 set and the kind of concreteness of what you  
12 shared in terms of, like, upcoming  
13 conversation. So thank you so much.  
14 Incredibly grateful.

15           At this point, we were going to turn it  
16 over for public comments. I have to say I am  
17 astounded to hear that there actually --  
18 there's no one currently signed up. I am not  
19 going to have us wrap up however, until I ask  
20 one more time, and allow for an uncomfortable  
21 amount of wait time. So the folks can build up  
22 the nerve if they're thinking about it, but not  
23 quite convinced that they want to share come  
24 comments.

25           So is there anyone who would like to share

1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 comments?

3 KATIE: Hi. Thank you. My name is Katie.  
4 I don't have so much of a comment as a  
5 question.

6 I'm curious as to whether there's someone  
7 on this very large task force who is  
8 responsible, specifically, for community  
9 engagement. Mostly because I've -- I've heard  
10 a lot of criticisms, specifically, about the  
11 lack of community engagement over the last, at  
12 least, year and a half.

13 And I'm also confused as to why this  
14 conversation is happening at a -- a very  
15 beautiful space, like New York Law, but not  
16 necessarily a place that would be considered  
17 more accessible to the folks that have been  
18 called out in these conversations for the past  
19 couple of hours. So I'm curious as to how that  
20 decision was made, and what steps the task  
21 force is willing to commit to, to ensure that  
22 that -- this conversation is as broad as it  
23 needs to be.

24 MS. SAUNDERS: So I'm happy to start a  
25 little bit, and then if some other folks want

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           to share.

3           So I think I can say with confidence that  
4           everyone here on this task force shares a  
5           commitment to robust public engagement. I'll  
6           say that, as we have thought about this, we  
7           have not only scheduled these, kind of, two  
8           large public engagement sessions here, we also  
9           are developing plans right now for community  
10          sessions that are going to take place during  
11          the summer. Our thought on those is that we  
12          would partner with community-based  
13          organizations, do those outside of Manhattan  
14          and other parts of the city, precisely for the  
15          reasons that you shared.

16          I also will say that, like, we have, kind  
17          of, used own networks of community-based  
18          organizations to make sure that we've pushed  
19          out information about these sessions to those.  
20          So I think it's something that we're committed  
21          to and will continue to work on. I don't think  
22          there's any one person here who is assigned  
23          that responsibility. I think it's a commitment  
24          that we all share.

25          AL: Thank you for your time and for

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           giving me the opportunity to ask you a few  
3           questions. My name is Al.

4           And so as the panelists have testified,  
5           identifying bias in ADS is a great challenge,  
6           and creating a public board to govern the use  
7           of ADS seems to be a strategy used by the  
8           federal government as suggested by Natalie  
9           Evans Harris.

10          In order to pursue many of the  
11          recommendations made today, it would be  
12          necessary to make the algorithms themselves  
13          available and transparent. Not to say the data  
14          itself, just the algorithms.

15          Is this something that the task force has  
16          considered, and what reservations do you have  
17          about publicly releasing algorithms used by  
18          government agencies?

19          And finally, should government agencies be  
20          allowed to use algorithms from private third  
21          parties when the algorithm are subject to IP  
22          laws and cannot be evaluated?

23          MR. THAMKITTIKASEM: I think, one -- I  
24          think we, as a task force, have been, kind of,  
25          taking a look at, kind of, the structure of

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           what the law requires in terms of taking a look  
3           at ADS, and had the open conversation about  
4           what did or didn't qualify in criteria reviews.  
5           Part of the discussion has definitely been  
6           trying to figure out what protocols -- one,  
7           what would fall in or not; what guidance we  
8           could give to city agencies and other people  
9           on, kind of, how they can start to evaluate?

10           Two, I think the focus has been on that  
11           and more on than what the process would be on  
12           what could be public, or what can't be public.  
13           I think, as people have raised here, there  
14           aren't necessarily, kind of, public forums per  
15           se, but there are different models that we  
16           would like to consider in terms of making  
17           recommendations on how to do that. Whether it  
18           be, kind of, a private, third party, a  
19           centralized versus a specific agency-by-agency.  
20           I think those are all things we've heard here  
21           that we're trying to evaluate and understand,  
22           kind of, effectively what recommendations we  
23           could put forth in that. So as opposed to,  
24           kind of, answering any specific questions about  
25           what we can or can't do right now, I think

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           we're focused on the recommendations that will  
3           allow cities and the agencies to, kind of,  
4           understand what to contribute to, and then what  
5           structures we might place, and what actual  
6           processes we'll put in place to allow for that  
7           type of review.

8           MS. JIN: You really did make it a long --

9           MS. SAUNDERS: I know. I wanted to make  
10          it as much wait time as possible.

11          So I'll make one last call. Is there  
12          anyone else who would like to share a comment?

13          UNIDENTIFIED SPEAKER: Will the report  
14          include any recommendations based on actual  
15          evaluations of current or historically used  
16          systems?

17          MR. THAMKITTIKASEM: I mean, I think right  
18          now, I don't want to speak for everybody,  
19          because I think we all have our own different  
20          opinions on that. Right now, the focus has  
21          been on really trying to capture what would  
22          fall in or not. So I think that while examples  
23          are being gathered from agencies based on  
24          protocols we are trying to develop, I don't  
25          think we're going to get to everything.

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           Certainly, part of the task force  
3           recommendation should identify how to start  
4           identifying what would or would not fall in,  
5           because as a set-up to that, we also have  
6           several areas where we need focus in on, you  
7           know, identifying the potential systems that  
8           would have implicit bias issues. And then how  
9           you would go about evaluating what that is and,  
10          ultimately, making recommendations on how to --  
11          not just ways to correct it potentially, also,  
12          in terms of what limits on use then that should  
13          apply. I think those are all types of  
14          recommendations we would like put forth as a  
15          process. And I think just something to  
16          reiterate: I don't think anyone and I think we  
17          both mentioned this kind of input -- you know,  
18          kind of, suggested in the timing. I don't  
19          think anyone here -- at least speaking for  
20          myself on this. I didn't think that there  
21          would be an end-all/be-all answer by the end of  
22          this task force for all purpose so much as  
23          guidelines, process, and other steps to take to  
24          continue the work. Because I think, certainly,  
25          personally believe, and I think the task force

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           will agree: It's going to be an iterative  
3           process.

4           So there will be more examples. There  
5           will be more, kind of, things to consider. And  
6           we want to set up a framework, since it's the  
7           first time that we've done it in the city, to  
8           allow for that.

9           MS. WHITTAKER: Can I jump in as a task  
10          force member? Just a different answer to that  
11          question.

12          MR. THAMKITTIKASEM: Please.

13          MS. WHITTAKER: The task force was asked  
14          multiple times over months for examples of real  
15          systems that are used in New York City, and the  
16          city has not been forthcoming with us. So  
17          there are a number of reasons, I'm sure, for  
18          that. But that is a current barrier to the  
19          writing of a report that would include, you  
20          know, sort of an anchor on real systems  
21          currently in use in New York.

22          UNIDENTIFIED SPEAKER: Are any city  
23          agencies sort of not being investigated or  
24          exempt from the task force's investigation?

25          MS. SAUNDERS: Well, one, I would say that

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           the task force is not conducting an  
3           investigation. We are developing  
4           recommendations in the areas that are in the  
5           legislation. And there's not really any  
6           limitation of the legislation, at least as I  
7           understand it, in terms of like -- there's no  
8           specification around it. But --

9           MR. THAMKITTIKASEM: I think that --  
10          again, to reiterate, no investigation is going  
11          on. Like the task force is really just focused  
12          on starting the conversation, making  
13          recommendations, and we've heard, kind of,  
14          there are a lot of really good thoughts that  
15          can go into not just what -- you know, tiering  
16          things, considerations on how to approach it,  
17          but also, kind of. Process that we should  
18          consider.

19          So something that I asked about was just  
20          the practicality of how to do it in a way that  
21          can, you know, maybe have an immediate impact  
22          versus a long-term impact especially in the,  
23          kind of, the oversight in that third party,  
24          kind of, review. Where it should be; what the  
25          centralization should be? But those are -- I

## 1 ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2 think no one is exempt from that. In terms of  
3 -- for each of those, it's kind of a broader  
4 look, because it would allow for a broad city  
5 with a lot of different agencies doing a lot of  
6 different things that they are not really sure  
7 whether or not they do follow it or not.

8 MR. REPLOGLE: If I could just add as a  
9 member of the task force, I mean, I think, you  
10 know, tonight at this hearing, as well through  
11 the task force process, I've been becoming  
12 educated about a lot of these different ADS  
13 systems, and the potential for disparate impact  
14 due to the bias in the data. And I think, you  
15 know, we're looking at the full array of how  
16 ADS applies to the city, as we think about  
17 making recommendations for the future.

18 MS. SAUNDERS: And I think we are going to  
19 maybe -- I see you have the mic -- maybe take  
20 one more, and then we're going to call it,  
21 because we actually have to get out of this  
22 room and allow folks to --

23 UNIDENTIFIED SPEAKER: I think one thing  
24 I'm hopeful with the community sessions is  
25 they're going to be robust. But I think what's

## 1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM

2           illustrated here, at this time, is there is not  
3           a whole lot education for community members to  
4           absorb what the systems are; how they are used;  
5           how frequently they are. And so I'm wondering  
6           what the role is of the task force is in  
7           educating folks for this community sessions.  
8           Because I feel like it's hard to have a robust  
9           conversation about the impact and the scope  
10          without actually being informed and having  
11          transparency and accountability of what people  
12          are actually going to make recommendations  
13          about.

14                 MR. THAMKITTIKASEM: I think that -- I  
15           will say, I mean, part of it also for the task  
16           force to educate themselves in these questions.  
17           And so for -- and I think that is an important  
18           step, because we are trying to develop  
19           recommendations to understand. And I think  
20           we've been trying to put more and more out on,  
21           say, the website. And, kind of, that's part of  
22           the reason we have the public speaker -- I'm  
23           sorry -- expert speakers, as well, To help us  
24           identify some of the major issues and put it  
25           out there for consideration. I think we're

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           open to, kind of, more ideas, as well, quite  
3           honestly. I don' think we were -- we are  
4           definitely trying to do as much as we can to  
5           elicit that feedback. And in this initial  
6           frame, that's why we've kept open the  
7           opportunity for these community sessions that  
8           are beyond these two public forums. The two  
9           public forums were our initial foray into  
10          trying to have this discussion and using the  
11          frame of expert speakers to, kind of, speak to  
12          it with a little more, kind of, force and, kind  
13          of, emphasis and experience. To then elicit,  
14          kind of, more commentary on that. And if that  
15          doesn't work, obviously, I think we'll think a  
16          little harder about how to do it, but we're  
17          very open to other people suggesting ways to do  
18          that, whether it's, kind of, more on the  
19          website, more conversation beforehand, whatever  
20          that is, I think that you should reach out to  
21          any of us to suggest that, and we'll be happy  
22          to take that.

23                MS. SAUNDERS: Yeah. And so just one  
24                quick commercial for the next session, which is  
25                going to be the -- the next large-scale public

1           ADS TASK FORCE - PUBLIC ENGAGEMENT FORUM  
2           forum will be here on May 30th, same time, same  
3           place. And then, as I said, we are developing  
4           plans for the community sessions. And as soon  
5           as those are firmed up, we will let folks know.  
6           And we encourage folks to join again to share  
7           your, kind of, concrete recommendations and  
8           suggestions for what the task force should be  
9           considering as it moves forward, kind of, in  
10          the same way that our panelists did earlier  
11          today.

12                   And with that, I would like to thank  
13          everyone for coming out tonight. As we said,  
14          it is a, you know, mid-week night. We  
15          appreciate the time that folks have taken to  
16          sit down with us and your comments and your  
17          questions, and thank you.

18                   MR. THAMKITTIKASEM: Thanks, everyone. We  
19          really appreciate it. Thank you.

20  
21  
22                   (Time noted: 8:32 p.m.)  
23  
24  
25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

C E R T I F I C A T E

I, Douglas F. Colavito, a Certified Court Reporter and Notary Public of the State of New York, do hereby certify that the transcript of the foregoing proceedings, taken at the time and place aforesaid, is a true and correct transcription of my shorthand notes.

*Douglas F. Colavito*

-----

DOUGLAS F. COLAVITO

	<b>44:8;52:6,23;82:24;123:11</b>	<b>49:7;50:6;82:6</b>	<b>20;50:1;51:1;52:1,14;53:1;54:1;55:1;56:1;57:1;58:1;59:1;60:1;61:1;62:1;63:1;64:1;65:1;66:1,20;67:1;68:1;69:1;70:1;71:1;72:1;73:1;74:1;75:1;76:1;77:1,11;78:1;79:1;80:1;81:1;82:1;83:1;84:1;85:1;86:1;87:1;88:1;89:1;90:1;91:1,9;92:1;93:1;94:1;95:1,15;96:1;97:1;98:1;99:1;100:1;101:1,14;102:1;103:1;104:1;105:1;106:1;107:1;108:1;109:1;110:1;111:1;112:1;113:1;114:1;115:1;116:1,5,7;117:1,3;118:1;119:1;120:1;121:1;122:1,12,16;123:1;124:1;125:1</b>	<b>22:2;49:18;52:16</b>
<b>\$</b>		<b>additional (2)</b> 19:11;66:8		<b>affirmative (1)</b> 48:25
<b>\$105 (2)</b> 77:3,5	<b>accountable (3)</b> 54:10;84:16;95:4	<b>address (11)</b> 6:5;7:20;10:4; 23:20;24:2;50:22; 56:15;57:4,6;79:7; 98:14		<b>afford (1)</b> 75:12
<b>\$11,000 (1)</b> 77:5	<b>accounted (1)</b> 46:10			<b>Affordable (2)</b> 77:14,15
<b>\$7 (1)</b> 75:8	<b>accounting (1)</b> 37:5	<b>addressed (3)</b> 23:24;26:11;72:4		<b>afraid (1)</b> 83:12
<b>[</b>	<b>accurate (1)</b> 65:18	<b>addresses (2)</b> 38:4;72:10		<b>African (1)</b> 39:21
<b>[ph] (2)</b> 24:6,6	<b>achieve (2)</b> 17:17;31:7	<b>addressing (2)</b> 37:15;51:4		<b>afterwards (1)</b> 54:25
<b>[sic] (1)</b> 83:16	<b>achieved (1)</b> 42:19	<b>adequate (1)</b> 31:19		<b>again (14)</b> 8:7;16:20;24:17; 31:2;69:13;72:3; 80:11;91:20;104:3; 111:25;112:6;113:2; 121:10;125:6
<b>A</b>	<b>acknowledge (1)</b> 3:10	<b>adequately (1)</b> 44:6		<b>against (6)</b> 27:19;45:24;50:2, 19:54;7;71:4
<b>abbreviate (1)</b> 23:18	<b>acknowledges (1)</b> 27:12	<b>adjudication (1)</b> 66:4		<b>agencies (29)</b> 6:4;7:11,22;10:23; 24:13;26:24;30:17; 35:5;42:8,16;49:21; 50:21;54:9;56:2; 63:9;76:3;86:12; 90:4,13;97:20;108:8, 12;116:18,19;117:8; 118:3,23;120:23; 122:5
<b>ability (2)</b> 22:9;112:3	<b>acquisition (1)</b> 52:8	<b>adjusted (1)</b> 38:2		<b>agency (15)</b> 19:3;48:23;62:12; 65:15;77:19;82:2; 86:11;89:15,17,24; 90:15;97:24;99:12; 106:7;110:10
<b>able (20)</b> 19:12;23:5;60:6, 24;63:22;72:11;76:3; 77:15,17;84:7;85:25; 90:6,17;96:17;99:18; 101:11;107:17; 111:13,15;112:13	<b>across (15)</b> 15:7;16:4;59:23; 63:2;75:10,18;79:15; 80:25;86:11;92:7; 95:20;108:7;110:9; 111:13;112:3	<b>Administration (5)</b> 4:5,21;15:18; 76:18;82:4	<b>ADS's (39)</b> 27:12,16;41:2,5,9, 25;42:20;43:8,22; 44:4,5,20,23;45:22; 50:24;51:2,4,6,11,20; 52:10,16,21;53:4,13, 23;54:2,10,11,11; 87:21;94:13;95:14; 98:24;111:10,13,20, 22;112:5	<b>agency-automated (3)</b> 19:15;23:17;27:11
<b>absolute (1)</b> 78:19	<b>Act (3)</b> 76:13,14;77:15	<b>administrative (1)</b> 90:12		<b>agency-by-agency (1)</b> 117:19
<b>absorb (1)</b> 123:4	<b>action (4)</b> 20:9;46:6;63:19; 99:9	<b>administrators (1)</b> 10:22		<b>agency's (2)</b> 43:8;90:15
<b>academic (2)</b> 24:11;66:4	<b>actions (1)</b> 42:7	<b>admit (1)</b> 14:16		<b>aggregate (1)</b> 57:14
<b>academics (3)</b> 66:14;86:5;90:5	<b>activists (1)</b> 40:6	<b>ado (1)</b> 14:2		<b>aggregative (1)</b> 55:20
<b>acceptable (2)</b> 69:21;71:16	<b>activities (1)</b> 57:16	<b>adopt (4)</b> 41:16;48:14;96:18, 22		<b>aggressive (3)</b> 44:12;47:8;105:8
<b>access (23)</b> 28:13;59:21,25; 74:21,23;75:4,11,17, 23;76:4;78:3,7; 80:14;81:19;86:7; 89:21;90:15,18;94:2; 100:13;106:5; 111:21;112:19	<b>actual (3)</b> 63:21;118:5,14	<b>adopted (2)</b> 83:23;103:3		<b>ago (5)</b> 14:18;20:25;39:19; 41:21;74:5
<b>accessible (4)</b> 80:11;86:14;98:10; 114:17	<b>actually (27)</b> 12:12;13:8;15:20; 29:8,10,11;30:11; 56:20,25;57:19; 59:25;63:24;65:19; 68:12;69:11;70:17; 71:23;76:9;92:13; 93:18,22;98:6; 101:10;113:17; 122:21;123:10,12	<b>adopting (5)</b> 16:17;18:19,19; 41:19;82:18		<b>agree (2)</b> 60:9;120:2
<b>according (1)</b> 38:10	<b>ad (2)</b> 53:6;73:16	<b>adoption (1)</b> 17:2		<b>agreement (1)</b> 89:20
<b>account (4)</b> 28:11;38:2;50:5; 57:22	<b>add (4)</b> 70:10;91:2;105:3; 122:8	<b>ADS (158)</b> 2:1,13,3:1;4:1,5:1; 6:1,7,13;7:1,6,11,21, 22;8:1,9:1;10:1;11:1, 22;12:1;13:1;14:1; 15:1;16:1;17:1;18:1; 19:1;20:1;21:1;22:1; 23:1;24:1;25:1;26:1; 27:1;28:1;29:1;30:1; 31:1;32:1;33:1;34:1; 35:1;36:1;37:1,19, 23;38:1;39:1;40:1; 41:1,19;42:1,16;43:1, 12;44:1,17;45:1,19, 20;46:1;47:1;48:1,4, 11,15,20;49:1,7,12,		<b>AI (4)</b> 4:25;15:15;16:18;
<b>accountability (11)</b> 8:25;16:16;24:23; 31:21;39:13;42:18;	<b>adding (1)</b> 29:15			
	<b>addition (3)</b>			

17:15 <b>aid (1)</b> 42:3 <b>aim (1)</b> 11:9 <b>aims (1)</b> 42:3 <b>AISP (1)</b> 96:15 <b>AL (2)</b> 115:25;116:3 <b>alarming (1)</b> 44:9 <b>algorithm (1)</b> 37:23 <b>algorithm (13)</b> 7:3;37:22;45:6,7,8, 18;50:12;78:14,23; 80:16;85:7;94:20; 116:21 <b>algorithmic (3)</b> 24:9,22;87:17 <b>algorithmically (1)</b> 37:23 <b>algorithms (20)</b> 6:14;11:15;15:15; 16:18;29:17;38:2; 40:24;45:4,20;50:8, 14;56:10;59:13; 70:15;87:22,24; 116:12,14,17,20 <b>algorithm's (1)</b> 50:17 <b>align (2)</b> 80:20;111:17 <b>aligned (1)</b> 109:8 <b>aligning (2)</b> 112:2,9 <b>alleged (1)</b> 49:8 <b>alleging (1)</b> 47:5 <b>allocated (1)</b> 32:2 <b>allocations (1)</b> 11:18 <b>allow (10)</b> 11:13;49:4;89:17; 98:18;113:20;118:3, 6;120:8;122:4,22 <b>allowed (2)</b> 76:14;116:20 <b>allows (4)</b> 80:2;90:4,4,5 <b>alluded (1)</b> 18:17 <b>almost (5)</b> 64:3,11;66:3;83:2;	84:18 <b>Along (4)</b> 28:4;49:23;63:23; 96:7 <b>although (2)</b> 26:15;35:11 <b>always (6)</b> 31:9;69:8;79:22, 25;80:15;81:3 <b>amazing (1)</b> 3:16 <b>ambitious (2)</b> 6:8;9:22 <b>amendment (2)</b> 46:16,21 <b>amendments (1)</b> 51:18 <b>Americans (1)</b> 39:21 <b>among (1)</b> 53:18 <b>amongst (1)</b> 113:10 <b>amount (9)</b> 17:5,8,12;18:13; 30:22;38:7;56:17; 99:17;113:21 <b>amounts (1)</b> 34:24 <b>Amy (1)</b> 97:4 <b>analysis (6)</b> 7:8;69:23;70:4; 79:7;85:4;98:10 <b>analyst (1)</b> 31:3 <b>analysts (1)</b> 44:16 <b>analytic (1)</b> 104:14 <b>analytics (5)</b> 3:4,6;17:13;20:25; 21:8 <b>analyze (3)</b> 44:17;49:12;86:16 <b>analyzing (1)</b> 42:5 <b>anchor (1)</b> 120:20 <b>Andrew (15)</b> 4:20;10:25;14:5,6, 15,21;32:17;58:3; 61:8;67:12;84:6; 86:17;109:18,23,23 <b>Andrew's (1)</b> 33:13 <b>anti-corruption (1)</b> 32:7 <b>antithetical (1)</b>	43:5 <b>antonymous (7)</b> 36:15,19,25;37:8; 38:6,10,19 <b>apartments (1)</b> 47:3 <b>appear (2)</b> 50:9;76:5 <b>applause (2)</b> 73:2;112:21 <b>applicants (1)</b> 11:6 <b>application (8)</b> 75:24;76:17,19,22, 25;77:9,20;78:21 <b>applications (2)</b> 75:8;112:7 <b>applied (3)</b> 21:17;59:13;71:14 <b>applies (1)</b> 122:16 <b>apply (5)</b> 77:21;88:12; 112:14,15;119:13 <b>applying (1)</b> 21:13 <b>appreciate (6)</b> 5:21;12:24;32:15; 73:23;125:15,19 <b>approach (2)</b> 78:24;121:16 <b>approaches (1)</b> 80:24 <b>appropriate (4)</b> 22:25;42:12;89:10; 109:9 <b>appropriately (1)</b> 71:14 <b>approximately (3)</b> 38:9;53:9;77:5 <b>April (1)</b> 44:13 <b>Aptiv (1)</b> 38:11 <b>arbiter (2)</b> 63:12;71:13 <b>archaic (2)</b> 93:14,15 <b>archival (2)</b> 28:23;29:14 <b>archiving (4)</b> 27:10;29:11;38:5, 16 <b>archivists (1)</b> 29:13 <b>area (4)</b> 9:8;36:13;40:20; 93:7 <b>areas (10)</b>	8:13;34:20;39:2; 68:18,18,25;88:13; 111:17;119:6;121:4 <b>argument (1)</b> 68:11 <b>arise (4)</b> 24:23;26:7;28:14; 31:23 <b>around (36)</b> 6:7;12:17;25:14, 23;33:17;36:18; 55:23;57:20;77:12; 78:6;80:9;82:23; 83:18,20;84:3,22; 87:11;88:2;92:4,12; 94:12;95:23,24;96:8; 97:8;99:14;100:10, 17;105:4,11;107:15; 108:9;109:2,11; 111:14;121:8 <b>array (2)</b> 8:9;122:15 <b>arrest (1)</b> 101:6 <b>arrested (1)</b> 46:25 <b>arrests (1)</b> 47:5 <b>arrive (1)</b> 28:19 <b>artificial (4)</b> 6:16;34:13,14;36:6 <b>aside (1)</b> 70:19 <b>aspect (1)</b> 57:14 <b>Aspen (1)</b> 97:5 <b>assess (1)</b> 64:8 <b>assessment (3)</b> 49:6,14;63:20 <b>assessments (1)</b> 24:14 <b>assigned (1)</b> 115:22 <b>assigning (1)</b> 103:24 <b>assist (1)</b> 6:17 <b>assistant (1)</b> 4:13 <b>associate (4)</b> 14:10,13;33:7;39:8 <b>associated (1)</b> 103:10 <b>assumption (1)</b> 30:2 <b>assumptions (1)</b>	67:23 <b>astounded (1)</b> 113:17 <b>astounding (1)</b> 46:2 <b>attached (2)</b> 102:25;103:6 <b>attempted (1)</b> 79:6 <b>attend (1)</b> 19:12 <b>attended (1)</b> 19:18 <b>attende (1)</b> 12:15 <b>attention (6)</b> 3:15;15:11;25:13; 39:5;56:18;107:19 <b>attorneys (1)</b> 40:7 <b>audience (1)</b> 62:20 <b>audits (3)</b> 59:12;94:19,25 <b>August (1)</b> 41:22 <b>Australia (1)</b> 12:17 <b>authority (3)</b> 26:2;33:21;47:2 <b>auto (1)</b> 34:4 <b>automated (42)</b> 2:6;6:5,9;10:19; 11:15;20:20;29:16; 30:3;33:10;34:5; 36:22;37:16;38:16, 24;40:25;41:17;42:2, 4,11;43:19,22;45:4; 52:8;56:9;62:22; 67:17;68:19;74:15; 75:15;78:12,23;79:2, 20;80:17;83:4;84:3, 10,11;85:3;87:14; 88:13;89:4 <b>automatically (2)</b> 77:9;103:6 <b>automating (1)</b> 23:9 <b>automation (9)</b> 15:16;16:18,24,25; 17:15;18:25;31:13; 78:4;111:5 <b>automations (1)</b> 62:14 <b>available (10)</b> 2:16;21:5;54:25; 71:10;86:19,20,22; 105:21;112:4;116:13
---	---	--	---	---

<p><b>avoidance (1)</b> 38:15</p> <p><b>awareness (1)</b> 75:24</p> <p><b>away (2)</b> 89:24,25</p> <p><b>awesome (2)</b> 97:4;104:13</p>	<p>32:11;39:10,20</p> <p><b>behave (1)</b> 36:25</p> <p><b>behavior (2)</b> 50:8;66:7</p> <p><b>behind (6)</b> 12:4;13:21;17:4; 18:18;20:14;29:17</p> <p><b>beings (1)</b> 70:20</p> <p><b>belong (1)</b> 85:23</p> <p><b>beneficial (1)</b> 34:17</p> <p><b>benefit (8)</b> 68:19;69:22;76:16; 83:9;84:24;87:3,6; 106:4</p> <p><b>benefited (1)</b> 88:22</p> <p><b>benefits (12)</b> 7:24;74:8,18,22; 75:9;76:3;78:7; 106:21;111:5,20; 112:7,19</p> <p><b>besides (1)</b> 71:22</p> <p><b>best (12)</b> 78:11;79:21;82:16; 92:3,8;93:13;94:4,7, 12,23;96:24;112:17</p> <p><b>better (13)</b> 15:14;18:11,22; 42:13;68:24;69:2,6; 75:12;78:4;111:14, 18;112:2,4</p> <p><b>beyond (4)</b> 71:17;80:15; 108:18;124:8</p> <p><b>bias (42)</b> 7:16;37:12;45:10, 10,10,11;50:2,8,8,20; 54:4,13;55:13,17; 56:4;57:2;58:12; 59:23;62:18;63:21; 64:9;67:14,20;68:6, 10,20;69:4,21,21; 70:14,14;79:11,12; 87:17,17;88:3,4,4,6; 116:5;119:8;122:14</p> <p><b>biased (12)</b> 40:25;45:3;48:12; 49:4;56:8,8,12; 60:18;63:11;68:9; 101:10;104:21</p> <p><b>biases (9)</b> 45:8,13,14;48:2,6; 50:11;53:23;56:16; 98:3</p>	<p><b>bidder (3)</b> 60:23,24,25</p> <p><b>big (3)</b> 5:16,19;10:9</p> <p><b>bigger (1)</b> 80:17</p> <p><b>Bike (1)</b> 35:9</p> <p><b>billion (1)</b> 75:8</p> <p><b>bios (1)</b> 13:17</p> <p><b>births (1)</b> 55:21</p> <p><b>bit (10)</b> 6:18;18:21;26:16; 32:15;69:10,11;72:7; 75:14;82:12;114:25</p> <p><b>black (3)</b> 45:24;46:9;53:19</p> <p><b>Blasio (1)</b> 41:7</p> <p><b>blind (1)</b> 79:7</p> <p><b>blockchain (2)</b> 100:8,11</p> <p><b>board (3)</b> 66:16,23;116:6</p> <p><b>boards (4)</b> 65:21;66:22;67:2; 96:16</p> <p><b>bodies (2)</b> 65:25;66:7</p> <p><b>boiler-plate (1)</b> 24:20</p> <p><b>bold (1)</b> 51:24</p> <p><b>borough (1)</b> 88:9</p> <p><b>both (18)</b> 13:22;15:9;17:2; 21:2;27:3;30:23; 31:23;36:4;41:3; 54:23;59:12;63:4; 78:8,13;87:14;97:13, 16;119:17</p> <p><b>boundary (1)</b> 63:3</p> <p><b>breadth (1)</b> 91:16</p> <p><b>break (2)</b> 76:4;111:15</p> <p><b>breaking (1)</b> 60:12</p> <p><b>breathe (1)</b> 107:18</p> <p><b>breathes (1)</b> 66:12</p> <p><b>bright (2)</b></p>	<p>75:18;96:2</p> <p><b>BrightHive (4)</b> 65:11,13;74:6; 81:15</p> <p><b>bring (3)</b> 12:3;18:9;99:3</p> <p><b>bringing (1)</b> 64:16</p> <p><b>Brittney (2)</b> 2:25;112:25</p> <p><b>broad (5)</b> 6:19;88:13,14; 114:22;122:4</p> <p><b>broader (1)</b> 122:3</p> <p><b>broadly (3)</b> 13:20;83:24;92:4</p> <p><b>Bronx (1)</b> 83:10</p> <p><b>Brother's (1)</b> 93:6</p> <p><b>brought (1)</b> 31:20</p> <p><b>build (8)</b> 9:13;10:6;36:24; 58:20;67:19;87:7; 110:20;113:21</p> <p><b>building (4)</b> 36:19;82:23;83:22; 105:15</p> <p><b>built (3)</b> 9:19;28:3;60:3</p> <p><b>bunch (1)</b> 61:15</p> <p><b>burden (4)</b> 48:23,25;55:15,25</p> <p><b>burdens (1)</b> 53:17</p> <p><b>buried (1)</b> 29:3</p> <p><b>bus (2)</b> 36:22;38:16</p> <p><b>business (1)</b> 22:4</p> <p><b>businesses (1)</b> 16:7</p> <p><b>button (1)</b> 77:22</p> <p><b>buying (1)</b> 28:16</p>	<p>118:11;122:20</p> <p><b>called (7)</b> 26:18;45:9;77:16; 81:15;84:21;95:21; 114:18</p> <p><b>came (4)</b> 12:22;68:5;102:10, 20</p> <p><b>cameras (1)</b> 20:2</p> <p><b>can (111)</b> 7:12,14,18,18,22; 8:19;9:9;10:3;11:2; 22:22;24:8;25:16; 29:5;30:2,9,13; 32:19;33:2;34:15; 35:7,12,13,14;38:21; 42:5,19;43:10;45:11; 48:7;50:8;54:19; 58:10;60:10,15; 65:22,25;66:7,21,24, 24;67:2,11,14;68:19; 69:2;70:14;73:6; 74:11;75:4;76:16; 78:2;80:22;81:18; 82:13;83:16;84:24; 85:2,14,24,24;86:5,6, 15,16,21;87:24;88:5, 8,22,24,24;89:24,25; 90:3,9,24;91:10,12; 94:21;95:4;98:10,19; 99:3;100:3,11; 101:17;102:11,23; 103:19;104:13,19,24; 105:23;106:10,10; 107:4;108:7,21; 109:23;110:25; 111:21;112:9,15; 113:21;115:3;117:9, 25;120:9;121:15,21; 124:4</p> <p><b>capable (1)</b> 22:24</p> <p><b>capacity (4)</b> 17:10;30:25;48:5; 83:22</p> <p><b>Capitol (1)</b> 82:2</p> <p><b>capsules (2)</b> 29:2,6</p> <p><b>capture (1)</b> 118:21</p> <p><b>captured (1)</b> 41:24</p> <p><b>cards (1)</b> 73:25</p> <p><b>Care (1)</b> 77:15</p> <p><b>carefully (1)</b></p>
<b>B</b>				
<p><b>back (11)</b> 24:17;32:24;63:2, 13;74:12;76:24;77:3; 95:6;102:13;104:3; 111:25</p> <p><b>bad (1)</b> 48:9</p> <p><b>bail (1)</b> 22:12</p> <p><b>Baltimore (1)</b> 15:3</p> <p><b>ban (1)</b> 44:25</p> <p><b>Barocas (4)</b> 4:11,11;70:24; 71:17</p> <p><b>barrier (1)</b> 120:18</p> <p><b>barriers (4)</b> 75:23,25;76:4;80:8</p> <p><b>based (9)</b> 14:25;25:20;38:20; 56:10;88:12;95:11; 98:20;118:14,23</p> <p><b>basic (2)</b> 62:5;74:24</p> <p><b>basically (2)</b> 89:19;107:4</p> <p><b>basis (6)</b> 21:12;67:4;89:2; 95:13,18;110:13</p> <p><b>BDT (1)</b> 75:7</p> <p><b>beautiful (1)</b> 114:15</p> <p><b>Beck (1)</b> 82:15</p> <p><b>become (2)</b> 36:14;84:18</p> <p><b>becoming (2)</b> 89:13;122:11</p> <p><b>beforehand (1)</b> 124:19</p> <p><b>begin (1)</b> 2:23</p> <p><b>beginning (2)</b> 89:23;96:12</p> <p><b>behalf (3)</b></p>	<p><b>calculating (1)</b> 71:3</p> <p><b>calculator (2)</b> 6:22,23</p> <p><b>call (5)</b> 23:11;62:5;101:21;</p>	<b>C</b>		

18:25 <b>carry (1)</b> 45:20 <b>cars (2)</b> 36:16,25 <b>case (9)</b> 18:20;19:25;27:4, 21:40;10:46;21;80:2; 96:24;103:24 <b>cases (7)</b> 20:10;23:22,22; 31:24;46:8;69:10; 111:20 <b>categories (1)</b> 36:10 <b>categorization (1)</b> 62:7 <b>categorize (1)</b> 44:20 <b>cause (2)</b> 47:4;79:4 <b>caused (1)</b> 58:22 <b>causes (1)</b> 37:25 <b>caveat (1)</b> 102:17 <b>CCHR (1)</b> 26:7 <b>CD (1)</b> 29:4 <b>CDO (1)</b> 103:2 <b>CDs (2)</b> 29:3,5 <b>census (1)</b> 55:23 <b>Center (12)</b> 5:4;14:7,11,22; 15:4;33:8,15,20; 52:24;57:15;69:23; 82:15 <b>centered (4)</b> 82:23;83:18;84:22; 88:2 <b>central (1)</b> 108:13 <b>centralization (1)</b> 121:25 <b>centralized (2)</b> 24:7;117:19 <b>centric (1)</b> 19:22 <b>CEO (1)</b> 74:8 <b>certain (9)</b> 7:17;20:4;28:22; 69:23;99:17;103:6,9, 9;108:19	<b>certainly (15)</b> 26:13;27:15;58:15; 74:16;77:7;79:19; 80:11,14;96:6; 111:21,23;112:4,18; 119:2,24 <b>chain (1)</b> 59:5 <b>chair (5)</b> 2:12;10:13;11:19; 39:6;41:17 <b>challenge (7)</b> 29:10;40:7;43:12; 63:18,22,25;116:5 <b>challenged (2)</b> 40:10;46:13 <b>challenges (4)</b> 16:10;69:15;92:25; 107:15 <b>challenging (3)</b> 9:23;75:24;106:16 <b>chance (1)</b> 11:4 <b>change (6)</b> 10:5;22:20;27:14; 33:18;85:24,25 <b>changes (2)</b> 22:8;110:6 <b>channel (2)</b> 26:10;81:2 <b>channels (1)</b> 80:25 <b>charge (2)</b> 74:24;78:11 <b>charged (1)</b> 6:2 <b>check (3)</b> 76:22;77:4,7 <b>Chicago (1)</b> 93:8 <b>chief (8)</b> 3:4;5:7;44:13,14; 104:11,13,24;109:5 <b>child (1)</b> 85:13 <b>children (1)</b> 95:14 <b>Children's (3)</b> 4:22;100:13,14 <b>choice (2)</b> 105:6;112:14 <b>choices (1)</b> 105:9 <b>choose (1)</b> 100:4 <b>chosen (2)</b> 19:8;51:14 <b>churches (2)</b> 93:7,7	<b>circumstances (1)</b> 56:15 <b>cite (1)</b> 67:15 <b>Citi (1)</b> 35:9 <b>cities (7)</b> 35:18;89:13;91:18; 96:16,21;109:19; 118:3 <b>citizenship (1)</b> 36:5 <b>city (108)</b> 3:3,5;4:16,19,5:11; 6:4,11;7:23;10:9,14; 11:8,14;12:5,14; 15:21,25;16:2,5,20; 19:18;20:24;21:7; 22:4,5,21,23;23:16; 24:5,7;25:16,22; 26:3;27:19;28:13; 30:17,20,24;31:8,11; 33:17,24;34:3,18,18; 35:13;36:15,19,24; 37:5,10,15;38:18; 40:8,10,12,13;41:6,8, 16;42:15;43:7,17; 44:25;45:25;46:3,13, 22;47:2;48:14;49:25; 52:5,9,13,18,22; 53:18;54:7;55:11,16, 21;58:6,9,16,18; 60:22;62:12;64:4; 66:10;71:5;74:14; 84:10,16;92:18,21; 95:9;99:12;101:6; 102:25;103:5; 108:11;115:14; 117:8;120:7,15,16, 22;122:4,16 <b>city-owned (1)</b> 38:15 <b>City's (3)</b> 38:23;41:11;58:13 <b>Civic (2)</b> 14:22;66:11 <b>civil (1)</b> 39:18 <b>civilian (1)</b> 44:16 <b>claim (2)</b> 60:5;70:13 <b>clarify (3)</b> 42:16;43:7;71:18 <b>classifications (1)</b> 42:7 <b>clause (3)</b> 46:20;76:19,23 <b>cleansed (1)</b>	48:8 <b>clear (5)</b> 72:18;78:18;80:9; 87:11;89:3 <b>clearly (1)</b> 80:4 <b>click (1)</b> 77:22 <b>client (1)</b> 78:2 <b>close (2)</b> 56:22;77:20 <b>closed (2)</b> 12:4;92:3 <b>closer (2)</b> 32:20,21 <b>closes (1)</b> 13:10 <b>closing (2)</b> 53:13;91:19 <b>co-chair (1)</b> 12:9 <b>co-chairs (1)</b> 2:24 <b>co-counsel (2)</b> 40:9;46:24 <b>code (5)</b> 27:12,14;28:5,5,12 <b>codify (1)</b> 58:23 <b>co-director (1)</b> 4:24 <b>co-founded (1)</b> 81:13 <b>co-founder (2)</b> 4:24;74:5 <b>collaborative (4)</b> 90:3;95:22;97:19; 98:9 <b>collaboratives (4)</b> 89:14,17;90:19; 98:17 <b>colleagues (1)</b> 16:3 <b>collect (2)</b> 34:23;56:20 <b>collected (12)</b> 35:8;58:9;83:7; 85:7;88:9;98:4; 99:10;101:23,23; 102:14;103:12; 108:10 <b>collection (9)</b> 34:21;35:12;36:8; 39:2;58:14;62:4; 79:11,13;103:14 <b>collectively (1)</b> 3:6 <b>colleges (2)</b>	92:22,24 <b>collision (2)</b> 37:2;38:14 <b>collisions (1)</b> 37:13 <b>color (4)</b> 46:25;47:11;51:13; 53:19 <b>Colorado (1)</b> 90:10 <b>Columbia (3)</b> 4:9;66:13;93:19 <b>combination (1)</b> 61:20 <b>combined (1)</b> 46:10 <b>comfortable (1)</b> 69:20 <b>coming (10)</b> 2:5;6:3;8:15;12:2; 20:14;72:21;98:20; 100:8,14;125:13 <b>commensurability (1)</b> 100:24 <b>commensurate (1)</b> 101:12 <b>comment (4)</b> 3:9;8:19;114:4; 118:12 <b>commentaries (1)</b> 8:16 <b>commentary (8)</b> 8:12,13;9:10,11, 19;10:16;13:9; 124:14 <b>comments (11)</b> 13:4;29:20;30:4; 54:24;73:12;74:10, 22;113:16,24;114:2; 125:16 <b>commercial (1)</b> 124:24 <b>commission (2)</b> 3:3;34:2 <b>commissioner (3)</b> 3:2;4:21;5:10 <b>commit (2)</b> 43:18;114:21 <b>commitment (4)</b> 41:11;52:23;115:5, 23 <b>commitments (1)</b> 49:23 <b>committed (1)</b> 115:20 <b>Committee (5)</b> 10:13;11:20;26:19, 22;34:12 <b>communicate (4)</b>
---	---	--	--	---

36:16;84:8;88:6; 95:17	<b>comprehensive (2)</b> 87:18,23	<b>connect (3)</b> 7:23;25:3;97:2	58:21	31:22;113:9;
<b>communicated (1)</b> 35:25	<b>comprehensively (2)</b> 76:7;112:11	<b>connected (4)</b> 36:15;74:24;95:23; 98:18	<b>consulted (1)</b> 49:19	114:18
<b>communicating (2)</b> 86:24;88:20	<b>compromises (1)</b> 72:22	<b>connection (2)</b> 25:14;77:12	<b>consume (1)</b> 29:9	<b>convinced (1)</b> 113:23
<b>communication (3)</b> 80:9;101:22; 106:12	<b>computer (5)</b> 4:9;27:12,13;28:4; 83:8	<b>consent (2)</b> 78:2;80:10	<b>consumers (1)</b> 33:16	<b>cool (1)</b> 96:15
<b>communities (10)</b> 15:14;49:19;51:9, 12;52:16;53:19; 81:22;87:15;92:7; 93:23	<b>computerized (2)</b> 6:13;7:9	<b>consents (1)</b> 78:17	<b>contacts (1)</b> 35:16	<b>cooperate (1)</b> 24:22
<b>community (37)</b> 2:21;9:17;43:25; 49:2,13;50:22;51:6; 52:7,13,15,20,25; 66:4,11,21;79:10; 82:8;85:9;87:7,19; 88:25;92:6,16,22,24; 96:5,9,9;107:12; 114:8,11;115:9; 122:24;123:3,7; 124:7;125:4	<b>conceal (1)</b> 44:3	<b>consequence (2)</b> 37:7;91:13	<b>contested (1)</b> 38:20	<b>co-panelists (1)</b> 57:11
<b>community-based (3)</b> 95:22;115:12,17	<b>concealing (1)</b> 44:5	<b>consequences (4)</b> 35:14;42:22;91:11; 110:16	<b>context (6)</b> 13:21;19:5;27:23; 45:15;62:10;80:14	<b>core (1)</b> 39:14
<b>companies (5)</b> 28:15;31:12;58:19; 59:11;70:11	<b>concern (3)</b> 18:14;41:6;61:15	<b>Consequently (1)</b> 48:3	<b>contexts (1)</b> 40:16	<b>Corey (1)</b> 41:8
<b>company (6)</b> 38:11;68:14;81:14, 16;82:5;89:16	<b>concerned (1)</b> 40:22	<b>conservative (1)</b> 105:8	<b>continual (1)</b> 79:4	<b>Cornell (1)</b> 4:14
<b>Compass (2)</b> 68:5,15	<b>concerning (2)</b> 18:15;32:3	<b>consider (18)</b> 8:5;20:19;21:13; 25:24;29:24;34:13; 36:8;38:24;63:6; 67:11;70:18;79:5,12; 80:8,16;117:16; 120:5;121:18	<b>continually (1)</b> 17:17	<b>correction (1)</b> 25:19
<b>competitive (1)</b> 18:3	<b>concerns (7)</b> 26:4;36:9;51:17; 60:7;71:18,19;72:2	<b>consideration (6)</b> 19:8;29:22;88:14; 111:8,24;123:25	<b>continue (9)</b> 10:6,15;11:25; 12:6;17:2;44:10; 53:20;115:21;119:24	<b>correlate (1)</b> 50:15
<b>complain (1)</b> 18:17	<b>concise (1)</b> 78:18	<b>considerations (3)</b> 28:9,10;121:16	<b>continued (1)</b> 51:9	<b>cost (3)</b> 69:22;70:8;90:13
<b>complaints (1)</b> 25:8	<b>concrete (4)</b> 5:18;57:5;64:20; 125:7	<b>considered (4)</b> 43:21;77:24; 114:16;116:16	<b>continues (1)</b> 44:3	<b>costs (2)</b> 69:24;78:9
<b>complete (1)</b> 52:14	<b>concreteness (1)</b> 113:11	<b>considering (2)</b> 34:4;125:9	<b>continuing (2)</b> 30:14;51:6	<b>Council (5)</b> 10:12,14;13:23; 19:18;41:8
<b>completely (1)</b> 28:22	<b>conditions (1)</b> 63:4	<b>considers (1)</b> 50:14	<b>continuously (1)</b> 21:15	<b>Councilman (1)</b> 19:19
<b>complex (9)</b> 3:21;7:3,7;19:25; 21:6;28:17;42:5; 59:5;104:7	<b>conduct (3)</b> 24:13;46:7;49:5	<b>consistency (1)</b> 86:10	<b>contract (3)</b> 84:19;94:18,19	<b>counsel (4)</b> 4:16,19;14:13;39:9
<b>complexity (2)</b> 17:3;29:16	<b>conducted (2)</b> 46:2;66:6	<b>consistent (1)</b> 86:11	<b>contracting (2)</b> 31:18;85:20	<b>counsels (1)</b> 71:3
<b>complies (1)</b> 89:22	<b>conducting (1)</b> 121:2	<b>consistently (1)</b> 44:3	<b>contractor (1)</b> 35:19	<b>country (9)</b> 10:10;15:7;16:4, 22;25:23;75:10,18; 92:7;111:14
<b>component (1)</b> 80:18	<b>conducts (1)</b> 47:13	<b>constantly (1)</b> 18:17	<b>contractors (1)</b> 17:24	<b>counts (2)</b> 55:21,22
<b>components (1)</b> 39:14	<b>confidence (18)</b> 11:2;60:15;85:5; 87:24;88:7;102:4,8, 10,12,14,19;103:19, 20,24;104:5;105:15; 108:9;115:3	<b>constituted (1)</b> 53:7	<b>contracts (5)</b> 24:8,12;85:21; 95:5,8	<b>couple (2)</b> 10:15;114:19
<b>comprehend (1)</b> 17:10	<b>confident (2)</b> 69:16;90:24	<b>constitution (1)</b> 51:19	<b>contribute (6)</b> 3:18;9:8;11:6; 50:23;87:4;118:4	<b>coupled (1)</b> 42:23
	<b>conflicting (1)</b> 97:21	<b>constitutional (4)</b> 41:12;51:17,23; 52:3	<b>control (3)</b> 99:20;100:2,12	<b>course (3)</b> 15:14;68:14; 103:19
	<b>conflicts (4)</b> 98:11,15,21;99:3	<b>constraint (1)</b> 17:19	<b>controversial (1)</b> 68:2	<b>court (5)</b> 26:9;46:14,18; 59:3;60:5
	<b>confused (1)</b> 114:13	<b>constructs (1)</b> 50:15	<b>convened (1)</b> 66:2	<b>coverage (1)</b> 31:19
	<b>congestion (1)</b> 35:11	<b>consultant (1)</b>	<b>conversation (14)</b> 2:9;6:25;12:18; 83:3;106:22;111:22; 113:6,13;114:14,22; 117:3;121:12;123:9; 124:19	<b>covered (1)</b> 57:12
	<b>congregated (1)</b> 93:10		<b>conversations (3)</b>	<b>covering (1)</b> 92:20
				<b>create (12)</b> 11:15;21:19;32:12; 43:9;51:25;52:5; 66:8;85:7;87:22,23;

April 30, 2019

<p>88:15;95:14  <b>created (14)</b>                  7:20;11:4;27:22;                  44:22;58:3;83:23;                  84:21;89:6;97:23,24;                  100:25;102:24;                  103:25;104:6  <b>creates (2)</b>                  53:14;78:24  <b>creating (8)</b>                  24:16;25:24;52:24;                  74:21;81:5;82:9;                  97:22;116:6  <b>creation (1)</b>                  101:4  <b>credit (1)</b>                  22:8  <b>crews (1)</b>                  47:16  <b>crime (1)</b>                  44:17  <b>Criminal (8)</b>                  4:17;20:5,11;23:8;                  39:22;47:13;53:24;                  91:14  <b>criminally (1)</b>                  47:6  <b>crisis (1)</b>                  66:9  <b>criteria (7)</b>                  19:14;30:10;64:17;                  104:21;111:8;                  112:10;117:4  <b>critérias (1)</b>                  104:8  <b>critical (1)</b>                  75:4  <b>critically (1)</b>                  41:10  <b>criticisms (1)</b>                  114:10  <b>cross-program (1)</b>                  106:13  <b>crucial (2)</b>                  3:20;7:21  <b>cultural (1)</b>                  110:4  <b>culture (5)</b>                  108:23;109:12,25;                  110:21;111:25  <b>Cumberbatch (5)</b>                  5:6,6;73:8,14;                  105:19  <b>Cuomo's (1)</b>                  15:18  <b>curious (4)</b>                  70:25;106:17;                  114:6,19  <b>Current (7)</b></p>	<p>38:8;41:18;53:23;                  55:23;96:5;118:15;                  120:18  <b>Currently (5)</b>                  47:8;54:11;75:10;                  113:18;120:21  <b>curriculum (1)</b>                  109:19  <b>customer (1)</b>                  62:8  <b>Customs (1)</b>                  35:20</p> <p style="text-align: center;"><b>D</b></p> <p><b>daily (1)</b>                  46:4  <b>Dan (2)</b>                  4:3;108:2  <b>dark (1)</b>                  37:9  <b>DASH (1)</b>                  95:21  <b>dashboard (2)</b>                  88:23,24  <b>dashboards (1)</b>                  88:23  <b>data (261)</b>                  3:6;4:8;6:15,23;                  7:7,14;15:7,13,22;                  17:5,7,8,12;18:2,9;                  27:13,14,23;28:21,                  23;29:17;31:3;33:16,                  22,25;34:2,15,20,24;                  35:2,5,6,7,11,14,20,                  22;36:2,8;38:5,7,9,                  12,17,21;39:2;40:2,                  25;44:17;45:2,5,6,9,                  13,14,16,19;48:4,7,                  11,17,24;49:4,7,8,10;                  50:3,7;54:6;55:10,19,                  20,24;56:2,8,12,16,                  21,24;57:12;58:5,7,8,                  14;59:12,22,25;61:2;                  62:2,4;65:17;66:11,                  19;67:13;70:14;                  72:14,16;74:8,18,25;                  76:3,4,15,15,18,21,                  23;77:18;78:2,12;                  79:11,13,20;81:14,                  17,19,21,25;82:7,8,                  11,19;83:6,21;84:12,                  20;85:2,3,6,9,12;                  86:6,12,14,16,21,24;                  87:14,15,18,22,23;                  88:3,4,9,12,13,15,20;                  89:11,14,16,17,21;                  90:2,6,11,12,15,18,                  18,19,23;91:10,16;</p>	<p>92:19;93:25;94:16,                  17;95:9,20;96:13,17,                  18,23;97:8,19,21,22,                  23,24,25;98:2,4,8,8,9,                  10,17,18,21,22;99:9,                  19,21,21;100:3,14,                  24;101:5,6,11,17,23,                  23;102:5,7,9,9,14,15,                  20,23,24;103:4,5,6,9,                  10,12,14,24;104:6,                  11,11,16,20,23,24;                  105:4,11,14,22;                  106:6,7,9,14,16,20;                  107:5,7,8,10,11,13,                  13,14,16;108:9;                  109:14,20;110:4,8,                  10,12;111:6;112:12,                  14,15;116:13;122:14  <b>database (1)</b>                  47:14  <b>databyte (1)</b>                  92:20  <b>data-driven (2)</b>                  75:11;85:22  <b>data-informed (1)</b>                  16:6  <b>data-minded (1)</b>                  110:20  <b>datasets (2)</b>                  42:5;47:24  <b>data-sharing (2)</b>                  95:24;96:23  <b>date (1)</b>                  52:18  <b>Davis (2)</b>                  40:9;46:22  <b>day (2)</b>                  17:6;33:17  <b>day-to-day (1)</b>                  31:4  <b>De (1)</b>                  41:7  <b>deal (5)</b>                  5:19;65:16,16;                  96:22;97:20  <b>dealing (1)</b>                  29:14  <b>debate (1)</b>                  55:23  <b>decades (1)</b>                  45:23  <b>DECAST (2)</b>                  24:6;30:24  <b>decide (1)</b>                  56:20  <b>decision (41)</b>                  2:6;6:6,9;10:19;                  19:24;20:9;21:25;                  23:9,17;29:18;30:8;</p>	<p>33:11;34:5;40:25;                  41:17;42:2,4;43:2,                  19;45:4;52:8;62:21;                  63:12;74:15;75:15;                  77:8;78:23;79:3,23;                  80:3,16,17;83:4,8,16;                  84:3,10,11;89:4;                  104:10;114:20  <b>decision-making (10)</b>                  15:8;36:20;38:5;                  40:15;42:4;44:11;                  53:2;56:3;67:17,22  <b>decisions (35)</b>                  6:18,24;7:9,25;8:4;                  19:15;27:11,15,23;                  28:19;29:16;32:11;                  36:17;38:24;42:8,11;                  45:22;52:8,11;56:9,                  10;61:25;62:3;65:20;                  68:9;83:6,19;84:2;                  86:25;87:13,14,21;                  88:11;91:12;110:7  <b>de-conflict (1)</b>                  98:24  <b>deemed (1)</b>                  71:13  <b>deeply (3)</b>                  18:14;40:22;47:25  <b>defend (1)</b>                  27:19  <b>Defense (7)</b>                  14:14;18:7;39:9,                  11,25;41:14;46:23  <b>defined (5)</b>                  19:9,24;25:12;                  36:10;51:13  <b>defines (2)</b>                  6:13;82:10  <b>defining (1)</b>                  41:25  <b>definitely (4)</b>                  73:2;91:25;117:5;                  124:4  <b>definition (5)</b>                  6:18;41:16,18,20;                  42:10  <b>degree (1)</b>                  69:4  <b>deliberate (2)</b>                  105:9;109:11  <b>delivering (1)</b>                  82:16  <b>delivers (1)</b>                  89:16  <b>delivery (1)</b>                  111:17  <b>demonstrate (1)</b>                  49:3  <b>Department (10)</b></p>	<p>4:4,6,19;5:11;                  44:15;68:23;76:24;                  97:23;102:13;104:2  <b>department's (2)</b>                  42:24;47:8  <b>depending (1)</b>                  80:5  <b>deploy (1)</b>                  77:16  <b>deployed (1)</b>                  77:12  <b>deployment (2)</b>                  41:4;53:25  <b>de-prioritize (1)</b>                  22:18  <b>depths (1)</b>                  91:17  <b>deputy (4)</b>                  2:25;4:20;5:10;                  44:14  <b>derived (8)</b>                  6:15;45:2,16;                  48:12,17;49:8,10;                  108:10  <b>design (2)</b>                  60:2;80:21  <b>designates (1)</b>                  47:15  <b>designations (1)</b>                  47:21  <b>designed (3)</b>                  28:18;37:3;62:25  <b>despite (1)</b>                  48:20  <b>destination (1)</b>                  72:10  <b>destroy (1)</b>                  51:20  <b>details (1)</b>                  80:3  <b>detecting (1)</b>                  37:9  <b>detection (4)</b>                  34:21;36:12;38:14;                  39:3  <b>determine (5)</b>                  23:16;50:24;70:7;                  85:14;104:5  <b>determined (1)</b>                  10:7  <b>determines (1)</b>                  70:4  <b>determining (3)</b>                  48:15;60:17;85:15  <b>develop (8)</b>                  31:2;37:15;50:21;                  57:20;64:20;108:6;                  118:24;123:18  <b>developed (1)</b></p>
--	--	--	--	---

79:21 <b>developer (1)</b> 78:13 <b>developers (1)</b> 86:4 <b>developing (6)</b> 44:22;78:22;96:7; 115:9;121:3;125:3 <b>development (7)</b> 23:14;27:9;44:4; 49:16,20;94:17;95:3 <b>dialing (1)</b> 12:16 <b>dialogue (1)</b> 81:6 <b>Diego (1)</b> 96:6 <b>difference (1)</b> 91:8 <b>different (17)</b> 7:22;10:22;23:12, 23;69:15;72:12; 79:17;98:2,19;108:7; 112:16;117:15; 118:19;120:10; 122:5,6,12 <b>differently (2)</b> 26:16;100:25 <b>difficult (7)</b> 3:21;29:15,19; 59:21,23;78:11; 101:4 <b>digital (3)</b> 29:3,14;82:18 <b>dignity (1)</b> 80:25 <b>direction (1)</b> 30:15 <b>directly (3)</b> 8:20;37:10;49:18 <b>director (8)</b> 2:11;3:5;4:8;5:3; 14:10,13;33:8;39:8 <b>dirty (2)</b> 48:7;50:6 <b>disagree (1)</b> 63:19 <b>disclose (2)</b> 43:18;71:6 <b>disclosure (1)</b> 71:23 <b>disclosures (1)</b> 32:8 <b>discrete (1)</b> 40:18 <b>discrimination (10)</b> 23:21;24:3;40:4; 45:12,21;50:7,19; 54:4,13;55:18	<b>discriminatory (16)</b> 40:8;42:25;45:2, 17;46:12,19;47:5,24; 48:12,18,22;49:9; 50:6,24;51:10;104:4 <b>discuss (1)</b> 33:10 <b>discussed (1)</b> 79:19 <b>discussion (7)</b> 10:7;19:10;34:10; 81:10;87:25;117:5; 124:10 <b>discussions (2)</b> 10:3;11:25 <b>disparate (5)</b> 21:20;24:17;51:12; 59:22;122:13 <b>disparities (2)</b> 48:2,6 <b>disproportionate (2)</b> 40:19;48:16 <b>disproportionately (5)</b> 7:17;23:18;37:17; 51:5;53:21 <b>disproving (1)</b> 67:22 <b>distill (1)</b> 17:14 <b>distribute (1)</b> 33:23 <b>districts (1)</b> 88:10 <b>disturbingly (1)</b> 44:12 <b>doctrines (1)</b> 51:22 <b>document (1)</b> 8:21 <b>documentation (3)</b> 27:16;60:2;101:15 <b>documents (1)</b> 101:3 <b>DOE (1)</b> 7:4 <b>dollars (1)</b> 106:24 <b>domestic (1)</b> 72:19 <b>don' (1)</b> 124:3 <b>done (11)</b> 7:8;31:17;64:13; 85:3;86:15;88:22,24, 25;89:20;97:7;120:7 <b>doors (1)</b> 12:4 <b>doubles (1)</b> 17:8	<b>doubling (1)</b> 63:2 <b>doubt (1)</b> 19:16 <b>down (8)</b> 3:24;15:2;54:21; 67:3;76:4;111:16,19; 125:16 <b>dramatically (1)</b> 77:19 <b>drawing (2)</b> 45:14;65:20 <b>drives (1)</b> 29:4 <b>due (3)</b> 47:17;50:15; 122:14 <b>durable (1)</b> 40:18 <b>during (4)</b> 37:13;49:19;79:13; 115:10 <b>duty (1)</b> 110:19	<b>effect (1)</b> 6:6 <b>effected (1)</b> 21:24 <b>effective (4)</b> 54:2;70:5;90:14; 93:11 <b>effectively (3)</b> 7:14;15:8;117:22 <b>effects (3)</b> 37:25;40:15;62:9 <b>efficiency (1)</b> 35:2 <b>efficient (3)</b> 18:11;68:23;70:5 <b>efficiently (1)</b> 7:13 <b>effort (2)</b> 20:22;21:8 <b>efforts (2)</b> 12:2;85:22 <b>eight (2)</b> 41:15,21 <b>Eighth (2)</b> 52:5;53:5 <b>either (3)</b> 59:2;62:23;102:11 <b>elicit (2)</b> 124:5,13 <b>eligibility (1)</b> 112:10 <b>eligible (2)</b> 75:20;77:25 <b>elimination (1)</b> 54:4 <b>else (3)</b> 92:6;94:21;118:12 <b>elsewhere (1)</b> 26:9 <b>emailed (1)</b> 12:16 <b>embedding (1)</b> 44:10 <b>embody (2)</b> 67:18,23 <b>emerge (1)</b> 37:13 <b>emergency (1)</b> 36:21 <b>emergent (1)</b> 108:14 <b>emerging (5)</b> 15:13;89:10,12; 90:8,21 <b>emphasis (1)</b> 124:13 <b>emphatic (1)</b> 56:5 <b>employed (1)</b>	51:16 <b>employee (1)</b> 16:2 <b>employees (3)</b> 16:9;22:5;84:9 <b>employment (1)</b> 50:17 <b>empower (1)</b> 52:6 <b>enabling (1)</b> 81:16 <b>encapsulates (1)</b> 67:13 <b>encourage (10)</b> 37:14;38:18,23; 70:17;78:19;80:7,15; 95:19;96:4;125:6 <b>encouraged (1)</b> 11:24 <b>end (4)</b> 16:14;31:9;41:15; 119:21 <b>end-all/be-all (1)</b> 119:21 <b>endorse (1)</b> 65:2 <b>energy (2)</b> 3:16;26:12 <b>enforcement (13)</b> 35:4,21;36:22; 40:21;43:2;44:11; 45:3,18;48:13,19; 51:10,15;53:24 <b>enforcements (1)</b> 40:23 <b>engage (5)</b> 7:12;81:6;92:11; 94:3,5 <b>engaged (6)</b> 40:2;45:23;46:4,7; 85:8;104:4 <b>ENGAGEMENT (134)</b> 2:1;3:1;4:1;5:1,17; 6:1;7:1;8:1;9:1;10:1; 11:1;12:1;13:1;14:1; 15:1;16:1;17:1;18:1; 19:1;20:1;21:1;22:1; 23:1;24:1;25:1;26:1; 27:1;28:1;29:1;30:1; 31:1;32:1;33:1;34:1; 35:1;36:1;37:1;38:1; 39:1;40:1;41:1;42:1; 43:1;25;44:1;45:1; 46:1;47:1;48:1;49:1; 50:1;51:1;52:1,15; 53:1;54:1;55:1;56:1; 57:1;58:1;59:1;60:1; 61:1;62:1;63:1;64:1; 65:1;66:1;67:1;68:1;
		<b>E</b>		
		<b>eager (1)</b> 16:12 <b>Earlier (5)</b> 11:19;19:19;43:15; 79:23;125:10 <b>early (1)</b> 82:24 <b>easier (2)</b> 75:3;112:10 <b>easily (1)</b> 35:7 <b>easy (5)</b> 6:10;58:20;69:8; 78:18;80:11 <b>economic (1)</b> 39:24 <b>economically (1)</b> 75:5 <b>ecosystem (1)</b> 80:19 <b>educate (2)</b> 108:18;123:16 <b>educated (2)</b> 52:20;122:12 <b>educating (1)</b> 123:7 <b>Education (10)</b> 4:19;22:7;30:22; 39:23;91:6,11,12; 100:9,18;123:3 <b>Educational (2)</b> 14:14;39:10		

69:1;70:1;71:1;72:1; 73:1;74:1;75:1;76:1; 77:1;78:1;79:1,8; 80:1;81:1;82:1;83:1; 84:1;85:1;86:1;87:1; 88:1;89:1;90:1;91:1; 92:1;93:1;94:1;95:1; 24;96:1,9;97:1;98:1; 99:1;100:1;101:1; 102:1;103:1;104:1; 105:1;106:1;107:1; 108:1;109:1;110:1; 111:1;112:1;113:1; 114:1,9,11;115:1,5,8; 116:1;117:1;118:1; 119:1;120:1;121:1; 122:1;123:1;124:1; 125:1	11:15 <b>equitable (2)</b> 8:2;81:20 <b>equity (7)</b> 49:6,14;87:11; 90:25;91:3;95:11; 111:7 <b>erring (1)</b> 105:7 <b>erroneous (1)</b> 47:21 <b>erroneously (1)</b> 47:14 <b>escrows (1)</b> 28:12 <b>especially (6)</b> 11:5;28:18;39:2; 72:18;100:17;121:22 <b>essential (3)</b> 36:7;74:21;80:21 <b>essentially (4)</b> 31:25;63:10;70:13; 78:19 <b>establish (2)</b> 11:9;51:3 <b>establishing (2)</b> 37:11;87:11 <b>esteemed (1)</b> 12:21;13:17 <b>estimates (1)</b> 38:8 <b>ethical (2)</b> 81:19;96:20 <b>ethically (1)</b> 97:9 <b>Ethics (3)</b> 82:7,10;84:20 <b>ethnicity (1)</b> 50:13 <b>evaluate (7)</b> 52:21;78:25;107:4, 6,11;117:9,21 <b>evaluated (3)</b> 38:21;41:10; 116:22 <b>evaluating (2)</b> 107:9;119:9 <b>evaluation (5)</b> 24:10;30:7,12; 34:12;79:5 <b>evaluations (4)</b> 21:11;24:22; 107:21;118:15 <b>Evans (17)</b> 10:24;65:10,12,12; 74:4;81:7,8;92:9; 96:15;98:7;99:13; 100:20;101:20; 104:8;107:2;109:15;	116:9 <b>even (23)</b> 3:17;6:11,21;9:14, 15;15:25;16:8;22:5; 26:6;27:13;46:9; 55:22;61:21;67:18; 69:3;79:20;94:20; 102:9;103:7,7,8; 108:16,18 <b>evening (16)</b> 2:3;4:2;10:17; 12:19,19,22;13:5,15; 33:6;39:6;43:15; 54:18;55:5;74:12; 79:19;112:24 <b>evening's (1)</b> 10:19 <b>evenly (1)</b> 53:18 <b>event (1)</b> 5:16 <b>events (4)</b> 38:20;59:5;94:9,10 <b>Everybody (9)</b> 2:3;17:20;81:7; 85:17;90:7;93:15; 104:22;110:11; 118:18 <b>everyone (7)</b> 5:12;10:18;33:2; 113:3;115:4;125:13, 18 <b>everyone's (4)</b> 2:4;13:17;19:2; 109:13 <b>everywhere (1)</b> 94:10 <b>evidence (1)</b> 63:21 <b>evolve (1)</b> 28:19 <b>exacerbate (1)</b> 41:5 <b>Exactly (1)</b> 32:23 <b>example (23)</b> 20:5,23;27:18; 28:25;35:17;37:20; 44:12;50:12;57:5; 59:10;62:4,10;67:12, 22;69:19;70:2;76:9, 10,11;77:8,11;78:21; 104:3 <b>examples (7)</b> 59:14;64:18;67:15; 75:18;118:22;120:4, 14 <b>Excel (1)</b> 19:25	<b>Excellence (2)</b> 14:8;15:5 <b>excellent (1)</b> 33:13 <b>exception (2)</b> 63:3;79:25 <b>exchange (1)</b> 96:5 <b>exchanges (2)</b> 35:5;96:10 <b>excited (6)</b> 2:20;3:7;9:21; 12:20;113:6,7 <b>exclude (2)</b> 43:3;50:13 <b>excluded (3)</b> 42:20;43:8,11 <b>exclusion (1)</b> 43:12 <b>executing (2)</b> 47:12,18 <b>executive (1)</b> 5:3 <b>executives (3)</b> 30:17,23;32:5 <b>exempt (2)</b> 120:24;122:2 <b>exhaust (1)</b> 36:2 <b>exist (6)</b> 55:14;56:16;59:16; 60:14;61:19;70:3 <b>existed (1)</b> 12:4 <b>existence (1)</b> 53:12 <b>existing (2)</b> 26:4;65:2 <b>exists (2)</b> 26:17;59:24 <b>expanded (2)</b> 77:14;106:8 <b>expansion (2)</b> 53:14,15 <b>expansive (2)</b> 42:10;51:25 <b>expectation (1)</b> 51:21 <b>expectations (1)</b> 26:24 <b>experience (5)</b> 8:9;67:16;101:2; 106:13;124:13 <b>experienced (1)</b> 104:25 <b>experiences (3)</b> 3:18;8:12;64:18 <b>experiencing (1)</b> 19:17	<b>experimenting (1)</b> 52:9 <b>expert (3)</b> 8:11;123:23; 124:11 <b>expertise (3)</b> 3:19;11:7;69:17 <b>experts (6)</b> 41:20,24;49:17; 50:22;52:19;110:3 <b>explained (1)</b> 44:15 <b>explaining (1)</b> 110:18 <b>exponentially (1)</b> 17:9 <b>exposed (1)</b> 88:21 <b>exposure (1)</b> 45:5 <b>expressed (1)</b> 16:11 <b>extend (1)</b> 53:12 <b>extent (4)</b> 19:3;30:19;53:22; 67:13 <b>external (2)</b> 25:19;49:22 <b>extracted (1)</b> 70:8 <b>extremely (4)</b> 55:7;106:9,14; 109:11 <b>E-ZPass (1)</b> 35:10
<b>F</b>				
<b>face (3)</b> 16:9,15;94:8 <b>facial (1)</b> 43:23 <b>facilitating (1)</b> 91:25 <b>facilities (1)</b> 21:4 <b>fact (3)</b> 7:18;10:4;77:16 <b>factors (7)</b> 50:5,9,9,14,23,25; 103:23 <b>fail (2)</b> 37:9;49:23 <b>Failing (1)</b> 43:9 <b>fair (4)</b> 41:9;54:12;56:17; 72:7				

<b>fairer (1)</b> 7:25	17:18	14:20;19:8;23:7;	100:1;101:1;102:1,	87:1;88:1;89:1;90:1;
<b>fairest (1)</b> 10:9	<b>field (1)</b> 75:19	40:17;74:23;117:10;	23;103:1;104:1;	91:1;92:1,18;93:1;
<b>fairly (1)</b> 7:13	<b>fight (1)</b> 50:2	118:20;119:6	105:1,25;106:1;	94:1;95:1;96:1;97:1;
<b>fairness (9)</b> 8:25;16:15;39:12;	<b>figure (6)</b> 25:5;74:2;98:24;	<b>focused (5)</b> 33:13;81:16,23;	107:1;108:1,19;	98:1;99:1;100:1;
42:19;79:15,16;	99:4;108:13;117:6	118:2;121:11	109:1;110:1;111:1;	101:1;102:1;103:1;
84:22,25;111:6	<b>filled (1)</b> 23:10	<b>FOIA (1)</b> 43:16	112:1;113:1;114:1,7,	104:1;105:1;106:1;
<b>fall (4)</b> 62:16;117:7;	<b>filter (1)</b> 72:5	<b>folks (17)</b> 7:17;12:17,22;	21;115:1,4;116:1,15,	107:1;108:1;109:1;
118:22;119:4	<b>final (2)</b> 8:22,25	13:6;26:20;28:6;	24;117:1;118:1;	110:1;111:1;112:1;
<b>families (1)</b> 112:17	<b>finally (7)</b> 27:8;29:20;31:8;	54:23;97:11;113:7,	119:1,2,22,25;120:1,	113:1;114:1;115:1;
<b>family (1)</b> 83:11	38:4;79:18;80:13;	21;114:17,25;	10,13;121:1,2,11;	116:1;117:1;118:1;
<b>far (1)</b> 96:6	116:19	122:22;123:7;125:5,	122:1,9,11;123:1,6,	119:1;120:1;121:1;
<b>far-reaching (1)</b> 42:21	<b>financial (1)</b> 32:8	6,15	16;124:1,12;125:1,8	122:1;123:1;124:1;
<b>fashion (2)</b> 85:10;89:3	<b>find (1)</b> 107:15	<b>follow (3)</b> 59:20;100:22;	<b>forces (1)</b> 17:3	125:1,2
<b>fast (1)</b> 14:24	<b>finding (1)</b> 57:14	122:7	<b>force's (6)</b> 41:7;42:17,20;	<b>forums (9)</b> 2:21;9:20;11:3,9;
<b>fault (1)</b> 107:15	<b>fine (1)</b> 106:18	<b>following (3)</b> 41:14;43:22;49:11	43:4,13;120:24	39:12;92:5;117:14;
<b>faulty (1)</b> 70:22	<b>finish (1)</b> 29:20	<b>follow-up (1)</b> 103:18	<b>foremost (1)</b> 39:17	124:8,9
<b>fear (2)</b> 75:25;99:20	<b>firm (1)</b> 18:7	<b>food (1)</b> 75:12	<b>forged (1)</b> 40:5	<b>forward (7)</b> 12:6;32:13;37:25;
<b>fears (1)</b> 83:11	<b>firmed (1)</b> 125:5	<b>foray (1)</b> 124:9	<b>form (1)</b> 27:5	41:2;44:24;59:18;
<b>feasibility (2)</b> 27:9;38:5	<b>first (27)</b> 2:6;6:8;11:8;13:4;	<b>FORCE (188)</b> 2:1,7,13,24;3:1,11,	<b>formed (1)</b> 6:12	125:9
<b>feasible (1)</b> 28:22	14:4,5,6;17:5;19:14;	22;4:1,5:1,14,24;6:1,	<b>forms (2)</b> 24:4;100:7	<b>found (4)</b> 37:20;46:14,18;
<b>fed (1)</b> 101:14	23:3,8;30:12;34:7;	13,20;7:1,20;8:1,14,	<b>forth (3)</b> 63:2;117:23;	104:2
<b>federal (7)</b> 46:14;65:14;67:3;	39:17;41:15;51:18;	20;9:1;10:1,19,22;	119:14	<b>Foundation (1)</b> 96:3
76:16;81:23;104:9;	54:15,16;61:7;73:3,	11:1,5,20,22;12:1;	<b>forthcoming (1)</b> 120:16	<b>founded (1)</b> 39:18
116:8	7;74:14;78:12,15;	13:1,11,24;14:1;	<b>FORTS (1)</b> 84:21	<b>four (3)</b> 14:18;15:6;38:9
<b>feedback (4)</b> 5:20;53:3;92:17;	86:3;87:25;120:7	15:1;16:1,12;17:1;	<b>F-O-R-T-S (1)</b> 84:22	<b>Fourth (4)</b> 44:25;46:15;49:21;
124:5	<b>first-of-its-kind (1)</b> 13:24	18:1;19:1;20:1;21:1;	<b>FORUM (132)</b> 2:1,6,3;1;4:1;5:1;	51:18
<b>feel (9)</b> 5:14;9:7;17:23;	<b>fits (1)</b> 38:22	22:1;23:1,2;24:1,19;	6:1;7:1;8:1,24;9:1,4;	<b>fragmented (1)</b> 111:16
69:16;70:9;113:4,6,	<b>five (1)</b> 12:20	25:1;26:1;27:1;28:1;	10:1,20;11:1;12:1;	<b>frame (4)</b> 84:2,24;124:6,11
7;123:8	<b>fix (1)</b> 21:21	29:1,24;30:1,6,21;	13:1,4;14:1;15:1;	<b>framework (5)</b> 10:6;84:7,21;
<b>feeling (1)</b> 25:19	<b>flagging (1)</b> 32:24	31:1;32:1;33:1;34:1;	16:1;17:1;18:1;19:1;	103:15;120:6
<b>fellow (3)</b> 54:20;82:2,14	<b>flawed (1)</b> 45:22	35:1;36:1;37:1;38:1,	20:1;21:1;22:1;23:1;	<b>Francisco (2)</b> 102:25;103:5
<b>few (8)</b> 12:25;16:10;20:24;	<b>floor (1)</b> 8:19	24;39:1,7,40:1;41:1,	24:1;25:1;26:1;27:1;	<b>fraud (1)</b> 66:5
28:20;29:21;32:24;	<b>flow (1)</b> 104:19	22;42:1;43:1;44:1,	28:1;29:1;30:1;31:1;	<b>fraudulent (1)</b> 66:6
74:10;116:2	<b>Floyd (1)</b> 46:13	18;45:1;46:1;47:1;	32:1;33:1;34:1;35:1;	<b>free (6)</b> 5:14;9:7;46:16;
<b>fewer (1)</b>	<b>focus (8)</b>	48:1,10;49:1,25;50:1,	36:1;37:1;38:1;39:1;	54:12;55:16;97:2
		20;51:1,24;52:1;	40:1;41:1;42:1;43:1;	<b>Freedom (2)</b> 26:17,25
		53:1,7;54:1,8,20;	44:1;45:1;46:1;47:1;	<b>freedom-of-speech (1)</b> 51:22
		55:1;56:1;57:1;58:1;	48:1;49:1;50:1;51:1;	<b>frequently (2)</b> 47:21;123:5
		59:1;60:1,8;61:1;	52:1;53:1;54:1;55:1;	<b>Friedman (2)</b> 4:18,18
		62:1;63:1;64:1;65:1;	56:1;57:1;58:1;59:1;	<b>friend (1)</b> 86:8
		66:1;67:1;68:1;69:1;	60:1;61:1;62:1;63:1;	
		70:1,18;71:1;72:1,	64:1;65:1;66:1;67:1;	
		25;73:1,19;74:1,15,	68:1;69:1;70:1;71:1;	
		78:1;79:1;80:1;81:1;	72:1;73:1;74:1,14;	
		82:1;83:1;84:1,11;	75:1;76:1;77:1;78:1;	
		85:1;86:1;87:1;88:1;	79:1;80:1;81:1;82:1;	
		89:1;90:1;91:1;92:1;	83:1;84:1;85:1;86:1;	
		93:1;94:1;95:1;96:1;		
		97:1;98:1;99:1;		

April 30, 2019

<p><b>frisking (1)</b> 40:12</p> <p><b>front (1)</b> 11:23</p> <p><b>frontline (1)</b> 80:2</p> <p><b>full (10)</b> 29:3;41:24;43:18; 57:22;71:4,15;73:21, 21;87:19;122:15</p> <p><b>fully (7)</b> 14:16;17:10;20:20; 52:11;71:10;101:17; 103:3</p> <p><b>function (2)</b> 64:14;66:9</p> <p><b>functions (2)</b> 26:15;38:13</p> <p><b>Fund (6)</b> 14:14;39:10,11; 40:2;41:14;46:23</p> <p><b>fundamentally (1)</b> 38:22</p> <p><b>funded (1)</b> 96:2</p> <p><b>funding (2)</b> 18:4;85:16</p> <p><b>further (4)</b> 2:13;14:2;46:5; 51:23</p> <p><b>Furthermore (1)</b> 37:14</p> <p><b>furthest (1)</b> 12:15</p> <p><b>future (8)</b> 6:2;9:24;10:3; 29:8;36:24;37:19; 54:11;122:17</p> <p><b>futurist (2)</b> 14:6,17</p>	<p><b>gathering (1)</b> 17:12</p> <p><b>gave (1)</b> 41:18</p> <p><b>general (5)</b> 4:15,18;7:11; 58:17,18</p> <p><b>generalizations (1)</b> 47:20</p> <p><b>generally (1)</b> 99:12</p> <p><b>generate (1)</b> 42:6</p> <p><b>geolocated (1)</b> 35:6</p> <p><b>Georgetown (1)</b> 82:15</p> <p><b>Ginger (4)</b> 10:25;74:7,10; 110:24</p> <p><b>girl (1)</b> 83:10</p> <p><b>given (5)</b> 30:4;41:6;42:21; 58:2,4</p> <p><b>giving (4)</b> 3:15;9:14;100:12; 116:2</p> <p><b>Global (3)</b> 82:6,7;84:20</p> <p><b>goal (2)</b> 35:23;95:16</p> <p><b>goals (2)</b> 11:22;38:23</p> <p><b>goes (3)</b> 21:11;24:24;64:10</p> <p><b>Good (20)</b> 2:3;4:2;10:17; 32:22;33:6;39:6; 45:6;48:8;55:5; 66:15;74:12;97:10; 98:11;100:15; 105:22,24;106:9,15; 109:6;121:14</p> <p><b>govern (2)</b> 66:16;116:6</p> <p><b>governance (2)</b> 89:18,22</p> <p><b>governed (1)</b> 110:15</p> <p><b>government (34)</b> 12:5;14:8;15:5,10, 19,21;16:8,25;17:21, 25;18:4,18;25:22; 26:19,21,22,24;27:3; 32:6;34:6;64:15; 65:14,22;67:3;68:18; 76:2;81:24;84:9; 90:16,17;104:9;</p>	<p>116:8,18,19</p> <p><b>governments (16)</b> 15:6,12;17:16; 58:17,18;59:15; 75:15;81:17;82:17; 85:21;92:11,23; 96:11,17,22;109:20</p> <p><b>Governor (3)</b> 15:18,20;26:23</p> <p><b>GovLab (2)</b> 109:24,24</p> <p><b>grain (1)</b> 68:16</p> <p><b>grateful (2)</b> 18:20;113:14</p> <p><b>great (13)</b> 2:7;5:21;11:4; 16:11;32:21;33:3; 61:23;97:11;103:15; 105:16;107:24; 110:22;116:5</p> <p><b>groans (1)</b> 68:4</p> <p><b>ground (1)</b> 28:2</p> <p><b>group (5)</b> 3:16;22:22;41:23; 49:2;74:16</p> <p><b>groups (6)</b> 9:17;26:8;46:10; 49:13;79:15,17</p> <p><b>grow (3)</b> 17:2,11,11</p> <p><b>growing (2)</b> 17:6;36:13</p> <p><b>grows (1)</b> 17:9</p> <p><b>growth (1)</b> 18:14</p> <p><b>guess (5)</b> 55:4;59:19;61:14; 63:25;110:24</p> <p><b>guests (1)</b> 10:12</p> <p><b>guidance (2)</b> 6:12;117:7</p> <p><b>guide (1)</b> 87:13</p> <p><b>guidelines (1)</b> 119:23</p> <p><b>guys (1)</b> 110:3</p>	<p><b>hales (1)</b> 35:9</p> <p><b>half (3)</b> 28:7;46:11;114:12</p> <p><b>halfway (1)</b> 95:16</p> <p><b>hand (2)</b> 91:22;104:12</p> <p><b>handful (1)</b> 12:21</p> <p><b>hands (6)</b> 31:4;42:23;104:14, 18,20;109:8</p> <p><b>happen (2)</b> 66:15;99:16</p> <p><b>happening (7)</b> 57:21;81:12;83:14; 89:25;94:10,10; 114:14</p> <p><b>happens (5)</b> 15:9;16:21;27:16; 57:13;62:7</p> <p><b>happy (6)</b> 11:3;19:10;57:9; 97:2;114:24;124:21</p> <p><b>harassment (1)</b> 57:17</p> <p><b>hard (2)</b> 61:4;123:8</p> <p><b>harder (1)</b> 124:16</p> <p><b>harm (6)</b> 23:22,23;59:21; 60:5;63:21;82:20</p> <p><b>harmed (1)</b> 37:17</p> <p><b>harms (3)</b> 51:4,23;53:17</p> <p><b>Harris (17)</b> 10:24;65:10,12,13; 74:4;81:7,8;92:9; 96:15;98:7;99:13; 100:20;101:20; 104:8;107:2;109:15; 116:9</p> <p><b>hate (1)</b> 93:15</p> <p><b>head (4)</b> 57:8;69:19;74:5; 81:13</p> <p><b>health (6)</b> 19:2;78:5,8;95:20; 104:15;106:6</p> <p><b>healthcare (5)</b> 75:13;78:8;91:7, 10;96:11</p> <p><b>healthier (1)</b> 75:5</p> <p><b>healthy (1)</b></p>	<p>74:20</p> <p><b>hear (10)</b> 3:7;8:10,19,21; 9:19;11:5;17:6;33:2; 74:11;113:17</p> <p><b>heard (11)</b> 13:22;19:17;26:20; 32:25;40:16;43:14; 74:4;82:25;114:9; 117:20;121:13</p> <p><b>hearing (3)</b> 11:20;19:19; 122:10</p> <p><b>heavy (1)</b> 33:15</p> <p><b>held (3)</b> 84:15;95:4;104:11</p> <p><b>hell (1)</b> 109:6</p> <p><b>Hello (1)</b> 81:7</p> <p><b>help (22)</b> 2:18;6:4;8:14;15:7, 12;26:3,23;27:2; 35:12;61:5;67:20; 76:6;82:13,20;90:9, 20;96:16;100:11; 105:25;109:19; 113:8;123:23</p> <p><b>helped (1)</b> 33:21</p> <p><b>helpful (4)</b> 55:7;67:9;97:17; 111:2</p> <p><b>helping (2)</b> 3:20;77:20</p> <p><b>helps (3)</b> 6:23;42:10;74:19</p> <p><b>Hi (7)</b> 4:2,11,23;5:2,6; 57:24;114:3</p> <p><b>high (3)</b> 65:18;85:4;102:8</p> <p><b>highlight (3)</b> 75:17;98:22;99:2</p> <p><b>Hill (1)</b> 82:3</p> <p><b>hired (1)</b> 44:15</p> <p><b>hiring (1)</b> 58:19</p> <p><b>historic (1)</b> 67:19</p> <p><b>historically (2)</b> 111:16;118:15</p> <p><b>history (3)</b> 11:12;42:24;50:17</p> <p><b>hit (1)</b> 60:5</p>
<b>G</b>				
<p><b>gain (3)</b> 11:14;69:12;75:3</p> <p><b>gang (3)</b> 47:9,12,22</p> <p><b>gang-policing (1)</b> 47:19</p> <p><b>gangs (1)</b> 47:16</p> <p><b>gantries (1)</b> 35:11</p> <p><b>gaps (1)</b> 85:6</p> <p><b>gatekeeping (1)</b> 30:7</p> <p><b>gathered (1)</b> 118:23</p>	<p><b>hack-a-thons (1)</b> 92:12</p> <p><b>HAFETZ (3)</b> 4:2,3;110:23</p>	<b>H</b>		

<b>hold (2)</b> 54:9;84:17	7:18;22:8	<b>implementation (7)</b> 6:14;11:22;23:15; 27:10;41:4;52:22; 58:11	<b>incorporate (2)</b> 34:5;48:11	8:14;27:15;45:7; 108:16
<b>holders (1)</b> 84:12	<b>I</b>	<b>implemented (4)</b> 30:11;43:21;44:21; 101:7	<b>incorporated (3)</b> 34:4;48:20;95:5	<b>information (24)</b> 4:13;5:13;13:19; 26:18,25;27:2;29:10; 43:19;60:18,19;71:7; 86:22;93:12;95:17; 96:5,10;101:3,24; 103:9;106:12; 107:10;112:8;113:8; 115:19
<b>holding (4)</b> 9:4;39:12;92:18,19	<b>IBM (1)</b> 70:12	<b>implementing (3)</b> 22:24;34:7;43:21	<b>increase (6)</b> 6:7;75:11,17;77:6; 81:18;102:14	
<b>holistic (1)</b> 91:8	<b>ICE (2)</b> 35:21,21	<b>implementing (3)</b> 22:24;34:7;43:21	<b>increased (1)</b> 51:14	
<b>holistically (1)</b> 91:15	<b>idea (5)</b> 31:24;63:8;64:2; 97:19;108:8	<b>implicates (1)</b> 53:16	<b>increasing (3)</b> 40:23;76:8;78:7	
<b>Homeland (1)</b> 4:6	<b>ideas (2)</b> 11:7;124:2	<b>implications (1)</b> 110:16	<b>increasingly (2)</b> 36:14;78:6	<b>informative (1)</b> 97:17
<b>honestly (2)</b> 62:19;124:3	<b>identify (8)</b> 2:18;35:7,15; 44:19;98:19;105:22; 119:3;123:24	<b>implicit (2)</b> 111:4;119:8	<b>Incredibly (1)</b> 113:14	<b>informed (4)</b> 48:19;50:7;101:17; 123:10
<b>honor (1)</b> 2:7	<b>identifying (5)</b> 19:14;61:10;116:5; 119:4,7	<b>implies (1)</b> 62:18	<b>incremental (1)</b> 105:14	<b>informing (1)</b> 47:17
<b>honored (1)</b> 74:16	<b>identity (1)</b> 37:22	<b>implore (1)</b> 53:11	<b>independence (1)</b> 26:2	<b>informing (1)</b> 47:17
<b>hope (5)</b> 11:9;81:10;91:19; 99:5;108:3	<b>ideologies (1)</b> 56:11	<b>important (11)</b> 3:14;8:8;9:3,24; 23:3;28:21;81:6; 84:13;94:4;110:19; 123:17	<b>independent (13)</b> 26:22;43:9;49:5; 54:3;59:12;60:11; 63:14;65:21;74:20; 94:13,19,25;105:5	<b>infrastructure (4)</b> 36:18,20;37:16; 38:6
<b>hopeful (2)</b> 99:25;122:24	<b>IDS (1)</b> 94:15	<b>importantly (1)</b> 79:9	<b>individual (16)</b> 13:9;23:22,22; 25:5,8;31:23;37:18; 47:17;48:16;49:2; 91:5,6,7,8;106:5; 111:19	<b>initial (3)</b> 59:22;124:5,9
<b>hopefully (2)</b> 59:3;73:25	<b>illegal (3)</b> 45:17;48:18;49:9	<b>impose (1)</b> 40:20	<b>individuals (16)</b> 35:7,25;36:3; 47:22;49:12;51:5; 68:8;71:11;76:5,22; 77:4,24;79:9;91:17; 112:11,13	<b>initiatives (3)</b> 3:2;74:6;81:14
<b>hopes (1)</b> 11:13	<b>illustrated (1)</b> 123:2	<b>improve (5)</b> 7:24;16:6;19:2; 78:8;81:22	<b>individual's (2)</b> 91:11,13	<b>innovative (2)</b> 14:25;93:16
<b>Hopkins (3)</b> 14:7;15:2;109:18	<b>images (1)</b> 29:3	<b>improvement (1)</b> 76:13	<b>industry (1)</b> 36:14	<b>inordinate (2)</b> 38:7,7
<b>horizon (1)</b> 15:12	<b>imagine (5)</b> 7:15;55:14;57:6; 58:10;71:2	<b>improves (1)</b> 78:5	<b>inequitable (1)</b> 36:3	<b>in-person (1)</b> 81:3
<b>hosted (1)</b> 19:19	<b>immediate (2)</b> 68:5;121:21	<b>incarceration (1)</b> 22:11	<b>inequity (1)</b> 41:5	<b>input (6)</b> 5:20;11:10;53:3; 54:3;60:12;119:17
<b>hosting (2)</b> 10:21;74:13	<b>immediately (1)</b> 68:3	<b>incentivizes (1)</b> 59:7	<b>inevitability (1)</b> 18:24	<b>inputs (1)</b> 58:8
<b>hour (1)</b> 38:10	<b>Immigrations (1)</b> 35:20	<b>include (9)</b> 6:22;9:16;42:5; 43:3;56:4;73:18; 79:5;118:14;120:19	<b>inequity (1)</b> 41:5	<b>instance (1)</b> 38:3
<b>hours (1)</b> 114:19	<b>Impact (20)</b> 14:22;22:16,18; 24:17;38:25;40:19; 42:9;44:7;48:16,23; 49:6,12,14,15;51:5; 59:22;121:21,22; 122:13;123:9	<b>included (1)</b> 24:20	<b>inequity (1)</b> 41:5	<b>instances (3)</b> 37:16,19;66:19
<b>housing (6)</b> 22:10;40:13,13; 47:2,10;75:12	<b>impacted (3)</b> 37:17,21;79:10	<b>includes (3)</b> 8:3;43:11;103:11	<b>inequity (1)</b> 41:5	<b>instantaneously (1)</b> 34:9
<b>Howard (1)</b> 4:18	<b>impacting (1)</b> 7:17	<b>including (8)</b> 6:14;36:20;40:9; 23;49:8;54:10;65:14; 75:23	<b>inequity (1)</b> 41:5	<b>Instead (2)</b> 7:2;89:15
<b>huge (3)</b> 15:22;30:21;34:23	<b>impacts (6)</b> 18:15;21:20;22:6; 23:18;34:8;60:21	<b>inclusive (2)</b> 44:2;81:3	<b>inequity (1)</b> 41:5	<b>Institute (6)</b> 4:8,25;93:21;97:5, 6,7
<b>human (20)</b> 3:3;4:5;20:8,15,16, 18;42:4,9;61:13,22; 62:15,23,24;67:21; 70:19,20;76:24;80:4; 83:16;106:6	<b>imperative (1)</b> 83:19	<b>income (1)</b> 77:5	<b>inequity (1)</b> 41:5	<b>institutions (1)</b> 96:12
<b>human-centered (1)</b> 80:21	<b>implement (2)</b> 44:21;78:12	<b>incommensurate (1)</b> 101:5	<b>infeasible (1)</b> 38:17	<b>insurance (1)</b> 31:18
<b>humans (3)</b> 17:10;98:23,23			<b>infect (1)</b> 45:18	<b>integrate (1)</b> 31:6
<b>hundred (1)</b> 29:7			<b>infected (3)</b> 47:25,25;55:12	<b>integrated (4)</b> 94:16,17;96:18,23
<b>hurt (2)</b>			<b>inferences (1)</b> 45:14	<b>integrity (1)</b> 106:19
			<b>influence (3)</b> 50:25;65:23;86:6	<b>intellectual (1)</b> 28:9
			<b>influenced (1)</b> 55:20	
			<b>inform (4)</b>	



<p><b>level (8)</b> 16:23;59:16;69:16; 72:2;105:11;106:5, 11;111:19</p> <p><b>levels (2)</b> 15:10;39:22</p> <p><b>leveraged (2)</b> 24:13;28:3</p> <p><b>liability (2)</b> 59:6;60:6</p> <p><b>liable (1)</b> 46:14</p> <p><b>lib (1)</b> 53:6</p> <p><b>libbed (1)</b> 73:16</p> <p><b>license (3)</b> 20:3;35:17;43:22</p> <p><b>license-plate-reader (1)</b> 35:24</p> <p><b>life (2)</b> 18:21;69:2</p> <p><b>LIHEAP (1)</b> 75:21</p> <p><b>likely (3)</b> 44:2;75:20;77:25</p> <p><b>limit (1)</b> 71:23</p> <p><b>limitation (1)</b> 121:6</p> <p><b>limits (1)</b> 119:12</p> <p><b>Limousine (1)</b> 34:2</p> <p><b>line (1)</b> 31:9</p> <p><b>lines (1)</b> 28:4</p> <p><b>list (4)</b> 14:2;44:2,20,22</p> <p><b>listen (1)</b> 13:16</p> <p><b>literally (2)</b> 107:12;110:17</p> <p><b>little (15)</b> 5:23;18:21;26:16; 32:15,19,21;33:12; 69:9,11;75:14;82:12; 111:3;114:25; 124:12,16</p> <p><b>live (6)</b> 12:14;35:15;67:14; 74:20;75:5;107:18</p> <p><b>lived (1)</b> 46:25</p> <p><b>lives (9)</b> 16:7;18:16;46:4; 66:12;72:12;74:20; 75:6;81:22;83:12</p>	<p><b>living (1)</b> 77:5</p> <p><b>loathe (1)</b> 67:25</p> <p><b>local (25)</b> 6:12;11:12;29:22; 34:12,19;36:11;38:4, 22;39:14,22;40:6,15; 41:18;43:5;47:16; 53:8;81:17;82:17; 85:20;92:10,23; 95:22;96:17,21; 109:19</p> <p><b>localities (2)</b> 93:25;94:14</p> <p><b>locality (1)</b> 93:5</p> <p><b>locations (1)</b> 72:19</p> <p><b>logistics (2)</b> 2:14;13:2</p> <p><b>long (4)</b> 22:15;61:4;86:20; 118:8</p> <p><b>longer (4)</b> 10:2;15:25;22:12, 20</p> <p><b>longer-term (1)</b> 10:7</p> <p><b>longstanding (1)</b> 40:5</p> <p><b>long-term (1)</b> 121:22</p> <p><b>look (27)</b> 5:15;6:20;12:6; 29:9;32:12;33:16; 61:4,12;64:19;66:10, 24;71:21;78:20; 80:15;83:9;86:13; 88:8,8,90:21;95:13, 20;96:4;101:8;102:7; 116:25;117:2;122:4</p> <p><b>looked (1)</b> 110:8</p> <p><b>looking (5)</b> 16:4;57:16;107:21; 111:9;122:15</p> <p><b>lot (24)</b> 3:15;8:21;12:17; 20:25;28:6;32:4; 62:18;68:3,17,25; 69:2;70:15;95:2,25; 96:7;97:7;100:17; 112:18;114:10; 121:14;122:5,5,12; 123:3</p> <p><b>lots (1)</b> 61:25</p> <p><b>love (5)</b></p>	<p>54:19,21;88:23; 99:15;104:18</p> <p><b>lower (1)</b> 68:20</p> <p><b>lowest (3)</b> 60:23,24,25</p> <p><b>low-income (3)</b> 50:16;77:9;78:20</p> <p><b>low-income-subsidy (1)</b> 76:14</p> <p><b>lunch (1)</b> 85:15</p>	<p>24;26:20;29:2;31:10, 10;47:23;58:2;75:19, 23;81:10;100:7; 116:10</p> <p><b>marketplace (1)</b> 100:18</p> <p><b>Marshall (1)</b> 39:20</p> <p><b>Massachusetts (3)</b> 90:11,11,14</p> <p><b>massive (1)</b> 30:18</p> <p><b>match (1)</b> 7:4</p> <p><b>materials (2)</b> 96:8,19</p> <p><b>matters (2)</b> 80:14;87:4</p> <p><b>maximum (1)</b> 19:3</p> <p><b>May (26)</b> 9:5;22:25;23:5,15, 23;50:9,12,18;58:5,8, 9;61:2;62:23;68:6; 69:8,10;71:9;75:12; 97:22;98:2;100:24; 101:8,12;104:7; 109:7;125:2</p> <p><b>Maya (2)</b> 55:4,5</p> <p><b>maybe (15)</b> 20:19;22:18;24:7; 26:5;61:11;64:4; 68:9,22;70:17;71:19; 104:13;108:18; 121:21;122:19,19</p> <p><b>mayor (2)</b> 26:3;41:7</p> <p><b>mayor's (5)</b> 2:12;3:5;4:16; 24:8;27:20</p> <p><b>MBK (1)</b> 93:6</p> <p><b>mean (17)</b> 7:5,6,7;18:5;56:13; 57:3;61:19;62:19; 68:21,25;70:19; 71:24;92:12;98:24; 118:17;122:9;123:15</p> <p><b>Meaning (3)</b> 45:7;46:6;52:15</p> <p><b>meaningful (4)</b> 10:8;43:25;52:15; 53:2</p> <p><b>means (5)</b> 7:9;25:11;45:15; 82:10,11</p> <p><b>meant (3)</b> 8:2,13;82:21</p>	<p><b>measurable (1)</b> 95:3</p> <p><b>measures (5)</b> 87:12,12;90:25; 91:3;95:12</p> <p><b>mechanics (1)</b> 54:2</p> <p><b>mechanism (5)</b> 25:2;58:10;63:17; 71:20;72:5</p> <p><b>mechanisms (6)</b> 20:14;23:23;25:4; 52:19;59:16;102:23</p> <p><b>media (1)</b> 26:9</p> <p><b>Medicaid (10)</b> 75:21;76:9;77:13, 14,20,21,24;78:2; 106:8,9</p> <p><b>Medicare (2)</b> 76:13;77:2</p> <p><b>medium (1)</b> 11:10</p> <p><b>meet (5)</b> 26:24;90:24;92:24; 93:18;94:6</p> <p><b>meeting (3)</b> 88:25;92:14;95:11</p> <p><b>meetings (1)</b> 9:17</p> <p><b>Member (6)</b> 10:12;13:11,23; 84:16;120:10;122:9</p> <p><b>members (22)</b> 3:11,12,24;5:13; 8:9;10:22;22:2,3; 39:7;47:15,22;50:22; 51:6;52:7,13,20,25; 54:21;65:22;72:25; 84:9;123:3</p> <p><b>members' (2)</b> 8:14;9:12</p> <p><b>membrane (1)</b> 60:13</p> <p><b>mention (1)</b> 3:25</p> <p><b>mentioned (8)</b> 58:4;61:9,21; 73:11;79:23;105:20; 108:8;119:17</p> <p><b>Meredith (2)</b> 4:23;100:21</p> <p><b>message (2)</b> 84:13,14</p> <p><b>messy (1)</b> 106:10</p> <p><b>met (2)</b> 30:10;72:3</p> <p><b>meta (3)</b></p>
---	---	---	---	--

April 30, 2019

<p>101:23;102:24; 103:6 <b>methodological (1)</b> 101:3 <b>methods (3)</b> 16:6;30:7,13 <b>metric (1)</b> 27:20 <b>Metropolitan (1)</b> 33:21 <b>mic (3)</b> 32:19;73:25; 122:19 <b>Michael (1)</b> 5:9 <b>Microsoft (2)</b> 4:12;70:12 <b>middle (3)</b> 7:4;30:16,23 <b>mid-week (1)</b> 125:14 <b>might (21)</b> 18:21,22;20:21; 21:12,18,24;23:7; 28:11;55:11;61:10; 15:62;19:63;5:64;21; 67:21,23;93:20,20; 94:22;107:16;118:5 <b>military-style (1)</b> 47:9 <b>million (1)</b> 46:3 <b>mindful (1)</b> 13:15 <b>mine (1)</b> 87:6 <b>minimum (2)</b> 44:18;49:6 <b>MIPPA (1)</b> 76:14 <b>misalign (1)</b> 7:19 <b>misconceptions (1)</b> 67:24 <b>miss (2)</b> 29:22;61:15 <b>missing (1)</b> 79:6 <b>mitigate (3)</b> 50:25;79:14;90:20 <b>mobile (2)</b> 35:9;75:5 <b>mobility (5)</b> 35:4,13;36:7; 38:23,25 <b>model (6)</b> 26:16;27:7;58:7; 60:3;65:3;79:16 <b>models (2)</b></p>	<p>43:15;117:15 <b>moment (4)</b> 32:5;56:23;74:5; 75:13 <b>monitoring (1)</b> 43:24 <b>month (7)</b> 11:19;19:13,20; 44:13;77:3,6;106:24 <b>months (6)</b> 14:18;41:21;53:9; 91:20,20;120:14 <b>month's (1)</b> 19:12 <b>monumental (1)</b> 21:6 <b>more (63)</b> 3:7,17,21;5:13,18, 24;7:2,13,14,25;8:19; 9:15;11:10;13:18,20; 15:8;17:17,20;18:11, 22;22:19;33:12,23; 41:21;42:10;44:15; 53:10;56:5;59:5; 64:20;68:22;70:21; 72:24;74:20;75:5,14; 76:7;89:13;91:2; 92:4;99:14,14,22,24; 100:2;106:23; 107:19,25;109:16; 110:22;113:20; 114:17;117:11; 120:4,5;122:20; 123:20,20;124:2,12, 14,18,19 <b>Most (17)</b> 11:12;23:3;35:17; 57:12,12;65:14; 69:24;70:5;79:8; 81:3;82:21;83:3; 85:20,20;93:10,10; 94:4 <b>Mostly (2)</b> 72:8;114:9 <b>MOTA (1)</b> 30:24 <b>MOTO (1)</b> 24:5 <b>MOUs (1)</b> 89:15 <b>move (5)</b> 27:8;32:19;33:17; 73:4,6 <b>movement (2)</b> 35:6;96:6 <b>movements (1)</b> 34:25 <b>moves (1)</b> 125:9</p>	<p><b>moving (3)</b> 14:24;23:14;44:23 <b>much (19)</b> 7:15;9:9;23:10; 29:5;55:6;57:24; 59:5;67:13;68:20; 69:12,14,15;72:16; 113:3,13;114:4; 118:10;119:22;124:4 <b>Multi-channel (1)</b> 80:24 <b>multiple (4)</b> 35:3;89:17;90:6; 120:14 <b>municipal (1)</b> 34:6 <b>must (18)</b> 36:15,25;37:24; 41:8,16;43:7,9,18; 44:19,25;48:14; 49:11,21;50:20; 51:24;52:5,22;78:15 <b>myself (3)</b> 2:10;14:18;119:20</p>	<p>114:16;117:14 <b>necessary (3)</b> 26:2;83:15;116:12 <b>need (22)</b> 2:17;8:10;17:13, 13,13;21:9,16;22:18; 23:23;28:10;30:10; 31:14;32:12;57:22; 62:23;66:9;70:20; 75:9;84:17;87:5; 109:7;119:6 <b>needed (3)</b> 25:3;30:22;90:18 <b>needlessly (1)</b> 18:23 <b>needs (14)</b> 2:14;5:19;6:11; 8:21;25:18,25;26:11; 27:19;62:12;63:14, 17,18;81:18;114:23 <b>negative (1)</b> 22:6 <b>neighborhoods (1)</b> 50:16 <b>neither (2)</b> 35:23;42:18 <b>Nelson (14)</b> 10:25;14:12;39:6, 8;55:14;60:9;63:13; 64:23,25;69:18;71:8, 24;73:13,20 <b>nerve (1)</b> 113:22 <b>network (1)</b> 20:2 <b>networks (1)</b> 115:17 <b>neutral (1)</b> 50:10 <b>New (56)</b> 3:7;4:16;5:7,10; 6:6;7:23;8:10;9:15; 10:9,14,20;12:13; 14:10;15:21,24;16:4, 20;18:15,19,19; 20:23;26:17;33:19; 34:3,7,17,18;35:13; 36:15;37:10;38:23; 40:8,10,12,13;41:5; 42:12;45:25;46:13, 16,22;47:2,15;54:7; 56:25;58:17;66:10; 74:14;84:10,16; 92:18;95:9;108:15; 114:15;120:15,21 <b>newly (1)</b> 102:24 <b>newsletters (2)</b> 93:14,16</p>	<p><b>next (4)</b> 8:7;19:12;124:24, 25 <b>nice (1)</b> 103:21 <b>Nicklin (9)</b> 14:6,16,21;56:5; 57:8;58:15;61:18; 67:25;70:9 <b>night (1)</b> 125:14 <b>ninth (1)</b> 53:6 <b>non-agency (2)</b> 49:17;52:19 <b>non-classified (1)</b> 66:25 <b>non-discriminatory (1)</b> 41:13 <b>none (2)</b> 64:23,25 <b>nonetheless (4)</b> 50:18;67:15,16; 68:13 <b>non-profit (3)</b> 18:6;24:11;66:14 <b>nor (1)</b> 35:24 <b>normalizing (1)</b> 68:7 <b>note (1)</b> 54:23 <b>noted (2)</b> 53:17;125:22 <b>notes (2)</b> 55:2;73:17 <b>not-for-profit (1)</b> 74:19 <b>NSA (1)</b> 110:9 <b>nuanced (1)</b> 36:8 <b>number (5)</b> 15:22;24:12;55:21; 70:10;120:17 <b>numbers (2)</b> 34:25;75:3 <b>NYPD (19)</b> 42:23;43:3,20; 44:3,6,9,19,21;45:23; 46:2,14,18,24;47:4, 13,24;48:25;49:3,11 <b>NYPD's (8)</b> 40:11,23;41:4; 43:19;44:13,17; 45:16;53:13 <b>NYU (5)</b> 4:25;5:5;33:8,15; 93:20</p>
		<b>N</b>		
		<p><b>NAACP (2)</b> 14:13;39:9 <b>name (9)</b> 3:25;4:2;14:23; 33:7;39:7;73:24; 81:8;114:3;116:3 <b>names (1)</b> 14:3 <b>narratives (1)</b> 27:22 <b>Natalie (9)</b> 10:24;65:10,12; 74:4,10;81:8;92:2; 110:24;116:8 <b>national (7)</b> 13:21;19:5;39:21; 65:15;74:18;81:25; 95:21 <b>national-interest (1)</b> 71:25 <b>nation's (1)</b> 39:17 <b>natural (1)</b> 71:24 <b>nearest (1)</b> 72:17 <b>nearly (1)</b> 39:19 <b>necessarily (10)</b> 6:24;20:13;55:24; 62:15;64:25;70:3; 92:17;103:12;</p>		

	29:24;37:7;43:14; 45:12;46:21;49:14; 56:19;57:6,14;58:7; 59:8,19;60:6;61:12, 23,23;62:5,22;70:2; 71:25;73:10,14;76:5, 11;81:10,11;83:18; 86:11,23;87:10; 89:15,16,16,20;91:2, 24;93:5;97:15,18,23; 101:7,14;105:21; 110:9,22;113:18,20; 115:22;116:23; 117:6;118:11; 120:25;122:2,20,23; 124:23	<b>opioid (1)</b> 95:25	74:2;83:2,23;84:13; 86:17,19;90:2;96:25; 97:10;98:20,22,24; 99:4;103:2,4;107:10; 108:13;114:18; 115:19;117:6; 122:21;123:20,25; 124:20;125:13	<b>pace (2)</b> 16:21;44:12
<b>O</b>		<b>opportunities (5)</b> 9:15;21:19;22:9; 53:3;59:9		<b>pain (1)</b> 69:11
<b>Obama (1)</b> 82:3	71:25;73:10,14;76:5, 11;81:10,11;83:18; 86:11,23;87:10; 89:15,16,16,20;91:2, 24;93:5;97:15,18,23; 101:7,14;105:21; 110:9,22;113:18,20; 115:22;116:23; 117:6;118:11; 120:25;122:2,20,23; 124:23	<b>opportunity (12)</b> 3:8;16:20;21:21; 23:13;24:5;27:6; 43:11;77:23;81:4; 112:18;116:2;124:7	<b>outcome (1)</b> 90:25	<b>panacea (1)</b> 80:18
<b>objectively (1)</b> 55:19	<b>ones (7)</b> 19:9,11;66:16; 89:5,6,7;105:24	<b>opt-in (1)</b> 76:20	<b>outcomes (11)</b> 22:7;78:5;79:2; 80:20;87:12,12;91:3; 95:11;109:3;111:18; 112:2	<b>Panel (17)</b> 13:5,7,12,13;14:4, 6;54:16;55:7;73:3,5; 74:3;79:24;80:7; 82:25;88:2;105:20; 113:7
<b>objects (2)</b> 34:21;36:13	<b>one-shot (5)</b> 21:8,17,19,21; 25:10	<b>options (1)</b> 65:6	<b>outputs (1)</b> 50:17	<b>panelists (10)</b> 10:23;12:21;13:2, 18;54:16,24;91:23; 113:4;116:4;125:10
<b>obsolete (1)</b> 29:5	<b>ongoing (2)</b> 30:7,12	<b>opt-out (2)</b> 76:19,23	<b>out-of-date (1)</b> 14:24	<b>panels (1)</b> 13:5
<b>obtain (1)</b> 18:4	<b>only (10)</b> 24:21;28:7;45:6; 61:18;66:15;72:9; 78:4;83:22;88:12; 115:7	<b>order (8)</b> 30:10;76:6,25; 82:15;85:13;99:18; 112:10;116:10	<b>output (1)</b> 48:3	<b>paper (1)</b> 100:10
<b>obvious (2)</b> 20:7;85:16	<b>opacity (1)</b> 71:16	<b>organizations (6)</b> 13:20;14:20;15:4; 39:18;74:19;92:15	<b>outputs (1)</b> 50:17	<b>parallel (2)</b> 28:25;38:13
<b>obviously (5)</b> 5:16;23:20;80:20; 112:21;124:15	<b>open (17)</b> 8:18;13:10;15:19; 26:19,22;28:5;33:22; 54:21;55:4;60:4; 86:2;89:3;103:5; 117:3;124:2,6,17	<b>organizational (1)</b> 109:12	<b>outside (2)</b> 2:16;115:13	<b>parameters (1)</b> 64:6
<b>occur (1)</b> 49:11	<b>opened (1)</b> 92:3	<b>order (8)</b> 30:10;76:6,25; 82:15;85:13;99:18; 112:10;116:10	<b>outsourcing (2)</b> 94:15,16	<b>parents (2)</b> 83:10;100:12
<b>occurs (1)</b> 57:19	<b>opening (2)</b> 33:24;90:12	<b>order (8)</b> 30:10;76:6,25; 82:15;85:13;99:18; 112:10;116:10	<b>over (19)</b> 12:9;14:4,15; 21:15;28:19;46:10; 65:23;74:9;75:7,8; 77:22;100:2,12; 105:13;110:17; 112:25;113:16; 114:11;120:14	<b>parking (2)</b> 35:9;38:14
<b>offer (9)</b> 2:4,9,20;5:17;9:19; 14:5,5;57:8;69:19	<b>openness (2)</b> 84:23;85:18	<b>organizational (1)</b> 109:12	<b>overall (3)</b> 38:22;68:10;69:6	<b>part (18)</b> 9:13;13:14;39:25; 47:14;58:13;67:21; 69:5;83:12,14;84:14; 87:25;94:18,19; 103:13;117:5;119:2; 123:15,21
<b>offering (1)</b> 47:17	<b>operate (1)</b> 43:20	<b>organizational (1)</b> 109:12	<b>overlooked (1)</b> 12:3	<b>participate (1)</b> 52:7
<b>office (4)</b> 2:12;3:5;4:16;24:8	<b>operated (1)</b> 30:15	<b>organizational (1)</b> 109:12	<b>override (1)</b> 80:3	<b>participating (1)</b> 55:6
<b>officer (4)</b> 3:4;104:12,25; 109:5	<b>operation (3)</b> 15:10;21:6;24:7	<b>organizational (1)</b> 109:12	<b>oversight (8)</b> 43:25;54:3;60:11; 61:11,17;63:14; 111:10;121:23	<b>participation (4)</b> 11:11;39:23;49:22; 76:8
<b>Officers (1)</b> 47:18	<b>operational (2)</b> 68:18,25	<b>organizational (1)</b> 109:12	<b>overwhelming (1)</b> 47:10	<b>particular (4)</b> 30:25;57:13;62:21; 71:2
<b>officer's (1)</b> 104:14	<b>operationalized (3)</b> 20:23;21:14;80:5	<b>organizational (1)</b> 109:12	<b>owned (2)</b> 31:16;86:3	<b>particularly (9)</b> 15:24;20:10,12; 36:4,9;37:2;53:19; 63:20;100:8
<b>often (13)</b> 20:12;27:21;34:7, 9;35:2,6;47:16; 56:21;58:16;60:23, 23,24;89:13	<b>operations (1)</b> 2:12	<b>organizational (1)</b> 109:12	<b>owners (2)</b> 22:4,5	<b>parties (3)</b> 24:21;89:18; 116:21
<b>offentimes (5)</b> 58:5;87:16;91:9; 100:25;101:25	<b>opinion (3)</b> 16:24;19:20;31:14	<b>organizational (1)</b> 109:12	<b>owner's (1)</b> 104:20	<b>partly (1)</b> 7:19
<b>old (1)</b> 106:11	<b>opinions (2)</b> 27:5;118:20	<b>organizational (1)</b> 109:12	<b>P</b>	<b>partner (3)</b> 92:15;94:22; 115:12
<b>older (1)</b> 77:3		<b>organizational (1)</b> 109:12		<b>partnered (1)</b> 93:6
<b>ombudsman (1)</b> 25:25		<b>organizational (1)</b> 109:12		
<b>once (6)</b> 16:20;22:25;32:20; 44:22;62:24;63:24		<b>organizational (1)</b> 109:12		
<b>once-and-done (1)</b> 79:3		<b>organizational (1)</b> 109:12		
<b>one (67)</b> 8:8;10:11;12:4; 13:25;19:8,13;20:7, 21,22;24:4;26:16;		<b>organizational (1)</b> 109:12		

<p><b>partners (1)</b> 31:11</p> <p><b>partnerships (2)</b> 40:6;76:2</p> <p><b>parts (1)</b> 115:14</p> <p><b>party (6)</b> 49:5;64:2,15,18; 117:18;121:23</p> <p><b>passed (1)</b> 108:2</p> <p><b>passion (1)</b> 81:21</p> <p><b>past (3)</b> 15:6;112:24; 114:18</p> <p><b>path (1)</b> 93:11</p> <p><b>paths (1)</b> 37:2</p> <p><b>Patient (1)</b> 76:13</p> <p><b>pattern (1)</b> 46:15</p> <p><b>patterns (1)</b> 33:18</p> <p><b>paved (1)</b> 109:6</p> <p><b>pay (5)</b> 15:11;17:21;90:16, 17;107:19</p> <p><b>paying (2)</b> 25:13;35:25</p> <p><b>payments (2)</b> 35:10,10</p> <p><b>pedestrian (1)</b> 38:14</p> <p><b>Pennsylvania (2)</b> 77:13,15</p> <p><b>people (88)</b> 2:16;3:17;6:23;7:2, 13,18;8:2;18:22; 21:24;26:12;29:8; 32:2,24;33:17;34:17, 18,21,25;35:15; 36:12,18;37:9;39:3; 46:25;47:11;56:7,11, 20;62:2;67:24;68:4; 69:24;72:21;74:19; 75:3,9,12,20;76:7; 77:21;78:5,14;79:21; 80:22,24;81:18,22; 82:20;83:3,5,9;84:8; 85:12;86:4;88:5; 89:23;91:15;92:14, 24;93:3,10,11,18,23; 94:6,6;95:4;99:3,8, 15,20;100:2;101:16; 104:18;106:11,21,22;</p>	<p>107:19;108:7,17,20; 110:7;111:14;112:3; 117:8,13;123:11; 124:17</p> <p><b>people's (3)</b> 72:9;84:12;94:9</p> <p><b>per (1)</b> 117:14</p> <p><b>percent (4)</b> 46:5,8;57:18;112:8</p> <p><b>perfect (2)</b> 59:17;65:3</p> <p><b>perhaps (6)</b> 18:20;24:5;25:24; 26:6;55:20;67:18</p> <p><b>period (1)</b> 38:19</p> <p><b>periodic (1)</b> 24:14</p> <p><b>permanent (1)</b> 22:17</p> <p><b>perpetuate (1)</b> 45:21</p> <p><b>perpetuating (1)</b> 7:16</p> <p><b>perpetuation (2)</b> 40:3;50:2</p> <p><b>person (7)</b> 2:18;12:13;37:21; 46:8;83:15;97:3; 115:22</p> <p><b>personal (2)</b> 35:16;72:22</p> <p><b>personally (3)</b> 14:20;16:11; 119:25</p> <p><b>persons (1)</b> 35:22</p> <p><b>person's (1)</b> 104:18</p> <p><b>perspectives (2)</b> 3:19;79:6</p> <p><b>pertain (1)</b> 33:11</p> <p><b>Peter (1)</b> 10:12</p> <p><b>Pettit (1)</b> 97:6</p> <p><b>phase (2)</b> 8:8;9:21</p> <p><b>phone-based (1)</b> 81:2</p> <p><b>physically (1)</b> 12:13</p> <p><b>picture (3)</b> 28:8;57:22;80:17</p> <p><b>piece (3)</b> 24:24;59:8;72:11</p> <p><b>pieces (2)</b></p>	<p>96:21;106:2</p> <p><b>pilot (1)</b> 103:2</p> <p><b>pit (1)</b> 26:5</p> <p><b>pivot (1)</b> 56:24</p> <p><b>place (19)</b> 19:5,6;24:15,16; 30:8,12;59:4;66:20; 72:5;86:10;89:23; 108:13;109:9; 110:18;114:16; 115:10;118:5,6; 125:3</p> <p><b>placements (1)</b> 7:5</p> <p><b>places (4)</b> 48:23,24;64:13; 108:15</p> <p><b>planners (2)</b> 34:23;35:3</p> <p><b>planning (1)</b> 35:2</p> <p><b>plans (5)</b> 5:25;44:9,21; 115:9;125:4</p> <p><b>plate (3)</b> 20:3;35:17;43:22</p> <p><b>platforms (1)</b> 24:14</p> <p><b>play (5)</b> 17:15;25:6;30:18; 35:15;95:10</p> <p><b>played (1)</b> 61:13</p> <p><b>playing (2)</b> 90:7;104:22</p> <p><b>please (3)</b> 2:15;9:7;120:12</p> <p><b>pleased (3)</b> 12:20;34:3;39:15</p> <p><b>pm (1)</b> 125:22</p> <p><b>pocket (1)</b> 6:22</p> <p><b>point (5)</b> 25:9;49:25;59:15; 69:25;113:15</p> <p><b>points (1)</b> 27:23</p> <p><b>police (4)</b> 53:15;97:23; 102:13;103:25</p> <p><b>policies (4)</b> 31:19;45:3;57:20; 110:14</p> <p><b>policing (10)</b> 40:8,20;42:25;</p>	<p>43:24;45:15;48:19; 51:11;53:22;101:10; 104:4</p> <p><b>policy (10)</b> 5:10;8:4;13:21; 40:11;44:14;65:20; 75:2;77:16,17;82:4</p> <p><b>political (2)</b> 17:19;39:23</p> <p><b>poorer (1)</b> 22:7</p> <p><b>popular (1)</b> 89:14</p> <p><b>population (4)</b> 37:6;46:11;48:17; 55:22</p> <p><b>populations (2)</b> 22:3;59:23</p> <p><b>portion (1)</b> 13:3</p> <p><b>posed (1)</b> 11:21</p> <p><b>position (1)</b> 71:6</p> <p><b>positive (1)</b> 99:24</p> <p><b>possession (1)</b> 58:6</p> <p><b>possibility (2)</b> 43:15;79:22</p> <p><b>possible (6)</b> 19:4;56:22,22; 69:3;76:12;118:10</p> <p><b>possibly (3)</b> 30:5;61:2,24</p> <p><b>posters (1)</b> 110:17</p> <p><b>potential (11)</b> 7:16;21:3;22:6; 26:16;41:24;51:23; 52:3;66:5,6;119:7; 122:13</p> <p><b>potentially (3)</b> 28:2;61:3;119:11</p> <p><b>pothole (1)</b> 68:24</p> <p><b>potholes (1)</b> 23:10</p> <p><b>power (2)</b> 12:5;26:13</p> <p><b>practical (1)</b> 10:9</p> <p><b>practicality (1)</b> 121:20</p> <p><b>practically (1)</b> 64:11</p> <p><b>practice (5)</b> 40:11;46:15;82:8; 94:4,12</p>	<p><b>practices (27)</b> 15:13;18:2,10; 41:12;43:2;45:3,18; 46:12,19;47:24; 48:13,15,19;49:10; 51:11;53:25;58:14; 82:16;89:11;90:23; 92:3,8;93:13;94:23; 96:25;104:5,7</p> <p><b>practitioners (2)</b> 82:8;107:14</p> <p><b>pre-acquisition (1)</b> 49:16</p> <p><b>precedent (1)</b> 27:5</p> <p><b>precisely (1)</b> 115:14</p> <p><b>predefine (1)</b> 38:18</p> <p><b>predicative (1)</b> 43:23</p> <p><b>predictions (3)</b> 42:6;48:3;52:11</p> <p><b>prefer (1)</b> 76:20</p> <p><b>prefers (1)</b> 60:23</p> <p><b>pre-implementation (1)</b> 51:7</p> <p><b>pre-impose (1)</b> 52:7</p> <p><b>pre-K (1)</b> 20:24</p> <p><b>premise (1)</b> 56:7</p> <p><b>preparation (1)</b> 13:14</p> <p><b>preparing (1)</b> 109:4</p> <p><b>prescription-assistance (1)</b> 76:15</p> <p><b>presentation (1)</b> 97:16</p> <p><b>president (1)</b> 74:7</p> <p><b>pressured (1)</b> 17:17</p> <p><b>presumably (1)</b> 16:14</p> <p><b>presumed (1)</b> 48:22</p> <p><b>presumption (1)</b> 63:9</p> <p><b>pretty (1)</b> 29:5</p> <p><b>prevents (1)</b> 44:6</p> <p><b>previous (6)</b> 33:20;40:17;48:21;</p>
---	---	---	---	---

<p>49:24;79:24;105:21  <b>previously (1)</b>                  32:2  <b>pricing (1)</b>                  35:11  <b>primarily (2)</b>                  47:9;110:24  <b>principles (8)</b>                  82:10;83:21;84:2,                  15,18,25;86:23;95:3  <b>Prior (5)</b>                  15:17,20;47:11;                  52:21;58:11  <b>prioritization (1)</b>                  36:21  <b>prison (1)</b>                  22:11  <b>privacy (7)</b>                  36:9;39:3;51:22;                  53:16;60:13;78:15;                  80:9  <b>private (13)</b>                  28:10;35:4,18;                  37:4;58:3;59:11;                  60:11;64:6,6,16;                  71:20;116:20;117:18  <b>proactive (1)</b>                  78:16  <b>probable (1)</b>                  47:4  <b>probably (5)</b>                  9:18;29:12;30:25;                  31:14,17  <b>problem (7)</b>                  17:19;25:10,10;                  28:23,24;58:22;                  90:19  <b>procedure (4)</b>                  23:15;27:10;37:15;                  49:17  <b>procedures (2)</b>                  51:4;52:2  <b>process (28)</b>                  9:13;12:3;34:24;                  38:12;42:3;43:10,16;                  47:18;53:2;60:10,20,                  22;61:11;64:11;66:5;                  75:16,24;78:25;                  79:25;85:19;101:4;                  108:5;117:11;                  119:15,23;120:3;                  121:17;122:11  <b>processes (8)</b>                  6:23;7:10;44:11;                  51:7;60:14;82:24;                  98:14;118:6  <b>processing (2)</b>                  6:16;7:8  <b>procurement (5)</b></p>	<p>60:22;61:4;85:19;                  95:7,8  <b>produce (4)</b>                  38:6,9;48:22;50:5  <b>produced (1)</b>                  86:2  <b>product (3)</b>                  9:2;85:23;107:17  <b>products (6)</b>                  31:10;58:20;59:2;                  107:3,4,22  <b>professional (1)</b>                  29:13  <b>professor (2)</b>                  4:9,13  <b>profiling (2)</b>                  45:24;53:21  <b>profit (1)</b>                  24:11  <b>program (3)</b>                  76:5;77:2;112:3  <b>programmatic (1)</b>                  31:5  <b>programming (1)</b>                  37:12  <b>programs (8)</b>                  7:24;15:19;16:19;                  20:24;24:15;32:7;                  44:14;112:16  <b>progress (1)</b>                  11:23  <b>Project (2)</b>                  82:7;84:20  <b>projects (1)</b>                  15:23  <b>properly (1)</b>                  78:25  <b>property (2)</b>                  22:4;28:9  <b>protect (2)</b>                  52:2;109:13  <b>protected (2)</b>                  36:10;42:14  <b>protecting (1)</b>                  84:8  <b>protection (1)</b>                  46:20  <b>protections (1)</b>                  47:18  <b>protectors (1)</b>                  84:12  <b>protects (1)</b>                  28:15  <b>protocols (4)</b>                  32:9;64:17;117:6;                  118:24  <b>prove (3)</b>                  56:3;59:24;63:10  <b>provide (7)</b></p>	<p>13:18;18:11;27:22;                  31:19;53:2,3;57:9  <b>provided (3)</b>                  52:18;76:21;85:12  <b>providence (1)</b>                  58:13  <b>providers (3)</b>                  31:13;35:4;76:13  <b>provides (1)</b>                  62:9  <b>providing (1)</b>                  18:6  <b>proving (1)</b>                  59:21  <b>proxy (4)</b>                  50:5,9,20,25  <b>PUBLIC (187)</b>                  2:1,6,9;3:1,9;4:1;                  5:1,18;6:1;7:1;8:1,                  16,19;9:1,4,12,20;                  10:1,20;11:1,5,10;                  12:1;13:1,4,9;14:1;                  15:1,24;16:1;17:1;                  18:1;19:1;20:1,4,5;                  21:1;22:1;23:1;24:1;                  25:1;26:1,4,5;27:1;                  28:1;29:1;30:1;31:1,                  16;32:1;33:1,16,22;                  34:1;35:1;36:1;37:1;                  38:1,16;39:1,12;40:1,                  13;41:1,11;42:1,13;                  43:1,12;44:1,5,6;                  45:1;46:1;47:1,10;                  48:1;49:1,22;50:1;                  51:1;52:1,2;53:1;                  54:1,2;55:1;56:1;                  57:1,17,21;58:1;                  59:1;60:1,12,15;                  61:1;62:1;63:1,16,18,                  19;64:1,14;65:1;                  66:1;67:1;68:1,20;                  69:1,14;70:1;71:1,                  12;72:1,6;73:1;74:1,                  14;75:1;76:1;77:1;                  78:1;79:1;80:1;81:1;                  82:1;83:1;84:1;85:1;                  86:1;87:1;88:1;89:1;                  90:1;91:1;92:1,4,5,                  18;93:1,21,21;94:1;                  95:1;96:1;97:1;98:1;                  99:1;100:1;101:1;                  102:1;103:1;104:1;                  105:1;106:1;107:1;                  108:1;109:1;110:1;                  111:1;112:1;113:1;                  16;114:1;115:1,5,8;                  116:1,6;117:1,12,12,                  14;118:1;119:1;                  120:1;121:1;122:1;</p>	<p>123:1,22;124:1,8,9,                  25;125:1  <b>public-benefit (1)</b>                  81:15  <b>publicly (3)</b>                  44:19;71:10;                  116:17  <b>punishment (1)</b>                  53:22  <b>punitive (1)</b>                  111:23  <b>purpose (5)</b>                  43:6;56:21,23,24;                  119:22  <b>purposeful (1)</b>                  87:13  <b>purposely (1)</b>                  50:12  <b>pursue (1)</b>                  116:10  <b>purview (5)</b>                  42:17,21;43:4,13;                  62:16  <b>push (1)</b>                  107:14  <b>pushed (2)</b>                  106:22;115:18  <b>pushes (1)</b>                  18:25  <b>put (21)</b>                  30:8;66:20;67:12;                  78:15;86:10;89:23;                  95:7;96:25;102:4,6,6,                  12;103:2;104:13,17;                  107:14;117:23;                  118:6;119:14;                  123:20,24  <b>puts (1)</b>                  77:2  <b>putting (5)</b>                  3:14;70:18;73:19;                  107:10;109:3</p>	<p>16:10;28:20;                  113:23;124:2  <b>quote (1)</b>                  41:25</p> <hr/> <p style="text-align: center;"><b>R</b></p> <hr/> <p><b>Race (3)</b>                  5:4;50:13,16  <b>racial (10)</b>                  40:3,19;45:24;                  48:2;49:6;50:2,7,19;                  54:4,12  <b>racially (5)</b>                  46:19;47:5;50:18;                  101:9;104:4  <b>racism (1)</b>                  55:17  <b>raised (1)</b>                  117:13  <b>raising (1)</b>                  51:17  <b>range (2)</b>                  3:18;41:24  <b>rapid (1)</b>                  53:25  <b>rates (1)</b>                  57:18  <b>rather (5)</b>                  20:3;48:25;76:20;                  80:18;107:21  <b>reach (1)</b>                  124:20  <b>reached (1)</b>                  21:3  <b>read (3)</b>                  13:8,9;29:5  <b>readers (2)</b>                  35:17;43:23  <b>reaffirm (1)</b>                  52:22  <b>real (9)</b>                  29:10;35:6,22;                  44:23;93:2,3;103:8;                  120:14,20  <b>reality (1)</b>                  7:6  <b>realized (2)</b>                  34:9;93:9  <b>really (38)</b>                  2:19;3:21;5:19,20;                  9:21;12:19,19,20,23,                  23;13:15,25;19:15,                  16,20,22;20:7;25:20;                  32:15;62:5;63:8;                  67:12;73:22;87:4;                  92:11;96:8;100:10,                  15;106:22;111:14;                  113:5;118:8,21;</p>
<b>Q</b>				
			<p><b>qualify (1)</b>                  117:4  <b>quality (6)</b>                  65:18;85:5;86:6,                  21;107:5,9  <b>quarterly (1)</b>                  89:2  <b>quick (4)</b>                  54:22;70:24;                  103:18;124:24  <b>quickly (4)</b>                  17:11;62:11,11;                  106:11  <b>Quite (4)</b></p>	

<p>121:5,11,14;122:6; 125:19 <b>realm (3)</b> 29:14;34:19;56:25 <b>realms (1)</b> 68:21 <b>real-time (1)</b> 33:23 <b>reason (2)</b> 6:24;123:22 <b>reasonable (3)</b> 38:18;47:3;51:21 <b>reasons (5)</b> 37:21;44:18;71:23; 115:15;120:17 <b>reassuring (1)</b> 103:22 <b>rebuilding (1)</b> 96:9 <b>recently (2)</b> 33:24;37:7 <b>recognize (2)</b> 25:9;101:11 <b>recommend (9)</b> 22:22;24:20;28:12; 41:19;44:19;48:10; 78:13;98:17;100:16 <b>recommendation (16)</b> 30:6;41:7;42:15; 43:4,17;44:25;48:14, 21;50:4;51:3;53:5; 82:17;87:10;88:19; 89:9;119:3 <b>recommendations (45)</b> 6:3,4;8:15,23;9:14, 25;10:8;16:13;19:7; 25:14;26:14;32:13; 41:15;42:18;43:14; 49:24;50:21;51:8,25; 54:9,19;64:13,21; 73:10,15;78:10; 81:11;83:17;107:17; 108:5,15;109:17; 116:11;117:17,22; 118:2,14;119:10,14; 121:4,13;122:17; 123:12,19;125:7 <b>recommendation's (1)</b> 105:24 <b>recommended (4)</b> 41:21;42:7;79:24; 102:2 <b>recommending (1)</b> 106:3 <b>record (1)</b> 49:22 <b>records (3)</b> 34:22;38:19;39:3 <b>reduce (2)</b></p>	<p>70:14;78:8 <b>refer (1)</b> 41:2 <b>references (1)</b> 50:13 <b>reflect (2)</b> 50:10;87:19 <b>reflecting (1)</b> 45:16 <b>reflection (1)</b> 19:18 <b>reflects (1)</b> 14:19 <b>reform (1)</b> 40:7 <b>regardless (1)</b> 110:11 <b>regards (4)</b> 78:10;80:9,13; 112:12 <b>regular (7)</b> 67:3;88:19;89:2; 95:12,18;107:7; 110:13 <b>regularly (1)</b> 107:9 <b>regulate (1)</b> 36:16 <b>reinforce (1)</b> 48:5 <b>reiterate (2)</b> 119:16;121:10 <b>related (3)</b> 23:21;38:25; 110:12 <b>relates (3)</b> 92:21;109:10; 111:20 <b>relation (1)</b> 36:17 <b>released (1)</b> 103:7 <b>releasing (1)</b> 116:17 <b>relevant (1)</b> 79:8 <b>reliability (3)</b> 84:23;86:9,9 <b>reliable (1)</b> 55:24 <b>reliance (1)</b> 40:24 <b>relies (1)</b> 48:4 <b>rely (5)</b> 20:12;41:3;47:19; 51:6;56:2 <b>relying (3)</b> 47:13;52:10;109:2</p>	<p><b>remain (1)</b> 37:24 <b>remains (1)</b> 28:20 <b>remanded (1)</b> 22:12 <b>remarks (3)</b> 10:15;61:9,21 <b>remedy (1)</b> 50:4 <b>remedying (1)</b> 69:21 <b>remember (1)</b> 93:9 <b>reminded (1)</b> 110:13 <b>removed (1)</b> 49:4 <b>renamed (1)</b> 14:22 <b>rentals (1)</b> 35:9 <b>reopens (1)</b> 33:19 <b>repair (1)</b> 68:24 <b>repeated (2)</b> 21:9,12 <b>replace (1)</b> 42:3 <b>replicate (2)</b> 45:8;53:23 <b>Replogle (3)</b> 5:9,9;122:8 <b>report (6)</b> 8:22;27:21;37:18; 49:15;118:13;120:19 <b>reported (1)</b> 27:20 <b>reporting (2)</b> 25:3;57:17 <b>reports (2)</b> 22:8;25:5 <b>represent (4)</b> 39:15;66:21;71:12; 101:19 <b>representatives (2)</b> 49:18;60:16 <b>represented (1)</b> 30:19 <b>representing (2)</b> 4:3,5 <b>represents (1)</b> 87:15 <b>reproduce (1)</b> 48:5 <b>reproducing (1)</b> 45:13 <b>request (4)</b></p>	<p>62:6,22;73:8;99:11 <b>require (1)</b> 50:21 <b>required (3)</b> 49:3;52:14;101:16 <b>requirements (1)</b> 21:17 <b>requires (3)</b> 24:21;56:17;117:2 <b>requiring (1)</b> 31:18 <b>Research (6)</b> 4:12;9:12;57:15; 67:15;78:6;93:22 <b>researcher (1)</b> 4:12 <b>reservations (2)</b> 70:16;116:16 <b>residence (2)</b> 7:12;16:7 <b>residents (10)</b> 36:10;40:12;45:25; 46:3;47:6,10;52:10; 53:18,20;54:8 <b>resident's (1)</b> 53:16 <b>resistance (1)</b> 18:13 <b>resolution (1)</b> 25:4 <b>resource (2)</b> 11:17;28:13 <b>Resources (7)</b> 4:5;7:19;17:18; 31:2;96:19;97:2,10 <b>respect (1)</b> 79:16 <b>respond (1)</b> 62:12 <b>response (3)</b> 68:5,13,14 <b>responsibility (6)</b> 31:25;87:20; 109:13;110:12,14; 115:23 <b>responsible (7)</b> 11:16;81:19,24; 82:11;101:21; 104:15;114:8 <b>responsibly (4)</b> 83:21;86:24;88:5; 97:9 <b>rest (1)</b> 16:22 <b>result (3)</b> 22:7;47:23;79:16 <b>resulted (1)</b> 46:5 <b>resulting (1)</b></p>	<p>45:20 <b>results (3)</b> 34:17;50:6;101:13 <b>retention (3)</b> 34:22;38:20;39:4 <b>revealed (1)</b> 37:7 <b>review (7)</b> 20:9;43:8,10; 62:15,24;118:7; 121:24 <b>reviewing (1)</b> 62:2 <b>reviews (3)</b> 59:10;94:13;117:4 <b>rich (1)</b> 113:5 <b>ride (1)</b> 35:8 <b>right (37)</b> 2:2,15;3:17;12:11; 13:6;18:5;25:7;33:3; 34:10;53:10;59:7; 63:19;64:24;71:17, 18;72:25;80:22;95:7; 97:13;99:2,9;101:22; 102:6,17;104:21; 105:4,8;107:2;109:3, 6,25;110:5;112:20; 115:9;117:25; 118:17,20 <b>rights (5)</b> 3:3;39:18;46:16; 53:16;91:13 <b>rigorously (1)</b> 41:10 <b>rise (1)</b> 72:2 <b>risk (6)</b> 20:12,14;51:8; 58:19,23;68:20 <b>risks (1)</b> 31:15 <b>road (1)</b> 109:5 <b>Robert (1)</b> 96:2 <b>robust (4)</b> 78:6;115:5;122:25; 123:8 <b>role (9)</b> 25:24;30:18;33:20; 61:14;78:17;105:2; 110:11;111:19;123:6 <b>room (4)</b> 25:18;29:23;54:23; 122:22 <b>rooted (1)</b> 47:25</p>
--	--	--	--	--

<p><b>round (2)</b> 73:2;112:21</p> <p><b>round-table (1)</b> 9:17</p> <p><b>routes (1)</b> 68:23</p> <p><b>row (2)</b> 54:21;73:7</p> <p><b>Rudin (4)</b> 14:10;33:8,15; 57:15</p> <p><b>rules (8)</b> 36:25;61:5;86:10; 90:8;95:9,10;102:5; 104:22</p> <p><b>run (2)</b> 78:14;96:15</p> <p><b>runs (1)</b> 11:8</p>	<p><b>scared (1)</b> 83:4</p> <p><b>scattershot (1)</b> 27:17</p> <p><b>scenario (3)</b> 71:2,9,15</p> <p><b>scenarios (1)</b> 71:5</p> <p><b>scheduled (1)</b> 115:7</p> <p><b>School (6)</b> 5:5;7:4;10:20; 11:17;85:13,15</p> <p><b>schools (3)</b> 85:16;93:18;95:15</p> <p><b>Science (5)</b> 4:8,9,13;28:21,23</p> <p><b>scientists (1)</b> 107:13</p> <p><b>scope (2)</b> 6:25;123:9</p> <p><b>scores (3)</b> 20:15;42:6;102:4</p> <p><b>scoring (1)</b> 20:12</p> <p><b>screen (1)</b> 63:16</p> <p><b>scrutiny (2)</b> 42:13;90:22</p> <p><b>se (1)</b> 117:15</p> <p><b>searches (1)</b> 46:17</p> <p><b>second (13)</b> 3:23;9:4;14:9; 17:16;24:25;30:16; 42:15;73:5;74:3; 77:11;78:22;87:10, 10</p> <p><b>Secondly (1)</b> 36:12</p> <p><b>secret (1)</b> 47:14</p> <p><b>Section (1)</b> 23:24</p> <p><b>sector (13)</b> 15:24;20:4;28:10; 31:16;34:11,16;37:4; 59:11;72:8;90:5; 91:6,7;100:9</p> <p><b>sectors (4)</b> 20:4;72:15;90:6; 95:20</p> <p><b>secured (1)</b> 75:8</p> <p><b>Security (8)</b> 65:15;71:25;76:18; 77:4,7;78:15,20; 81:25</p>	<p><b>seeing (1)</b> 92:7</p> <p><b>seek (2)</b> 27:2;87:16</p> <p><b>seem (1)</b> 29:22</p> <p><b>seems (2)</b> 29:25;116:7</p> <p><b>segue (2)</b> 13:2,3</p> <p><b>seizures (1)</b> 46:17</p> <p><b>selected (1)</b> 45:7</p> <p><b>self (1)</b> 100:6</p> <p><b>self-correction (1)</b> 24:4</p> <p><b>selfishly (1)</b> 91:24</p> <p><b>self-police (1)</b> 25:17</p> <p><b>self-selecting (1)</b> 62:20</p> <p><b>self-service (1)</b> 81:2</p> <p><b>self-sovereignty (3)</b> 99:14;100:7,11</p> <p><b>send (1)</b> 19:10</p> <p><b>senior (4)</b> 30:17,23;32:5;82:4</p> <p><b>sense (2)</b> 67:23;108:21</p> <p><b>sensitive (1)</b> 72:19</p> <p><b>separate (3)</b> 26:2;48:8;100:24</p> <p><b>series (3)</b> 2:21;25:7;68:8</p> <p><b>serious (2)</b> 25:10;77:6</p> <p><b>serve (8)</b> 8:3;15:14;78:5; 80:24;81:18;82:21; 87:16;112:3</p> <p><b>served (3)</b> 80:22;82:14; 112:11</p> <p><b>service (10)</b> 31:12;62:6,7,10, 22;68:21;75:2;93:21; 96:11;111:16</p> <p><b>Services (22)</b> 4:4,6,22;7:12,24; 17:20;18:6,11,12; 20:6;21:4;28:16; 31:10;69:13;74:22; 76:25;80:19;82:18;</p>	<p>84:10;91:18;106:7; 112:16</p> <p><b>serving (3)</b> 40:9;76:7;111:14</p> <p><b>session (2)</b> 19:12;124:24</p> <p><b>sessions (10)</b> 2:21;92:6,17; 115:8,10,19;122:24; 123:7;124:7;125:4</p> <p><b>set (26)</b> 6:3;8:15;16:21; 24:8;58:7;62:9,24; 64:5,11;65:21;66:7; 69:15;71:11;79:11; 82:9;83:20;87:18; 88:19;95:13;103:24; 104:6,21;105:22; 107:13;113:11;120:6</p> <p><b>sets (12)</b> 55:11;56:16;62:11; 70:14;88:3,4;100:24; 101:5,11;103:4; 107:10,11</p> <p><b>setting (3)</b> 10:2;84:7;108:19</p> <p><b>set-up (1)</b> 119:5</p> <p><b>seven (1)</b> 22:16</p> <p><b>seventh (1)</b> 51:3</p> <p><b>several (3)</b> 11:9;24:9;119:6</p> <p><b>sexual (1)</b> 57:16</p> <p><b>shape (1)</b> 23:13</p> <p><b>share (22)</b> 5:23;19:6;24:22; 31:15;35:8;44:20; 60:6;66:25;81:4; 89:18;90:6;96:13,17; 97:8,25;100:4; 113:23,25;115:2,24; 118:12;125:6</p> <p><b>shared (14)</b> 53:18;58:24;61:2, 3;80:20;83:20,23; 99:19,21,22;100:3; 103:8;113:12;115:15</p> <p><b>shares (2)</b> 35:19;115:4</p> <p><b>sharing (6)</b> 34:15;35:5;36:8; 54:18;60:25;93:11</p> <p><b>shelters (1)</b> 72:20</p> <p><b>shields (1)</b></p>	<p>44:8</p> <p><b>shift (2)</b> 13:12;73:4</p> <p><b>shifted (1)</b> 73:5</p> <p><b>shorter (1)</b> 22:17</p> <p><b>shot (1)</b> 20:22</p> <p><b>show (2)</b> 72:20;95:18</p> <p><b>shown (1)</b> 37:9</p> <p><b>shudder (1)</b> 69:9</p> <p><b>side (4)</b> 98:14;99:25; 102:22;105:7</p> <p><b>sides (1)</b> 63:4</p> <p><b>sign (1)</b> 32:7</p> <p><b>signal (1)</b> 38:15</p> <p><b>signed (1)</b> 113:18</p> <p><b>significant (1)</b> 51:17</p> <p><b>silos (2)</b> 111:16;112:4</p> <p><b>similar (3)</b> 16:15;19:17;27:7</p> <p><b>Similarly (2)</b> 46:22;80:7</p> <p><b>simple (1)</b> 21:23</p> <p><b>simpler (1)</b> 27:16</p> <p><b>simply (3)</b> 19:21;46:3;62:3</p> <p><b>sit (1)</b> 125:16</p> <p><b>situated (1)</b> 13:6</p> <p><b>situation (3)</b> 21:22;37:18;79:4</p> <p><b>situations (3)</b> 80:6;94:5;102:3</p> <p><b>six (1)</b> 53:9</p> <p><b>sixth (1)</b> 50:4</p> <p><b>skeptical (2)</b> 48:7;70:4</p> <p><b>skewed (1)</b> 50:18</p> <p><b>skin (1)</b> 37:10</p> <p><b>slow (1)</b></p>
<b>S</b>				
<p><b>sadly (1)</b> 16:2</p> <p><b>safeguards (3)</b> 52:2;109:3,9</p> <p><b>safes (1)</b> 49:23</p> <p><b>safety (6)</b> 19:3;20:5;41:12; 68:21;69:14;72:23</p> <p><b>salt (1)</b> 68:16</p> <p><b>same (22)</b> 9:5,23;16:17; 17:18;21:8;32:9; 41:19;45:21;58:16; 63:23;69:16;89:18; 90:7,19;101:8,13; 104:22;112:6,8; 125:2,2,10</p> <p><b>San (3)</b> 96:6;102:25;103:5</p> <p><b>Sanitation (1)</b> 68:24</p> <p><b>Sarah (3)</b> 10:24;14:9;33:7</p> <p><b>Saunders (7)</b> 2:25;113:2;114:24; 118:9;120:25; 122:18;124:23</p> <p><b>savings (1)</b> 77:2</p> <p><b>saying (10)</b> 12:16;69:20;70:2; 71:9;84:25;85:8,18; 86:13;98:15;99:25</p> <p><b>scanning (1)</b> 20:3</p>	<p><b>scope (2)</b> 6:25;123:9</p> <p><b>scores (3)</b> 20:15;42:6;102:4</p> <p><b>scoring (1)</b> 20:12</p> <p><b>screen (1)</b> 63:16</p> <p><b>scrutiny (2)</b> 42:13;90:22</p> <p><b>se (1)</b> 117:15</p> <p><b>searches (1)</b> 46:17</p> <p><b>second (13)</b> 3:23;9:4;14:9; 17:16;24:25;30:16; 42:15;73:5;74:3; 77:11;78:22;87:10, 10</p> <p><b>Secondly (1)</b> 36:12</p> <p><b>secret (1)</b> 47:14</p> <p><b>Section (1)</b> 23:24</p> <p><b>sector (13)</b> 15:24;20:4;28:10; 31:16;34:11,16;37:4; 59:11;72:8;90:5; 91:6,7;100:9</p> <p><b>sectors (4)</b> 20:4;72:15;90:6; 95:20</p> <p><b>secured (1)</b> 75:8</p> <p><b>Security (8)</b> 65:15;71:25;76:18; 77:4,7;78:15,20; 81:25</p>	<p><b>seeing (1)</b> 92:7</p> <p><b>seek (2)</b> 27:2;87:16</p> <p><b>seem (1)</b> 29:22</p> <p><b>seems (2)</b> 29:25;116:7</p> <p><b>segue (2)</b> 13:2,3</p> <p><b>seizures (1)</b> 46:17</p> <p><b>selected (1)</b> 45:7</p> <p><b>self (1)</b> 100:6</p> <p><b>self-correction (1)</b> 24:4</p> <p><b>selfishly (1)</b> 91:24</p> <p><b>self-police (1)</b> 25:17</p> <p><b>self-selecting (1)</b> 62:20</p> <p><b>self-service (1)</b> 81:2</p> <p><b>self-sovereignty (3)</b> 99:14;100:7,11</p> <p><b>send (1)</b> 19:10</p> <p><b>senior (4)</b> 30:17,23;32:5;82:4</p> <p><b>sense (2)</b> 67:23;108:21</p> <p><b>sensitive (1)</b> 72:19</p> <p><b>separate (3)</b> 26:2;48:8;100:24</p> <p><b>series (3)</b> 2:21;25:7;68:8</p> <p><b>serious (2)</b> 25:10;77:6</p> <p><b>serve (8)</b> 8:3;15:14;78:5; 80:24;81:18;82:21; 87:16;112:3</p> <p><b>served (3)</b> 80:22;82:14; 112:11</p> <p><b>service (10)</b> 31:12;62:6,7,10, 22;68:21;75:2;93:21; 96:11;111:16</p> <p><b>Services (22)</b> 4:4,6,22;7:12,24; 17:20;18:6,11,12; 20:6;21:4;28:16; 31:10;69:13;74:22; 76:25;80:19;82:18;</p>	<p>84:10;91:18;106:7; 112:16</p> <p><b>serving (3)</b> 40:9;76:7;111:14</p> <p><b>session (2)</b> 19:12;124:24</p> <p><b>sessions (10)</b> 2:21;92:6,17; 115:8,10,19;122:24; 123:7;124:7;125:4</p> <p><b>set (26)</b> 6:3;8:15;16:21; 24:8;58:7;62:9,24; 64:5,11;65:21;66:7; 69:15;71:11;79:11; 82:9;83:20;87:18; 88:19;95:13;103:24; 104:6,21;105:22; 107:13;113:11;120:6</p> <p><b>sets (12)</b> 55:11;56:16;62:11; 70:14;88:3,4;100:24; 101:5,11;103:4; 107:10,11</p> <p><b>setting (3)</b> 10:2;84:7;108:19</p> <p><b>set-up (1)</b> 119:5</p> <p><b>seven (1)</b> 22:16</p> <p><b>seventh (1)</b> 51:3</p> <p><b>several (3)</b> 11:9;24:9;119:6</p> <p><b>sexual (1)</b> 57:16</p> <p><b>shape (1)</b> 23:13</p> <p><b>share (22)</b> 5:23;19:6;24:22; 31:15;35:8;44:20; 60:6;66:25;81:4; 89:18;90:6;96:13,17; 97:8,25;100:4; 113:23,25;115:2,24; 118:12;125:6</p> <p><b>shared (14)</b> 53:18;58:24;61:2, 3;80:20;83:20,23; 99:19,21,22;100:3; 103:8;113:12;115:15</p> <p><b>shares (2)</b> 35:19;115:4</p> <p><b>sharing (6)</b> 34:15;35:5;36:8; 54:18;60:25;93:11</p> <p><b>shelters (1)</b> 72:20</p> <p><b>shields (1)</b></p>	<p>44:8</p> <p><b>shift (2)</b> 13:12;73:4</p> <p><b>shifted (1)</b> 73:5</p> <p><b>shorter (1)</b> 22:17</p> <p><b>shot (1)</b> 20:22</p> <p><b>show (2)</b> 72:20;95:18</p> <p><b>shown (1)</b> 37:9</p> <p><b>shudder (1)</b> 69:9</p> <p><b>side (4)</b> 98:14;99:25; 102:22;105:7</p> <p><b>sides (1)</b> 63:4</p> <p><b>sign (1)</b> 32:7</p> <p><b>signal (1)</b> 38:15</p> <p><b>signed (1)</b> 113:18</p> <p><b>significant (1)</b> 51:17</p> <p><b>silos (2)</b> 111:16;112:4</p> <p><b>similar (3)</b> 16:15;19:17;27:7</p> <p><b>Similarly (2)</b> 46:22;80:7</p> <p><b>simple (1)</b> 21:23</p> <p><b>simpler (1)</b> 27:16</p> <p><b>simply (3)</b> 19:21;46:3;62:3</p> <p><b>sit (1)</b> 125:16</p> <p><b>situated (1)</b> 13:6</p> <p><b>situation (3)</b> 21:22;37:18;79:4</p> <p><b>situations (3)</b> 80:6;94:5;102:3</p> <p><b>six (1)</b> 53:9</p> <p><b>sixth (1)</b> 50:4</p> <p><b>skeptical (2)</b> 48:7;70:4</p> <p><b>skewed (1)</b> 50:18</p> <p><b>skin (1)</b> 37:10</p> <p><b>slow (1)</b></p>

April 30, 2019

<p>11:24  <b>slowly (1)</b>                  105:10  <b>small (1)</b>                  69:4  <b>smarter (1)</b>                  74:21  <b>SNAP (6)</b>                  75:21;77:13,17,25;                  78:4,7  <b>snapped (1)</b>                  72:16  <b>Social (17)</b>                  4:4;18:6;20:6;                  68:21;69:13;76:17;                  77:3,6;78:20;84:23;                  87:3;90:5;91:18;                  93:22;96:10;103:23;                  104:6  <b>social-media (1)</b>                  43:24  <b>societal (3)</b>                  50:10,15,23  <b>society (2)</b>                  66:12;92:19  <b>software (2)</b>                  42:2;44:17  <b>solely (1)</b>                  31:16  <b>Solon (1)</b>                  4:11  <b>solution (1)</b>                  100:15  <b>Solutions (2)</b>                  35:19;58:25  <b>solve (1)</b>                  90:19  <b>solved (1)</b>                  70:20  <b>somebody (5)</b>                  90:2;94:21;104:12,                  14,24  <b>someone (2)</b>                  12:15;114:6  <b>sometimes (3)</b>                  6:21;7:25;101:22  <b>Sommer (3)</b>                  4:15,15;67:8  <b>soon (2)</b>                  35:10;125:4  <b>sorry (6)</b>                  2:3;65:9,12;73:9,                  13;123:23  <b>sort (29)</b>                  15:11;19:9;20:7;                  22:14;23:24;24:6;                  25:5,15,17,20;27:3;                  30:3,9,13;31:3;32:4,                  12;61:21;62:24,25,</p>	<p>25;67:12,25;70:24,                  25;103:20;111:3;                  120:20,23  <b>sorts (1)</b>                  26:3  <b>source (5)</b>                  28:4,5;86:2;                  102:11,12  <b>sources (4)</b>                  35:12;49:10;79:12;                  103:11  <b>SOUTHERLAND (10)</b>                  5:2,3;61:8;63:7;                  97:15;99:6;100:19;                  106:15,25;107:23  <b>sovereignty (1)</b>                  112:13  <b>space (12)</b>                  9:5;15:24,25;                  69:14;78:25;81:6;                  90:9;97:8;106:5;                  107:20;112:19;                  114:15  <b>spaces (1)</b>                  92:14  <b>Spanish (1)</b>                  2:15  <b>speak (5)</b>                  13:16;68:10;69:16;                  118:18;124:11  <b>Speaker (5)</b>                  41:8;118:13;                  120:22;122:23;                  123:22  <b>speakers (6)</b>                  8:11,18;9:12;                  12:10;123:23;124:11  <b>Speaking (2)</b>                  100:23;119:19  <b>special (1)</b>                  10:12  <b>specific (13)</b>                  19:7;34:20;56:21;                  58:17;72:10;76:11;                  80:6;101:2;107:3,3,                  21;117:19,24  <b>Specifically (4)</b>                  78:16;80:8;114:8,                  10  <b>specification (1)</b>                  121:8  <b>specifications (1)</b>                  60:2  <b>specifics (2)</b>                  65:24;96:14  <b>speedily (1)</b>                  76:17  <b>spend (2)</b>                  29:12;32:4</p>	<p><b>spent (3)</b>                  15:17;65:13;81:23  <b>sphere (1)</b>                  57:21  <b>spoke (3)</b>                  84:5,6;86:17  <b>spoken (1)</b>                  16:10  <b>spot (1)</b>                  107:8  <b>spots (3)</b>                  75:18;79:7;96:2  <b>spout (1)</b>                  32:14  <b>spread (1)</b>                  110:9  <b>spreadsheet (1)</b>                  19:25  <b>spring (1)</b>                  2:22  <b>staff (2)</b>                  31:3;80:2  <b>stage (2)</b>                  8:16;10:2  <b>staggering (1)</b>                  46:4  <b>stakeholders (1)</b>                  79:8  <b>stamp (1)</b>                  103:11  <b>stand (1)</b>                  64:4  <b>standard (1)</b>                  17:19  <b>standards (4)</b>                  34:2;105:4;108:19,                  22  <b>standpoint (2)</b>                  2:14;108:11  <b>stands (1)</b>                  64:15  <b>start (12)</b>                  2:9;5:23;10:5;                  55:9;56:7;74:9;                  76:25;82:16;108:17;                  114:24;117:9;119:3  <b>started (3)</b>                  9:22;82:5;90:12  <b>starting (5)</b>                  49:25;94:25;95:2;                  99:13;121:12  <b>starts (1)</b>                  5:17  <b>State (13)</b>                  26:17,24;28:17;                  29:4,17;39:21;76:24;                  77:19;82:17;85:20,                  23;86:3;105:11  <b>statements (1)</b></p>	<p>111:4  <b>States (5)</b>                  35:18;75:10;81:16;                  92:10,23  <b>station (1)</b>                  33:19  <b>statistical (1)</b>                  103:20  <b>statistics (2)</b>                  11:16;17:6  <b>stay (1)</b>                  18:2  <b>steered (1)</b>                  30:14  <b>step (5)</b>                  13:25;34:7;59:4,                  18;123:18  <b>steps (4)</b>                  49:11;79:14;                  114:20;119:23  <b>stigma (1)</b>                  75:25  <b>still (3)</b>                  20:15;50:14;83:12  <b>stood (3)</b>                  65:25;67:2;95:13  <b>stop-and-frisk (1)</b>                  101:7  <b>stopped (3)</b>                  46:7,9,24  <b>stopping (1)</b>                  40:12  <b>stops (2)</b>                  46:3,5  <b>Storing (1)</b>                  28:17  <b>strategic (3)</b>                  3:2;74:6;81:13  <b>strategies (2)</b>                  47:19;75:11  <b>strategist (1)</b>                  5:7  <b>strategy (3)</b>                  77:11;109:5;116:7  <b>stream (2)</b>                  12:14;36:2  <b>streamline (5)</b>                  35:13;36:7;75:16;                  77:19;78:3  <b>street (1)</b>                  47:16  <b>strong (10)</b>                  19:20;49:24;89:11;                  90:23;92:16;96:23;                  106:7,14,16;110:20  <b>strongly (1)</b>                  79:24  <b>struck (2)</b>                  64:3;108:4</p>	<p><b>structural (1)</b>                  50:10  <b>structure (3)</b>                  89:19,22;116:25  <b>structures (5)</b>                  25:21,23;52:6,24;                  118:5  <b>struggled (1)</b>                  6:21  <b>student (1)</b>                  66:6  <b>students (4)</b>                  7:4;21:2,3;100:12  <b>studies (1)</b>                  96:24  <b>studying (1)</b>                  44:7  <b>stuff (2)</b>                  66:12;107:18  <b>subject (6)</b>                  42:12,17;61:10;                  69:22;105:6;116:21  <b>subjected (1)</b>                  53:21  <b>subjecting (1)</b>                  51:9  <b>submit (4)</b>                  9:10;73:11,18;                  76:16  <b>submitted (1)</b>                  75:7  <b>submitting (1)</b>                  73:20  <b>subsequent (1)</b>                  25:4  <b>subsidy (2)</b>                  77:10;78:20  <b>substantive (1)</b>                  113:5  <b>substitute (1)</b>                  56:3  <b>subway (1)</b>                  33:18  <b>successes (1)</b>                  31:7  <b>successfully (1)</b>                  25:22  <b>suffering (1)</b>                  18:23  <b>sufficient (1)</b>                  52:19  <b>suggest (2)</b>                  99:8;124:21  <b>suggested (3)</b>                  51:8;116:8;119:18  <b>suggesting (1)</b>                  124:17  <b>suggestions (1)</b>                  125:8</p>
--	--	--	---	---

<p><b>suite (1)</b> 75:20</p> <p><b>summary (1)</b> 33:13</p> <p><b>summer (3)</b> 2:22;9:18;115:11</p> <p><b>supports (3)</b> 75:4,21;80:19</p> <p><b>sure (34)</b> 2:4,23;21:2;30:13; 31:19,21;32:25;33:5; 55:18;56:14;61:8,18, 22;62:15;65:17; 66:18;78:17;80:10; 85:4;87:20;88:2,16; 90:22;95:14;104:19; 106:20,23;108:20; 109:7;111:12;113:6; 115:18;120:17;122:6</p> <p><b>surveillance (4)</b> 43:23;49:15;51:15; 53:15</p> <p><b>survey (1)</b> 87:5</p> <p><b>surveys (1)</b> 94:3</p> <p><b>Susan (2)</b> 4:15;67:6</p> <p><b>suspicion (3)</b> 47:3;51:13,21</p> <p><b>sustainable (1)</b> 22:20</p> <p><b>sweeping (1)</b> 47:12</p> <p><b>switching (2)</b> 25:12;73:24</p> <p><b>system (24)</b> 6:10;20:2,11; 21:25;23:17;26:9; 42:2,3;43:10;48:11; 53:24;58:11;59:24; 64:9;65:2;67:18; 78:23;80:16,18;85:3; 91:14;94:16,17; 104:20</p> <p><b>systematic (1)</b> 25:6</p> <p><b>systemic (6)</b> 23:21;24:3;25:11; 50:23;55:17;56:16</p> <p><b>systemically (1)</b> 31:23</p> <p><b>systems (51)</b> 2:7;6:6;7:3,15; 10:4,19;21:14,18; 28:17;30:8,11;31:4; 33:11;34:5;38:25; 40:25;41:17;42:5; 43:20;44:7,10;45:4;</p>	<p>52:9,12;58:2;61:10, 16;63:10;68:19; 74:15;75:16;78:12, 14;79:3,20;83:4; 84:4,11;88:14;89:4; 96:18,23,24;110:15; 111:6;118:16;119:7; 120:15,20;122:13; 123:4</p> <p style="text-align: center;"><b>T</b></p> <p><b>table (4)</b> 3:24;31:20;58:25; 59:2</p> <p><b>tackle (2)</b> 23:3;78:11</p> <p><b>tackled (1)</b> 23:4</p> <p><b>tackling (2)</b> 16:17;95:25</p> <p><b>Taffe (1)</b> 44:15</p> <p><b>tag (1)</b> 14:23</p> <p><b>tailored (1)</b> 80:5</p> <p><b>tainted (2)</b> 48:9,24</p> <p><b>take-downs (2)</b> 47:9,12</p> <p><b>talent (4)</b> 11:7;100:18,18; 109:10</p> <p><b>talented (1)</b> 79:21</p> <p><b>talk (10)</b> 76:12;82:12;89:12; 97:3,12;98:15; 100:17;103:18,19; 111:3</p> <p><b>talked (1)</b> 111:10</p> <p><b>talking (8)</b> 29:12,21;32:20; 60:7;68:22;93:23; 103:22;106:8</p> <p><b>TANF (1)</b> 75:22</p> <p><b>tangible (1)</b> 34:9</p> <p><b>target (1)</b> 47:9</p> <p><b>targeting (1)</b> 76:5</p> <p><b>targets (1)</b> 51:14</p> <p><b>TASK (197)</b> 2:1,7,13,24;3:1,11,</p>	<p>22,24;4:1;5:1,14,24; 6:1,2,8,13,20;7:1,20; 8:1,14,20;9:1,2,3; 10:1,19,21;11:1,4,20, 22;12:1;13:1,11,24; 14:1;15:1;16:1,12; 17:1;18:1;19:1;20:1; 21:1;22:1;23:1,2; 24:1,19;25:1;26:1; 27:1;28:1;29:1,24; 30:1,5,20;31:1;32:1; 33:1;34:1;35:1;36:1; 37:1;38:1,24;39:1,7; 40:1;41:1,6,22;42:1, 17,20;43:1,3,13;44:1, 18;45:1;46:1;47:1; 48:1,10;49:1,25;50:1, 20;51:1,24;52:1; 53:1,7,11;54:1,8,20; 55:1;56:1;57:1;58:1; 59:1;60:1,8;61:1; 62:1;63:1;64:1;65:1; 66:1;67:1;68:1;69:1; 70:1,18;71:1;72:1, 25;73:1,19;74:1,15, 25;75:1;76:1;77:1; 78:1;79:1;80:1;81:1; 82:1;83:1;84:1,11; 85:1;86:1;87:1;88:1; 89:1;90:1;91:1;92:1; 93:1;94:1;95:1;96:1; 97:1;98:1;99:1; 100:1;101:1;102:1; 103:1;104:1;105:1, 25;106:1;107:1; 108:1,19;109:1; 110:1;111:1;112:1; 113:1;114:1,7,20; 115:1,4;116:1,15,24; 117:1;118:1;119:1,2, 22,25;120:1,9,13,24; 121:1,2,11;122:1,9, 11;123:1,6,15;124:1; 125:1,8</p> <p><b>taxes (1)</b> 17:21</p> <p><b>Taxi (1)</b> 33:25</p> <p><b>taxpayers (1)</b> 17:23</p> <p><b>teach (2)</b> 96:16,16</p> <p><b>teacher (1)</b> 21:10</p> <p><b>tech (2)</b> 31:12;58:19</p> <p><b>technical (1)</b> 96:20</p> <p><b>techniques (1)</b></p>	<p>6:17</p> <p><b>technological (3)</b> 32:9;42:22;70:11</p> <p><b>technologically (1)</b> 19:22</p> <p><b>technologies (9)</b> 17:25;18:9,15,19; 34:8;35:24;89:10; 90:9,22</p> <p><b>Technology (18)</b> 10:13;11:7,19; 15:12,13,22;40:3; 50:3;54:6;70:21,22; 75:2;81:14;83:22; 85:22;89:12;105:21; 106:2</p> <p><b>telling (1)</b> 98:2</p> <p><b>template (1)</b> 103:15</p> <p><b>ten (1)</b> 57:18</p> <p><b>tend (1)</b> 99:24</p> <p><b>tendency (1)</b> 68:11</p> <p><b>terabytes (1)</b> 38:9</p> <p><b>term (1)</b> 22:20</p> <p><b>terms (20)</b> 19:23;47:20;51:13; 60:10;61:9,16,17; 63:24;72:14;97:19; 98:3;108:4,6;111:9; 113:12;117:2,16; 119:12;121:7;122:2</p> <p><b>terrific (1)</b> 73:7</p> <p><b>tested (1)</b> 79:15</p> <p><b>testified (1)</b> 116:4</p> <p><b>testifiers (1)</b> 40:17</p> <p><b>testimony (2)</b> 9:10;73:21</p> <p><b>testing (1)</b> 37:8</p> <p><b>THAMKITTIKASEM (21)</b> 2:2,11;5:12;12:8; 32:18,23;33:4;39:7; 63:23;64:24;65:4,9; 73:22;108:3,24; 116:23;118:17; 120:12;121:9; 123:14;125:18</p> <p><b>Thanks (3)</b> 5:12;67:5;125:18</p>	<p><b>theme (2)</b> 8:24;9:5</p> <p><b>thereby (2)</b> 76:6;77:20</p> <p><b>therefore (6)</b> 43:7;48:10;54:8; 56:8,9;88:11</p> <p><b>thereof (1)</b> 61:23</p> <p><b>thinking (9)</b> 7:2;8:14;18:8; 19:23;64:10;65:5; 108:11,17;113:22</p> <p><b>third (11)</b> 14:12;17:24;43:17; 49:5;64:2,15,18; 89:9;116:20;117:18; 121:23</p> <p><b>third-party (3)</b> 24:9;59:10;63:15</p> <p><b>Thomas (1)</b> 44:14</p> <p><b>thorny (1)</b> 19:16</p> <p><b>thoroughly (1)</b> 52:21</p> <p><b>though (5)</b> 15:25;28:18;46:9; 62:16;94:20</p> <p><b>thought (5)</b> 3:16;74:17;91:5; 115:6,11</p> <p><b>thoughtful (1)</b> 112:9</p> <p><b>thoughts (3)</b> 23:6;81:5;121:14</p> <p><b>thousand (1)</b> 106:24</p> <p><b>thousands (1)</b> 47:15</p> <p><b>threaten (1)</b> 41:5</p> <p><b>threatens (2)</b> 40:19;51:20</p> <p><b>three (8)</b> 13:6;17:3;34:20; 49:16;54:15;83:18; 91:20,20</p> <p><b>threshold (6)</b> 20:7,18;21:13; 61:16,19;63:5</p> <p><b>thresholds (6)</b> 19:24;22:15;23:6; 24:18;61:12;102:19</p> <p><b>thrilled (1)</b> 3:7</p> <p><b>thriving (1)</b> 75:6</p> <p><b>throughout (2)</b></p>
---	---	--	---	--

April 30, 2019

<p>2:22;9:18  <b>throw (1)</b>                  83:2  <b>Thurgood (1)</b>                  39:19  <b>tiering (1)</b>                  121:15  <b>tiers (2)</b>                  22:23;102:6  <b>ties (1)</b>                  92:16  <b>times (5)</b>                  18:18;66:3,9;                  88:19;120:14  <b>timing (2)</b>                  34:10;119:18  <b>title (1)</b>                  14:17  <b>titles (1)</b>                  14:3  <b>today (10)</b>                  2:5;8:7;11:25;                  40:18;74:22;82:22,                  25;83:17;116:11;                  125:11  <b>today's (1)</b>                  19:10  <b>together (3)</b>                  12:2,7;72:11  <b>tolls (1)</b>                  36:2  <b>tomorrow (1)</b>                  10:2  <b>tone (2)</b>                  16:21;113:10  <b>tonight (8)</b>                  5:16;33:10,14;                  39:15;74:13;111:11;                  122:10;125:13  <b>tonight's (1)</b>                  8:24  <b>tons (1)</b>                  96:18  <b>took (1)</b>                  101:6  <b>tool (1)</b>                  111:6  <b>toolkits (1)</b>                  30:9  <b>tools (15)</b>                  7:7,11;17:13;18:2;                  24:14;31:18;32:10;                  51:16;70:12,14,16;                  79:2;86:17,18,19  <b>top (3)</b>                  57:8;69:19;70:21  <b>topic (4)</b>                  33:14;81:5;92:20,                  21</p>	<p><b>touched (1)</b>                  84:6  <b>touches (1)</b>                  84:5  <b>touchpoints (1)</b>                  91:18  <b>tough (1)</b>                  19:16  <b>toward (1)</b>                  41:15  <b>towards (1)</b>                  99:24  <b>town (1)</b>                  12:23  <b>traces (1)</b>                  58:12  <b>track (2)</b>                  35:22;77:16  <b>tracking (1)</b>                  33:23  <b>traditionally (1)</b>                  31:15  <b>traffic (1)</b>                  38:15  <b>traffic-light (1)</b>                  36:21  <b>train (3)</b>                  33:23;108:6,17  <b>trained (5)</b>                  37:4;45:19;58:5,7;                  110:13  <b>training (5)</b>                  30:22;31:2;45:9,9,                  11  <b>transfer (2)</b>                  58:19,23  <b>transferred (2)</b>                  60:19;76:24  <b>transferring (2)</b>                  31:24,25  <b>transform (1)</b>                  45:5  <b>transformative (1)</b>                  16:5  <b>transient (1)</b>                  106:12  <b>transit (2)</b>                  35:8;57:17  <b>translate (1)</b>                  72:15  <b>transparency (16)</b>                  6:7;9:6;11:10;                  12:3;16:16;39:13;                  42:19;43:18;52:14,                  24;71:4,13;79:18;                  84:14;88:7;123:11  <b>transparent (6)</b>                  37:24;41:9;54:12;                  60:20;89:3;116:13</p>	<p><b>transparently (2)</b>                  62:8;82:9  <b>Transportation (15)</b>                  5:11;14:11;33:9,                  12,21;34:6,11,16,19,                  23;35:3;36:13;57:12;                  72:8,14  <b>transports (1)</b>                  58:16  <b>travel (2)</b>                  33:18,19  <b>travels (1)</b>                  35:2  <b>treat (1)</b>                  91:15  <b>treated (1)</b>                  110:8  <b>treatment (2)</b>                  36:3;51:12  <b>tremendous (1)</b>                  12:5  <b>trespassing (1)</b>                  47:7  <b>tribunal (2)</b>                  60:17;63:15  <b>trip (1)</b>                  72:12  <b>triples (1)</b>                  17:9  <b>troubling (1)</b>                  47:20  <b>true (3)</b>                  30:5;68:6,11  <b>Trust (13)</b>                  74:8,18;76:3;                  82:23;83:5,5,6,7;                  84:23;87:2,3,7;110:2  <b>trusted (1)</b>                  24:9  <b>try (2)</b>                  21:2;59:7  <b>trying (13)</b>                  9:25;31:7;64:8;                  97:25;105:6;117:6,                  21;118:21,24;123:18,                  20;124:4,10  <b>Tuesday (1)</b>                  112:24  <b>turn (7)</b>                  12:9;14:4,15;                  35:21;74:8;112:25;                  113:15  <b>turnout (1)</b>                  5:22  <b>turns (1)</b>                  6:10  <b>turnstiles (1)</b>                  35:8  <b>two (20)</b></p>	<p>13:5,7;15:17;24:3;                  39:12;40:17;45:12,                  13;46:10;49:15;                  96:13,13;97:11,18;                  98:7;107:24;115:7;                  117:10;124:8,8  <b>two-page (1)</b>                  76:21  <b>two-thirds (1)</b>                  53:8  <b>type (5)</b>                  90:8;95:16;101:15;                  103:9;118:7  <b>types (3)</b>                  72:13;107:20;                  119:13</p>	<p>5:7;35:18  <b>universities (2)</b>                  66:13;88:10  <b>University (8)</b>                  4:10,14;14:7,10;                  15:2;66:13;93:19;                  100:9  <b>unlawful (2)</b>                  40:7;46:7  <b>unlawfully (2)</b>                  40:11;46:24  <b>unless (2)</b>                  101:12;103:8  <b>unprecedented (1)</b>                  53:14  <b>unreasonable (1)</b>                  46:17  <b>untainted (1)</b>                  48:9  <b>untenable (1)</b>                  54:5  <b>unusable (1)</b>                  57:3  <b>unwarranted (1)</b>                  79:23  <b>up (42)</b>                  5:15;6:3;8:15,18;                  10:2,11;13:10;14:9;                  20:14;24:8;29:20;                  54:22;55:4;59:20;                  62:24;64:4,5,11,15;                  65:21;66:2,7;67:2;                  68:5;72:7;73:6;84:7;                  88:19;90:12;95:2,13,                  13;99:15;100:8;                  102:3;107:13;                  108:19;113:18,19,21;                  120:6;125:5  <b>upcoming (1)</b>                  113:12  <b>updated (1)</b>                  44:23  <b>upon (6)</b>                  20:12;25:20;28:3;                  56:10;95:11;98:20  <b>up-to-date (1)</b>                  5:25  <b>urban (6)</b>                  16:22;59:15;97:5,                  6,6,7  <b>urge (1)</b>                  37:14  <b>usability (1)</b>                  104:10  <b>usable (1)</b>                  104:23  <b>use (62)</b>                  7:12,14;11:14;                  15:7,12,15;16:24;</p>
<b>U</b>				
<p><b>ultimately (4)</b>                  6:2;12:2;32:10;                  119:10  <b>umbrella (1)</b>                  15:4  <b>unacceptable (1)</b>                  54:5  <b>unbiased (1)</b>                  56:22  <b>unchecked (1)</b>                  53:25  <b>uncomfortable (1)</b>                  113:20  <b>unconstitutional (5)</b>                  42:25;45:17;48:18;                  49:9;51:10  <b>under (9)</b>                  41:18;44:2;51:18;                  53:8;62:16;71:4;                  77:14;89:18;91:2  <b>undermine (1)</b>                  41:11  <b>underneath (1)</b>                  90:23  <b>underpin (1)</b>                  89:11  <b>underscore (1)</b>                  51:24  <b>undue (1)</b>                  65:23  <b>unearthed (1)</b>                  29:7  <b>UNIDENTIFIED (3)</b>                  118:13;120:22;                  122:23  <b>uniform (1)</b>                  41:16  <b>unintended (3)</b>                  35:14;91:10,12  <b>United (2)</b></p>				

17:25;18:8,10;23:5; 27:3;28:12,25;31:13; 40:2;44:4,5,16;45:2; 48:11;51:20;53:13; 54:11;55:11;56:12, 24;64:19;67:17;68:2; 70:15,16;74:25; 75:15;76:4;77:17; 79:2;81:24;82:11; 86:12;87:13;88:13; 89:14;91:16;92:16; 94:9;95:9,25;98:23, 23;102:11,16,20; 106:20;109:20; 111:5,13;112:4; 116:6,20;119:12; 120:21	<b>variety (3)</b> 24:12;31:17;40:16 <b>vast (1)</b> 46:6 <b>vehicle (3)</b> 38:8,10,16 <b>vehicles (5)</b> 36:14,22;37:3,8; 38:6 <b>vehicles' (2)</b> 37:11;38:19 <b>vendor (2)</b> 24:24;60:3 <b>vendors (4)</b> 17:24;31:11;58:3, 25 <b>verified (3)</b> 77:18;78:2;106:6 <b>versus (6)</b> 40:9;46:13,22; 105:8;117:19;121:22 <b>vetting (1)</b> 32:5 <b>view (1)</b> 39:16 <b>Vigilant (1)</b> 35:19 <b>Vincent (2)</b> 5:2;61:7 <b>Vincent's (1)</b> 100:23 <b>violated (1)</b> 46:15 <b>violation (2)</b> 46:20;72:19 <b>violations (1)</b> 52:4 <b>Virginia (2)</b> 94:15,22 <b>virtue (1)</b> 62:4 <b>visited (1)</b> 47:2 <b>visitors (3)</b> 16:8;40:14;47:6 <b>volume (1)</b> 38:17 <b>voluntarily (1)</b> 82:9 <b>volunteering (1)</b> 3:13 <b>vulnerable (1)</b> 22:3	12:25;89:24,25 <b>wants (4)</b> 17:20;64:25;83:24; 90:2 <b>Washington (1)</b> 100:9 <b>watching (1)</b> 16:9 <b>way (33)</b> 17:23;24:2;25:12; 26:11;27:17;28:12; 58:16,23,24;66:10, 19,25;78:7;80:22; 85:12;86:3,4,4,5; 90:7,13;94:7;97:24, 25;98:19;108:18; 110:7,8;111:12,18; 113:8;121:20;125:10 <b>ways (21)</b> 17:14;21:8;23:7; 31:5;35:3;45:12; 50:24;56:14,19;57:4; 65:21;66:23,25; 74:21;82:19,20; 86:15,16;92:11; 119:11;124:17 <b>wealth (1)</b> 66:11 <b>weaponized (1)</b> 54:7 <b>webinar (1)</b> 110:3 <b>website (7)</b> 5:14;9:11;55:2; 73:19;78:21;123:21; 124:19 <b>week (1)</b> 22:16 <b>welcome (3)</b> 2:8;9:9;10:18 <b>welfare (1)</b> 42:9 <b>well-documented (2)</b> 42:24;102:8 <b>well-entrenched (1)</b> 26:21 <b>wellness (1)</b> 104:15 <b>well-versed (1)</b> 15:23 <b>weren't (1)</b> 101:12 <b>what's (2)</b> 89:25;122:25 <b>White (2)</b> 4:20,20 <b>WHITTAKER (8)</b> 4:23,24;57:24; 59:19;100:22;	103:16;120:9,13 <b>whole (3)</b> 56:25;68:8;123:3 <b>who's (1)</b> 72:18 <b>whose (2)</b> 36:5;107:7 <b>WIC (1)</b> 75:21 <b>wide (2)</b> 8:9;40:16 <b>widespread (1)</b> 45:24 <b>Wiley (5)</b> 55:5,5;57:5,10,23 <b>willing (1)</b> 114:21 <b>Wing (3)</b> 4:7,7;32:16 <b>wish (1)</b> 11:6 <b>within (6)</b> 6:25;8:22;26:6; 42:17;45:8;60:22 <b>without (15)</b> 14:2;20:13;22:12; 37:4;43:24;47:3,16; 51:7;52:11;54:2; 59:21;60:12;88:14; 101:2;123:10 <b>women (1)</b> 112:22 <b>Wonderful (1)</b> 103:16 <b>wondering (3)</b> 61:14;63:8;123:5 <b>Wood (1)</b> 96:3 <b>work (40)</b> 3:14;5:19,24;7:21; 8:8;9:22;12:6;13:22; 14:19;15:6;16:3,5, 12;18:5;19:6;20:25; 25:22;26:12;28:2; 30:18;31:6;33:22; 35:15;39:25;56:6; 68:7;69:3;74:24; 75:14;78:22;81:2; 82:13;85:23;92:23; 93:5;97:7;102:21; 115:21;119:24; 124:15 <b>worked (4)</b> 15:5,21;31:11; 33:24 <b>workers (1)</b> 80:2 <b>workforce (1)</b> 90:10	<b>working (2)</b> 75:10;82:3 <b>works (2)</b> 25:23;73:25 <b>world (6)</b> 12:17;14:25;18:10; 28:21;29:11;67:14 <b>Worse (1)</b> 52:13 <b>worship (1)</b> 35:16 <b>worth (4)</b> 69:9,11;70:6,7 <b>worthwhile (1)</b> 67:17 <b>wrap (1)</b> 113:19 <b>writing (3)</b> 19:11;57:9;120:19 <b>written (8)</b> 9:10,10;27:22; 73:17,21;91:4,9; 100:10 <b>wrong (2)</b> 59:6;109:8
<b>Y</b>				
			<b>year (3)</b> 16:14;17:9;114:12 <b>years (11)</b> 15:6,17,22;20:25; 21:15;22:17;29:7; 39:19;65:14;75:19; 81:23 <b>year-to-year (1)</b> 21:11 <b>Yep (1)</b> 67:8 <b>yesterday (1)</b> 14:23 <b>York (40)</b> 4:16;5:10;10:9,14, 20;12:13;14:10; 15:21,25;16:4,20; 20:24;26:17;34:3,18, 18;35:13;36:15; 37:10;38:23;40:8,10, 12,13;41:6;45:25; 46:14,23;47:2;54:7; 58:18;66:10;74:14; 84:10,16;92:18;95:9; 114:15;120:15,21 <b>Yorkers (9)</b> 3:8;5:7;6:6;7:23; 8:10;9:15;42:12; 46:16;47:15	
<b>used (41)</b> 6:17;16:6;19:2; 21:15;23:15;27:14; 30:9;34:15;38:12; 42:8;49:7;51:11; 56:13;58:8;59:14; 61:24;66:19;76:21; 78:3;81:21;84:2; 85:2,10,14;86:25; 87:15,22;88:15,21; 89:7,8;93:17;99:11; 110:8;111:22; 115:17;116:7,17; 118:15;120:15;123:4	<b>used (41)</b> 6:17;16:6;19:2; 21:15;23:15;27:14; 30:9;34:15;38:12; 42:8;49:7;51:11; 56:13;58:8;59:14; 61:24;66:19;76:21; 78:3;81:21;84:2; 85:2,10,14;86:25; 87:15,22;88:15,21; 89:7,8;93:17;99:11; 110:8;111:22; 115:17;116:7,17; 118:15;120:15;123:4			
<b>useful (3)</b> 20:18;25:15;82:19	<b>useful (3)</b> 20:18;25:15;82:19			
<b>users (1)</b> 66:22	<b>users (1)</b> 66:22			
<b>uses (3)</b> 7:4;10:5;35:21	<b>uses (3)</b> 7:4;10:5;35:21			
<b>using (15)</b> 28:16;36:6;42:16; 48:24;55:12;65:18; 75:11;83:21;101:17; 105:11,11,14;106:13; 110:4;124:10	<b>using (15)</b> 28:16;36:6;42:16; 48:24;55:12;65:18; 75:11;83:21;101:17; 105:11,11,14;106:13; 110:4;124:10			
<b>usually (2)</b> 72:13;104:11	<b>usually (2)</b> 72:13;104:11			
<b>V</b>				
<b>vague (2)</b> 47:19;108:4	<b>vague (2)</b> 47:19;108:4			
<b>validate (1)</b> 58:10	<b>validate (1)</b> 58:10			
<b>valuable (2)</b> 3:15;7:23	<b>valuable (2)</b> 3:15;7:23			
<b>value (4)</b> 2:4;84:8;95:18; 100:5	<b>value (4)</b> 2:4;84:8;95:18; 100:5			
<b>values (1)</b> 9:2	<b>values (1)</b> 9:2			
	<b>W</b>			
<b>wait (2)</b> 113:21;118:10	<b>wait (2)</b> 113:21;118:10			
<b>walk (3)</b>	<b>walk (3)</b>			

April 30, 2019

<p><b>Z</b></p>	<p><b>49 (10)</b> 11:13;29:22;34:13, 20:36;11:38;4,22; 39:14;40:15;53:8</p>			
<p><b>Zielinskie (10)</b> 10:25;74:7,11; 95:19;105:3;106:4, 18;108:22,25;111:12 <b>zoning (1)</b> 11:17</p>	<p><b>49's (1)</b> 43:5</p>			
<p><b>1</b></p>	<p><b>5</b></p>			
<p><b>1 (2)</b> 13:5,13</p>	<p><b>5 (1)</b> 48:14</p>			
<p><b>100 (1)</b> 44:16</p>	<p><b>50 (1)</b> 29:7</p>			
<p><b>14th (2)</b> 46:21;51:18</p>	<p><b>6</b></p>			
<p><b>16 (2)</b> 65:13;81:23</p>	<p><b>60,000 (1)</b> 77:21</p>			
<p><b>17th (1)</b> 41:22</p>	<p><b>8</b></p>			
<p><b>18 (1)</b> 15:21</p>	<p><b>8:00 (1)</b> 112:24</p>			
<p><b>1940 (1)</b> 39:19</p>	<p><b>8:15 (1)</b> 108:2</p>			
<p><b>2</b></p>	<p><b>8:32 (1)</b> 125:22</p>			
<p><b>2 (2)</b> 13:7,13</p>	<p><b>80 (2)</b> 39:19;112:7</p>			
<p><b>2004 (1)</b> 45:25</p>	<p><b>800,000 (1)</b> 75:7</p>			
<p><b>2005 (1)</b> 75:7</p>	<p><b>83 (1)</b> 46:8</p>			
<p><b>2012 (1)</b> 46:2</p>	<p><b>86 (1)</b> 46:4</p>			
<p><b>2017 (1)</b> 44:16</p>	<p><b>3</b></p>			
<p><b>2018 (2)</b> 11:13;41:22</p>	<p><b>30th (2)</b> 9:5;125:2</p>			
<p><b>211 (1)</b> 96:6</p>	<p><b>311 (3)</b> 62:6,9,20</p>			
<p><b>3</b></p>	<p><b>3rd (1)</b> 44:13</p>			
<p><b>4</b></p>	<p><b>4</b></p>			
<p><b>4.4 (1)</b> 46:2</p>	<p><b>4.4 (1)</b> 46:2</p>			
<p><b>40,000 (1)</b> 77:22</p>	<p><b>40,000 (1)</b> 77:22</p>			