

D449fl01

1 UNITED STATES DISTRICT COURT
1 SOUTHERN DISTRICT OF NEW YORK

2 -----x

3 DAVID FLOYD, et al.,

4 Plaintiffs,

5 v.

08 CV 1034(SAS)

6 CITY OF NEW YORK, et al.,

7 Defendants.

8 -----x

New York, N.Y.
April 4, 2013
10:06 a.m.

10 Before:

11 HON. SHIRA A. SCHEINDLIN,

12 District Judge

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1 THE COURT: Good morning. Please be seated. We
2 continue with Professor Fagan.

3 MR. HELLERMAN: May I proceed, your Honor?

4 THE COURT: Please.

5 JEFFREY FAGAN, resumed

6 DIRECT EXAMINATION CONTINUED

7 BY MR. HELLERMAN:

8 Q. Good morning, Dr. Fagan.

9 A. Go morning.

10 Q. At the end of the day yesterday we were discussing the
11 city's expert's criticism of you for not using crime suspect
12 data as your benchmark.

13 Do you recall that?

14 A. Yes. I think that's where we left off.

15 Q. We were talking about the percentage of crime suspects that
16 are known for all stops.

17 Do you recall that?

18 A. Yes.

19 Q. Is there any particular category of crimes for which crime
20 suspect data is known more than other categories?

21 A. For which is known?

22 It's known probably more often in violent crimes.

23 There's a face-to-face contact. That would make some sense.

24 Or often there's a face-to-face contact.

25 Q. And in what percentage of violent crimes is crime suspect

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1 known in the '04-'09 period?

2 A. Well we looked specifically at this in the years of 2005
3 and '6. And one of the exhibits in my report, table 18, shows
4 in the first report, that's Exhibit 411, your Honor, shows that
5 for violent crimes in the year 2005, suspect race was either
6 unknown or missing in approximately 46 percent of the cases.

7 And the comparable figure for the year 2006 was
8 46.6 percent.

9 Q. And in what percent of violent crimes was it known?

10 A. Was it known?

11 Q. Yes.

12 A. Well one hundred percent minus that. So it would be about
13 46 percent for 2005 and forty-three-and-a-half percent for
14 2006.

15 Q. Would you take a look please at your February 2012
16 declaration, specifically paragraph 27.

17 A. This is for which number again please?

18 Q. 415.

19 A. And paragraph 27?

20 Q. Yes.

21 A. Okay.

22 Q. Does this paragraph refer to the rate at which crime
23 suspect data was known for the '04-'09 period?

24 A. Yes.

25 Q. Could you read paragraph -- beginning with the second

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1 sentence.

2 A. "As discussed above, the race of violent criminal suspects
3 is not a valid proxy for the population most likely to engage
4 in the kinds of behaviors that arouse reasonable suspicion in
5 NYPD officers because so few stops (14 percent) are made by the
6 NYPD -- made by the NYPD based on suspicion of violent crime.

7 THE COURT: Where were you just reading from?

8 THE WITNESS: Page 14, in Exhibit 415, your Honor,
9 paragraph 27.

10 Q. Professor, did you examine the relationship, if any
11 between -- withdrawn.

12 Is there a category on the UF 250s for "fits
13 description"?

14 A. Yes.

15 Q. What do you understand that to be?

16 A. That a suspect who is stopped fits the description of an
17 offender as reported to the NYPD through either a crime
18 complaint or some other reporting mechanism.

19 Q. Did you look at the extent to which the "fits description"
20 category was checked off on UF 250s?

21 A. Yes, I did.

22 Q. And is that shown in your reports?

23 A. Yes. It's in 411 and I have to go fishing for it. Excuse
24 me while I do.

25 Q. Table 11 on page 51.

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1 A. Okay. Yes. In violent crimes, in table 11 for the 2004 to
2 2009 period, fits description was cited in 38.7 -- I'm sorry.
3 Take it back. 31.7 of all violent crimes, of all the stops --
4 all stops where violent crime was suspected, was the suspected
5 crime.

6 Q. And in what percentage of stops was "fits description"
7 checked with respect to all stops?

8 A. 13.6 percent.

9 Q. Where is that shown on table 11?

10 A. That's under the column "all stops," and the third line
11 down -- second line down. I'm sorry.

12 Q. And what does the fact that "fits description" was used
13 in -- was checked off in only 13.6 percent of all stops mean to
14 you with respect to the propriety of the use of crime suspect
15 data as a benchmark?

16 A. Well there seems to be a mismatch at the very least. This
17 seems to be a sign that violent crimes are not what's driving
18 the search for criminal activity or criminal suspects on the
19 part of the police.

20 THE COURT: I don't understand what you just said.

21 THE WITNESS: If officers are -- violent crime does
22 not seem to be a driving force in the conduct of stops. And
23 it's not very helpful.

24 THE COURT: I'm sorry. That's what I don't
25 understand. What do you mean it's not a driving force? How do

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1 you know that anyway?

2 THE WITNESS: Because the number of stops where the
3 crime suspected is violent crime is relatively low.

4 THE COURT: Where is that?

5 THE WITNESS: I'm drawing together a couple of other
6 tables.

7 THE COURT: I see. Okay.

8 So, for the suspected crime to be a violent crime is a
9 low percentage. Then?

10 THE WITNESS: Then the number of violent crime
11 suspects is known in only a fraction of the cases.

12 THE COURT: Is that on this chart?

13 THE WITNESS: No.

14 THE COURT: That's another step.

15 Then.

16 THE WITNESS: And the number of times when police
17 officers are stopping people on the basis of violent crime
18 because somebody fits that suspect description is also very
19 low, only about 13.6 percent of the stops.

20 THE COURT: Not in the violent crime.

21 THE WITNESS: No. In violent crime it's a little bit
22 less than a third, 31.7. So it's about a third of the stops.

23 Q. And paragraph 27 of your February 12 affidavit, Exhibit 415
24 states the percentage of --

25 THE COURT: Stops for violent crimes?

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1 MR. HELLERMAN: Yes.

2 THE COURT: You see. That's only 14 percent on
3 suspicion of violent crimes.

4 THE WITNESS: Right.

5 Q. What conclusions, if any, do you draw from the fact that
6 only 13 percent -- that in only 13 percent of all crimes --
7 13.6 percent is the box "fits description" known. What do you
8 draw -- what conclusions do you draw from that with respect to
9 the use of crime suspect data?

10 A. It led us to believe that the use of crime suspect --
11 sorry.

12 THE COURT: He didn't say anything. Go ahead.

13 THE WITNESS: It led us to believe that the use of
14 violent crime suspect data, if not crime suspect data
15 generally, is a -- provide a very weak benchmark for criminal
16 activity.

17 Q. You mentioned that the -- that violent crime is a very
18 small percentage of all crime; is that correct?

19 A. Yes.

20 THE COURT: Well for stop -- for reason for the crime
21 listed as the reason for the stop, the suspected crime.

22 THE WITNESS: Well that's part of it, your Honor. But
23 we also, in other parts of the report, suggested violent crimes
24 as a percentage of total crime complaints is also low.

25 THE COURT: Okay. Not based on stops at all?

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1 THE WITNESS: Just based on analysis of the crime
2 complaint data.

3 THE COURT: Right.

4 Q. Can you show us where in your report that is.

5 A. In the first report?

6 Q. Yes, please.

7 A. You'll have to pardon me again for fishing around on this.
8 I believe it is in one of the appendices. Perhaps counsel
9 remembers this better than I do.

10 For the first period, for if 2004 to '9 period?

11 Q. Yes.

12 I'll withdraw the question rather than have you look
13 for it.

14 Which categories, from memory, which categories of
15 crime constitute the categories for which most stops are made?

16 A. Which categories of crime?

17 Q. Yes.

18 A. Of suspected crime?

19 Q. Suspected crime.

20 A. Property crimes are probably the most prevalent. I believe
21 that's shown in figure -- I'm sorry. In table -- appendix
22 figure D1 -- I'm sorry. No.

23 I'm sorry for fumbling around, your Honor. There's a
24 lot of numbers in this report.

25 Q. Is it shown in table four of your first report?

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1 A. The suspected crime?

2 Q. Yes.

3 A. Yes. Sorry.

4 So for both major violence and minor violence
5 overall -- well this is by race. It's also shown in appendix
6 table C6. And C6 shows that approximately 14 percent of the
7 stops in 2004 to 2009 were for -- on suspicion of violent
8 crime.

9 And the most common category was property crime,
10 roughly 20 percent. And about 18 percent for weapons,
11 suspicion of weapons.

12 Q. Is the document that I just put up on the screen the
13 document to which you were referring?

14 A. Yes.

15 Q. And in -- so in the percentage of all stops for violent
16 crimes was approximately what percent?

17 A. A little bit less than 15 percent.

18 Q. And for weapons?

19 A. Closer to 19 percent.

20 Q. And for property?

21 A. About 20 percent.

22 Q. And for other?

23 A. Other was the largest category, about 24 percent.

24 There's one other thing we might add on this. In
25 appendix table C5, there were a number of crimes in the data

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1 for -- for suspected crimes for 2004 to 2009 where we could not
2 classify those crimes because the notations that were entered
3 on the forms didn't permit a simple classification.

4 So you can see that one of the largest percentages of
5 stops was for crimes that we called error. Which is the third
6 bar from the left. And that's about 18.2 percent.

7 THE COURT: What does that mean, error?

8 THE WITNESS: That means that the notation -- in the
9 suspected crime category on side one of the UF 250, despite
10 having written 55,000 lines of computer code to read and
11 categorize those utterances, we were unable to classify many
12 because they simply -- the officers would simply report
13 something like FEL for felony or MISD or MIS for misdemeanor or
14 some other notation that was uninterpretable.

15 Q. And is the document I just put up on the screen, the
16 document that you were just referring to, appendix C5 from the
17 first report?

18 A. Yes.

19 Q. Would you take a look at table 4 from the first report,
20 page 24.

21 A. Okay.

22 Q. What is table 4?

23 A. Table 4 shows the distribution of the suspected crime
24 categories by suspect race.

25 Q. Does the information in table 4 bear on the reliability of

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1 the use of crime suspect data as a benchmark?

2 A. Yes. So, for example, the total -- we didn't do the
3 percentages here overall. But for violence -- for both major
4 and minor violence, the first two lines under the column
5 labeled N, which is the number of cases, it's about 417,000
6 cases out of 2.8 million. So that's a very, very small
7 percentage of all of the cases where suspect -- where violence
8 was suspected. And within those categories you can see the
9 very low percentage of suspect race that was identified.

10 THE COURT: Let me look at that for a minute. So how
11 come it doesn't add up to a hundred going across? If we look
12 at the 410,000.

13 THE WITNESS: Because we're going down, your Honor.
14 If you sum down, it should add up to a hundred.

15 THE COURT: Why would I do that? Looking across on
16 the race for those involved with violence.

17 THE WITNESS: Because in this column we're just trying
18 to show the distribution of subject -- of suspect race by
19 suspected crime.

20 THE COURT: I understand that. So I'm just looking
21 across at the word violence. And so I know white, black,
22 Hispanic, other, and unknown. For violence. Why shouldn't
23 that be a hundred?

24 THE WITNESS: Because we're summing down.

25 THE COURT: I'm sorry. But I don't understand. I've

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1 got a title called violence. I'm talking about the race of
2 people suspected of the crime of violence.

3 THE WITNESS: Right.

4 THE COURT: Forget the rest of the chart. Assuming
5 this was a one-line chart, violence. Why doesn't that equal a
6 hundred?

7 THE WITNESS: Because --

8 THE COURT: Don't tell me again because you're summing
9 down. That's not answer. I just want you to go across on the
10 word violence.

11 So the race of people -- by the way, you call that a
12 very small percentage. That's not a very small percentage
13 either. That's about 20 percent of 2 million or so.

14 THE WITNESS: 2.8 million.

15 THE COURT: So it's what percentage?

16 THE WITNESS: About 14 to 15.

17 THE COURT: I don't call that a very small percentage
18 at all.

19 But anyway be that as it may, I don't understand why
20 it doesn't sum across horizontally.

21 THE WITNESS: Because the comparison that we're
22 making, your Honor, is to show the distribution of -- by race
23 of the suspected crime. So among white suspects.

24 THE COURT: I can't -- I'm not getting an answer to my
25 question. You have 410,000 people suspected of violent crimes.

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1 THE WITNESS: Right.

2 THE COURT: You're identifying their race, or you're
3 calling it other, or you're calling it unknown. It should fall
4 in one of those five: White, black, Hispanic, other, or
5 unknown. What happened to the other 20 or 30 percent?

6 THE WITNESS: That's not the percentage that we're
7 showing there, your Honor.

8 We're showing the percentage -- we're showing the
9 distribution by suspect race of what they are suspected of.

10 So, for example 10.8 -- about 11 percent of the white
11 suspects were suspected of violence.

12 THE COURT: I see.

13 THE WITNESS: 38.2 percent were suspected of property
14 crime.

15 Six percent of the white suspects were suspected of
16 minor property, and so on.

17 THE COURT: I see. Sort of.

18 THE WITNESS: If you keep going down, ten percent of
19 the white suspects were suspected of drug offenses, three
20 percent for quality of life offenses, and approximately
21 17 percent were unclassifiable offenses.

22 MR. HELLERMAN: Your Honor, perhaps I could ask a
23 question that might clarify.

24 THE COURT: No. Because I understand now what he
25 says. It didn't make sense before. But vaguely makes sense

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1 now.

2 Now that I understand the way this chart is
3 constructed, what are you saying it shows?

4 THE WITNESS: That to use the violent crime suspect,
5 we have a hard time showing that the suspect race is well known
6 in any of these categories, any of the suspected crime
7 categories; that, for example, black suspects are no more
8 likely than white suspects or any other to be suspected of
9 violent crime or more likely to be suspected of a weapons
10 crime.

11 But more often than not, if you look at the bottom
12 row, we simply don't know what the suspected crime is for each
13 suspect race. So this is simply another way of showing that we
14 think that using suspect race is not a helpful way to -- is not
15 an appropriate benchmark for conducting stops or analyzing
16 stops.

17 THE COURT: Do you have a chart that does what I
18 thought originally this did, to say that for those who are
19 stopped for violence, 410,000 stops, we know that X percent are
20 white, X percent are black, X percent are Hispanic, the way I
21 originally thought this chart was? Do you have that breakdown?

22 THE WITNESS: I thought we did.

23 THE COURT: You might.

24 THE WITNESS: Actually I'm not sure that we do, your
25 Honor. It might be in the -- the closest I suppose we'd come

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1 would be in table 18.

2 THE COURT: What page are you looking at?

3 THE WITNESS: Page 76 of the first report.

4 THE COURT: When I look at the word white on table 18,
5 is the first line the raw number and the second line a
6 percentage?

7 THE WITNESS: Yes. But it's a percentage, again, of
8 the total number of stops within that crime category.

9 THE COURT: So of all those stopped for violent crimes
10 only three percent were white? Is that what that says?

11 THE WITNESS: Yes.

12 THE COURT: And for all those stopped for violent
13 crime, 38 percent were black?

14 THE WITNESS: Yes.

15 THE COURT: I see. But this only has the two
16 categories violent and everything else?

17 THE WITNESS: Yes.

18 THE COURT: And what's violent again? What does
19 violent include?

20 THE WITNESS: We included, at the bottom you'll see a
21 footnote.

22 THE COURT: Right. Got it.

23 Again, race missing, race unknown are large
24 percentages?

25 THE WITNESS: Right. This is in the violent crime

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1 complaint data, your Honor.

2 THE COURT: Okay. All right. You can go on.

3 Q. And the bottomline shows the total percentages in which
4 crime -- the race of crime suspects was known in all
5 categories, correct?

6 THE COURT: Which one are you looking at, on 4 or 18?

7 MR. HELLERMAN: Eighteen.

8 THE COURT: You asked whether the bottomline shows
9 what?

10 Q. What does the bottomline show?

11 THE COURT: You mean the absolute bottom of that
12 chart?

13 THE WITNESS: The one between --

14 THE COURT: It says total race unknown or missing.

15 THE WITNESS: Right.

16 So it's 70.8 percent for other crimes, all other
17 crimes other than violent. 46 percent approximately for
18 violent crimes. And nearly 70 percent overall.

19 And the same numbers apply, give or take a percentage
20 point, for the year 2006.

21 THE COURT: The difference between 4 and 18. Again, 4
22 is the stops?

23 THE WITNESS: Yes.

24 THE COURT: Doesn't mean they did it so to speak?
25 This is stops?

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1 THE WITNESS: Yes.

2 THE COURT: So, for example, Blacks are stopped three
3 times more often than Whites for weapons but Whites are stopped
4 at least twice as often for felony?

5 THE WITNESS: Correct.

6 THE COURT: Those are stops. But this other thing,
7 18, is actually the crime complaints?

8 THE WITNESS: Right. It's where the suspect race is
9 known.

10 THE COURT: In the actual crime?

11 THE WITNESS: In the actual crime.

12 THE COURT: Right.

13 Whereas stops is the reasonable suspicion at best,
14 right?

15 THE WITNESS: Yes.

16 Q. So, Professor, could you sum up for us the reasons for your
17 belief that crime suspect data was an unreliable benchmark for
18 the 2004-'09 period?

19 A. Because violent crime is one of the -- is not -- is not --
20 is far from the most frequently suspected crime that officers
21 indicate when they make stops. Because the number -- the
22 percentage of stops -- percentage of crime complaints, violent
23 crime complaints, and overall crime complaints where suspect
24 race is known is quite low. And together, those suggest that
25 violent crime suspect is probably a weak benchmark relative to

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1 the total volume of crime and the total volume of stops and the
2 distribution of stops by suspected category -- suspected crime
3 category.

4 MR. HELLERMAN: Thank you.

5 THE COURT: What is felony property? That seems to be
6 the biggest single category on table 4.

7 THE WITNESS: Larceny, grand larceny auto. And
8 burglary. I'm sorry.

9 THE COURT: What are others? When I look back at
10 table 4, see white, black, Hispanic, other, and unknown, we
11 talked about that yesterday. Is other primarily Asian?

12 THE WITNESS: We have a list of the crime categories.
13 We do provide some -- appendix C3.

14 THE COURT: It wouldn't be crime. Here it's the race.
15 Talking about table 4, you have white, black, Hispanic, and
16 other. I'm looking at felony property, for example, and I'm
17 just trying to remember is other primarily Asian?

18 THE WITNESS: Yes.

19 South Asian and East Asian.

20 THE COURT: Right. Okay.

21 THE WITNESS: Your Honor, the other crime category is
22 appendix C3 in the first report.

23 THE COURT: What page is that?

24 THE WITNESS: Well they're not numbered. I'm sorry.

25 THE COURT: That's okay because I wasn't asking about

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1 other crimes. I was asking about other race, just to remember.

2 Okay.

3 BY MR. HELLERMAN:

4 Q. Professor, are you aware that the city's experts have also
5 criticized you for not using a database that they say links the
6 New York police department's crime complaint data with its
7 arrest data?

8 A. Yes.

9 Q. And is that combined database known by any abbreviation or
10 term?

11 A. We used it -- the shorthand that I've used is just simply
12 to call it the merge file.

13 Q. Have you formed any opinion that the reliability of the
14 merge file as a benchmark?

15 A. Yes, I did. It's shown in -- I discuss it in the -- in
16 417, the second supplemental report, and also in an appendix to
17 the second supplemental report which I am turning to now.

18 Do you want me to continue?

19 Q. Yes, please.

20 A. We have expressed a couple of concerns about that database
21 and some of the reasons why we were reluctant to use it.

22 First, we were uncertain about the -- the database,
23 your Honor, proposes to link arrests with crime complaints.
24 And the documentation that was provided with the database show
25 that the linkage between an arrest and a suspected -- a crime

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1 complaint was based on a temporal match, meaning if it occurred
2 within a relative period -- relatively short period of time or
3 some period of time, there was a temporal parameter that the
4 police department used to link a particular arrest to a
5 particular crime complaint.

6 We examined the distribution of the dates and found
7 that it was a little bit unusual. We found some instances
8 where actually the arrest took place before the date of the
9 crime complaint, which would have been interesting and somewhat
10 unusual metaphysically.

11 We found some of the arrests that were linked to
12 crimes took place many, many months later or many days and
13 sometimes weeks and months later, which is possible given
14 something being cleared upon investigation. But this was not a
15 small number of crimes that suffered from that deficiency.

16 So, overall, we were just uncertain as to the matching
17 procedure.

18 One other limitation of the matching procedure was
19 that there was no indication of what the spatial distance was
20 between the arrest and the crime. The arrest could have taken
21 place within a few yards or a couple of miles of the crime
22 complaint or could it have taken place many, many miles away,
23 perhaps in a different borough. We were given no information
24 about that. It was extremely difficult to try to disentangle
25 that.

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1 So we were reluctant on the grounds of just
2 uncertainty about the matching procedure to -- whether or not
3 we could rely on crime complaint data, on the merge file.

4 Second, we found that the marginal increase in the
5 number of known suspects by race was relatively trivial,
6 relative to the distribution of stops.

7 And we show this in tables in the appendix, in this
8 appendix, which is appendix B on 417. If you look at tables 2
9 and 3.

10 THE COURT: Wait. I'm not there. Exhibit 417.

11 THE WITNESS: Yes.

12 THE COURT: Then you said.

13 THE WITNESS: Appendix table 2.

14 THE COURT: Appendix table 2. Didn't you say B?

15 THE WITNESS: No. I'm sorry. Appendix table 2.

16 MR. HELLERMAN: It's table 2 in appendix B.

17 THE COURT: Appendix B. Table 2. What is this?

18 THE WITNESS: We show that overall the increase in the
19 number of known suspects by race is relatively trivial compared
20 to the total number of stops.

21 THE COURT: I must have missed a lot because I don't
22 know where you are at all. Table B says total complaints,
23 right?

24 THE WITNESS: Table 2 is the aggregated crime
25 complaint data with known suspect race using the merge file,

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1 using the file the city provided.

2 So we breakdown the total number of crime complaints,
3 that's the first column. And there -- by the way, your Honor,
4 the data were only provided to us for two years, 2010 and 2011.

5 THE COURT: Right.

6 THE WITNESS: So that was another limitation.

7 THE COURT: So there were a million complaints in
8 those two years.

9 THE WITNESS: Correct.

10 The second column shows the distribution of those
11 crime complaints. 21 percent were minor violence. The largest
12 category was minor property and so on.

13 THE COURT: Go ahead.

14 THE WITNESS: And then in that database suspect race
15 is known in 635,000 of those cases or roughly 63 percent.

16 THE COURT: Okay.

17 THE WITNESS: And then we looked by category.

18 Of the 63.4 percent or 63 percent, suspect race is
19 known. The percentage of each -- we breakdown the third column
20 into percentages in the fourth column. So, for example, 68,000
21 under felony violence is 86.4 percent.

22 THE COURT: Wait. That's where I get lost. What was
23 that number? 84 percent?

24 THE WITNESS: If you look at -- if you take the number
25 in the third column for felony violence, 68,226, divide that by

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1 78,925, the total number of crime complaints for violence, you
2 get a percentage of 86.4 percent.

3 THE COURT: Where the race is known.

4 THE WITNESS: Yes.

5 THE COURT: Okay. Then what?

6 THE WITNESS: You continue to do that through all of
7 the specific crime categories. And overall, it turns out to
8 about 63.4 percent.

9 THE COURT: Right.

10 THE WITNESS: Then we look at the total number of
11 crime suspects. This is the fourth column. And here we were
12 computing the percent race known of all suspects.

13 So the 68,000, for example, in column 3 under felony
14 violence.

15 THE COURT: Yes.

16 THE WITNESS: As a percentage of the 635,000 total
17 number of known suspect where -- cases where the suspect is
18 known, race of the suspect is known, that works out to that
19 number of 10.7 percent.

20 THE COURT: What's the use of that column? What does
21 that tell me?

22 THE WITNESS: Because that's simply telling us the
23 percentage of cases where the suspect race is known out of all
24 of known suspects.

25 THE COURT: I don't know what that column is telling

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1 me. Why is that useful to me?

2 THE WITNESS: We're trying to get a sense from there
3 about the percent of all of the crime suspects.

4 THE COURT: Yes.

5 THE WITNESS: In what percentage of each crime
6 category, as a percentage of all of the known suspects, are --
7 do we know -- the percentage of cases that we know the suspect
8 race.

9 So, for example, we know suspect -- suspect race is
10 known in 86.4 percent of all felony violence complaints. But
11 the suspect race -- but the suspect race known in felony
12 violence represents only 10.7 of all of the known suspect
13 races.

14 THE COURT: I must say I don't follow the "but" in
15 that sentence. I mean it's only 7.9 percent of the complaints.

16 THE WITNESS: Right. That was the next column.

17 I'm focusing on the column where it says percent race
18 known of all suspects.

19 THE COURT: Yes, I know.

20 THE WITNESS: And then we go -- the next column over
21 shows just simply using the crime complaint data, what
22 percentage of race is known of all complaints, where we know
23 the suspect race.

24 And for violence, we know the suspect race in
25 6.8 percent of all of the complaints.

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1 So that's taking the 68-point -- 68,000 cases and
2 dividing it by the total number of complaints, which is 1.002
3 million.

4 The point of the table here, your Honor, is simply to
5 show that using the suspect -- using the merge file, we're not
6 really gaining a whole lot of information compared to the
7 suspect -- compared to what we get from the crime complaint
8 file in terms of the known race of the suspect.

9 THE COURT: Well it must be me today. I can't follow
10 the last three columns at all. If the chart had stopped with
11 the column that said percentage of suspect race known, I would
12 understand a lot of the race is known in violent felonies,
13 minor felonies, weapons.

14 THE WITNESS: Right.

15 THE COURT: Disorderly conduct, others.

16 THE WITNESS: The reason for --

17 THE COURT: Drug offenses. So that's good. I
18 understand the race is known very often in most of those crime
19 categories.

20 I don't know what those last three columns are doing.

21 THE WITNESS: The last three columns is showing the
22 percentage of cases relative to the total volume of cases
23 rather than specifically within the category of violent crime
24 where we know the race of the suspect.

25 THE COURT: But the numbers can't be right because you
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1 know that -- you know the race overall 63 percent of the time.

2 THE WITNESS: Right.

3 THE COURT: It goes from a high of 97 percent in --
4 98 percent in drug offenses. A couple low ones, felony
5 property 22, but all of a sudden these three columns look like
6 tens and threes and I don't understand.

7 THE WITNESS: Your Honor, if you go back to the third
8 column, suspect race known. And you divide the 68,000 by the
9 635,000 total number of suspects known, that's where we get the
10 10.7 percent.

11 THE COURT: So what? That's just because that's a low
12 percentage of the total crimes.

13 THE WITNESS: Yes, it is.

14 That's showing us that the suspect race -- the suspect
15 race is known -- as a percentage of all known suspects, the
16 suspect race is known for violent crime in a small percentage
17 of all of the -- where all of the suspect races are known.

18 THE COURT: I don't understand why that's of interest.
19 It's known 86 percent of the time in violent crime.

20 THE WITNESS: But that only comprises --

21 THE COURT: Yes. I realize it's only 7.9 percent of
22 the complaint.

23 THE WITNESS: And it's only 10.7 percent of all of the
24 known suspects.

25 THE COURT: Right. I understand.

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1 But if you look at the totals of your million, you
2 know the race 63 percent of the time.

3 THE WITNESS: Yes.

4 THE COURT: Yes.

5 THE WITNESS: But we know the race of the suspect
6 63 percent of the time overall.

7 THE COURT: Right.

8 THE WITNESS: But within specific crime categories.

9 THE COURT: Yeah. I have that figure in that column,
10 86, 85, 97, 73. That's what I'm trying to say. That column
11 does tell me per crime, right, the race of the suspect?

12 THE WITNESS: Per crime, right.

13 The next column over tells you the race of the suspect
14 for the total volume of crime.

15 THE COURT: But I don't understand what you're making
16 of that, because that's just weighting it toward the crimes.
17 The interesting column should be the percentage of suspect race
18 known per crime. And the total.

19 So it's known 63 percent of the time and in any
20 category I can see what it is. It's 98 percent in drug
21 offenses. It's 95 percent in trespass.

22 The next three columns are just playing with numbers.
23 They don't seem to tell me anything.

24 THE WITNESS: Well we're trying to get -- to make --
25 to do two comparisons, your Honor. One is to simply to show,

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1 out of all of the known crime suspects -- I think you
2 understand this -- out of the all of the known crime suspects
3 those who are suspected of committing a violent crime comprised
4 either 10.7 or 29.1 percent.

5 THE COURT: Right.

6 THE WITNESS: So using violent crime as benchmark to
7 gauge the accuracy of all stops is somewhat misleading.

8 THE COURT: I got it. If you're just taking violent
9 crime as the benchmark, not all of those.

10 THE WITNESS: Correct.

11 THE COURT: Okay.

12 THE WITNESS: But we have a very large number of stops
13 in which violent crime is a relatively small percentage. We're
14 using total crime as the benchmark.

15 THE COURT: Somebody is advocating you just use
16 violent crime as the benchmark?

17 THE WITNESS: Exactly.

18 THE COURT: Oh, okay.

19 THE WITNESS: And so that column, percent suspect race
20 known, again goes back to the total volume of suspects.

21 THE COURT: I see.

22 THE WITNESS: And in the next column over, we just
23 simply know, setting aside the merge file and just looking at
24 the number of crime complaints, we see that the distributions
25 are fairly similar.

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1 If you set aside the merge, and just simply look at
2 the number of known -- of reported suspects by suspect race,
3 the numbers are comparable, 10.7 versus 6.8, 29 percent versus
4 18 percent and so on.

5 So the point that we're trying to make in making these
6 two comparisons is that there's not a whole lot of information
7 gained in using the merge file relative to just simply using
8 the percent -- using the total volume of crime with respect to
9 knowing the suspect race.

10 And then we compare it in the final column to the
11 distribution, the total number of stops.

12 THE COURT: So that's majority of stops, according to
13 this, are violent felony, weapons and felony property.

14 THE WITNESS: This is just the percentage of stops.

15 THE COURT: Where the race is known.

16 THE WITNESS: Where the race is known, yes.

17 THE COURT: I see.

18 THE WITNESS: By the way the footnote on this table
19 shows the definition, the categories that we put into the other
20 crime category.

21 THE COURT: Okay.

22 THE WITNESS: So this was one of the other bases on
23 which we decided not to use the merge file. We felt that it
24 wasn't providing any additional information on -- information
25 about suspect -- distribution of suspect race. We felt there

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1 was more complete information that was available to us by
2 simply using the total number of crime complaints in each
3 particular -- each area during each period of time.

4 We also didn't use it because 2012 was a year in which
5 there were some changes in the rate of stops or the number of
6 stops. They declined in the second quarter of 2012. And we
7 were reluctant to make any conclusions or do analyses without
8 having full information for that period of time. So we were
9 missing six months of 2012.

10 And we were a little concerned that the use of the
11 suspect crime suspect benchmark as defined in the merge file
12 would somehow increase our sense about the total number of
13 crime suspects because we're -- there was a large number of
14 suspects -- often there were more than one suspect arrested
15 within a particular incident.

16 And so we were focused on crime incidents as the total
17 volume of crime. The merge file reports the total number of
18 people who were doing crimes. So we thought that if the police
19 department were allocating resources to various areas of the
20 city on the basis of the volume of crime, that using crime was
21 a better measure -- was a more accurate measure of criminal
22 volume than was simply the number of incidents because of the
23 multiple suspects arrested often in one case, so.

24 BY MR. HELLERMAN:

25 Q. Professor, do you know approximately the percentage of
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1 crimes that had multiple suspects?

2 A. I'd have to go back and look in the data. I believe it
3 was -- I'm recalling from memory. I don't recall if we put it
4 into the data.

5 Q. Was it somewhere in the neighborhood of 11 percent?

6 A. That sounds right. I'm looking -- yeah. That was about
7 right. We did report that.

8 Q. So what effect does -- what effect does treating every
9 person suspected of one crime as its own crime have?

10 A. I'm sorry. I don't understand the question.

11 Q. Eleven percent of crimes have multiple suspects?

12 A. Yes.

13 Q. And crimes for which there was multiple suspects, was that
14 counted as one crime or multiple crimes?

15 A. It was counted as multiple suspects.

16 But if we key on multiple suspects, that would inflate
17 our sense of the number of crimes that took place in an area.
18 And that was one of our concerns about using this file.

19 Q. Professor, going back to table 2, could you take a look at
20 the lines for felony property and minor property and walk us
21 through that.

22 A. Yes. So felony properties -- felony property crime
23 complaints account for 13.5 percent of all crime complaints.
24 Minor property complaints account for 28.3 percent. For a
25 total of 41.8 percent of all crimes.

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1 So, again, 41.8 percent of all crime complaints were
2 for property crimes.

3 Q. And in what percentage of that 41 percent of all crimes was
4 the suspect of the race known?

5 A. The suspect race was known for 22 percent of felony
6 property crimes and 36 percent of minor property crimes. That
7 was a total of 58 percent.

8 Q. Now, did you consider imputing from the 63.4 percent of the
9 crimes for which suspect race was known to the approximately
10 37 percent, 38 percent in which it was not known?

11 A. To the 365,000 crimes that were not known?

12 Q. Yes.

13 A. Did we consider imputing that?

14 Q. Did you consider imputing from the 63 percent to the
15 38 percent?

16 A. No. We did not consider that.

17 Q. Why not?

18 A. Because for a variety of reasons having to do with
19 imputation models.

20 I think in this instance we simply didn't have enough
21 data available to make those kinds of imputations with
22 reliability and to do it in a way that would avoid some kind of
23 selection bias.

24 The reason is that most of the imputation methodology
25 that's available and that is widely used statistically involves

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1 applying a fairly rich set of factors about the known cases to
2 the unknown cases. And here we had a very limited or sparse
3 data set about what the known factors of the individual suspect
4 would -- factors about the individual suspect.

5 So, it would have been extremely risky were we to do
6 it on the basis of sparse information.

7 And, in fact, if we did it on the basis of sparse
8 information, we would simply be echoing whatever selection
9 biases or limitations existed in the original data.

10 So we were reluctant to take what to us is incomplete
11 or under-described information and apply it more generally to a
12 population whose parameters are unknown.

13 So, for example, we simply -- we only know the race of
14 the suspect in say 16 percent of the minor property crimes. To
15 make an imputation from the 16 percent to the 84 percent where
16 we don't know the race of the suspect in the property crime
17 would be quite risky and quite unreliable. And probably would
18 introduce a level of bias that's unreasonable. Not just
19 unreasonable. Unacceptable.

20 Q. And does the same apply to imputing from the 63.4 percent
21 of crimes for which crime suspect data was known to the
22 36 percent of crimes for which it was not?

23 A. Yes.

24 Q. You mentioned that the merge file purports to link crime
25 complaint data and arrest data.

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1 A. Yes.

2 Q. Did you draw any conclusions about the use of arrest data
3 in the merge file?4 A. Well some arrests take place pursuant to investigation. So
5 we thought that those would probably be reliable.6 Some arrests take place pursuant to stops, but that's
7 a relatively, as we know, a relatively small fraction of all of
8 the stops.9 Some of the arrests though in the file, we mentioned
10 this in our report, are -- have less to do with reasonable
11 suspicion than have to do with the person being arrested sort
12 of on the spot based on a probable cause arrest.13 So, for example, we know the suspect race in drug
14 offenses because officers would observe a drug transaction and
15 make the arrest based on probable cause. That's a little bit
16 different than identifying a crime suspect in -- pursuant to
17 investigation making the arrest.18 So we thought that there's a whole category of
19 complaint -- category of crimes where the arrest -- where the
20 complaint is generated by the fact of the arrest. And so this
21 is a little bit different and it kind of inflates the sets of
22 the volume of the crime, the crime complaint file that we can
23 link back to the arrestee.24 In other words, we -- even with that some -- that's
25 inflating some of the crime category. So even with that we

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1 still wind up with these fairly minimal estimates about the
2 gain in information from using the merge file.

3 MR. HELLERMAN: One moment, your Honor.

4 (Pause)

5 Q. Professor, did the extent to which people who were arrested
6 got prosecuted factor into your analysis of the value of the
7 arrest data in the merge file?

8 A. Yes. We considered -- were aware of data from other
9 studies that suggested that the rate at which arrests are
10 declined for prosecution, depending on the crime category, can
11 run as high as 15 to 20 percent. So we felt that that was --
12 would somewhat undermine the validity of using arrests as a
13 basis for a benchmarking.

14 Q. And did you consider the fact that not everyone who commits
15 a crime gets arrested in forming your view as to the usefulness
16 of arrest data in the merge file?

17 A. Yes -- you mean because of discretion applied in the field?
18 I'm not quite sure.

19 Q. No. I mean not everybody who commits a crime gets
20 arrested?

21 A. Well, yes. Of course.

22 Q. Now, you referred earlier to the matching or linking
23 procedure and your -- the faults you found with that. And just
24 to make it clear, what -- is what you were referring to is
25 linking the crime complaint data in the merge file to the

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1 arrest data in the merge file?

2 A. Yes.

3 (Continued on next page)

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1 Q. You mentioned there was a problem with time matching?

2 A. There were some problems with time matching.

3 Q. And you mentioned that there were some problems with
4 matching in space?

5 A. We had no idea what the spatial matches were. The data
6 were not revealed to us.

7 Q. Is there any other reason that you haven't touched upon in
8 your testimony for determining that the use of the merged file
9 was not particularly useful and that it would be unreliable to
10 determine racial impact of NYPD stop and frisk activities?

11 A. I think I have covered most of the reasons that I
12 articulated in my report, in Exhibit 417.

13 Q. All those reasons are set forth in Appendix B to Exhibit
14 417, correct?

15 A. Yes.

16 Q. They are summarized on pages 6 and 7 of your second
17 supplemental report, Exhibit 417?

18 A. Correct.

19 Q. Now, have you ever used arrest data in a disparate impact
20 study?

21 A. Yes. In the attorney general's report in 1999 we relied on
22 arrest data.

23 Q. Why was it OK to rely on it there but not here?

24 A. Because we were not given any data on the distribution of
25 crime complaints by any spatial unit. We were not given any

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1 data whatsoever on crime complaints other than totals for the
2 city.

3 Q. Are you aware that the city's experts have criticized you
4 for using spatial units in your benchmark of smaller census
5 tracts because it doesn't take into account the New York Police
6 Department's hot spot policing strategy?

7 A. I am aware of the criticism, yes.

8 Q. Do you have any opinion about the validity of that
9 criticism?

10 A. We used census tracts because they are in fact small
11 places, and they do reflect the hot spots logic that I think
12 drives much contemporary policing. Census tracts are
13 relatively small, particularly in the denser parts of the city,
14 only a few square blocks. Those certainly do take into account
15 places where there is fairly high levels of activity, crime
16 activity, as well as places where crime activity is very low.

17 So in order to make comparisons of what happens in one
18 place to the next, which is essential in conducting a disparate
19 impact analysis, one needs to have a basis of comparison, we
20 relied on helpful administrative boundaries, which basically
21 mapped to and capture the logic of what happens in smaller
22 units, in smaller spatial units.

23 So census tracts made sense to us, in terms of the
24 size population in density, the size of the population, the
25 ability to capture locations where crime rates were elevated

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1 and sharply elevated in many instances. So we thought they did
2 the necessary work for establishing our disparate impact claim.

3 Q. Was there any variable that you used in disparate impact
4 analysis that anticipated or covered hot spots?

5 A. Well, census tracts certainly did. A census tract, again,
6 is a relatively small unit of analysis, a small area. For the
7 most part, particularly in places where the crime rates are
8 higher, they are relatively small places, a few square blocks.

9 Also, given the allocation of policing by crime
10 activity, we were able to link the number of officers assigned
11 to particular areas to those small units of analysis.

12 So we were taking into account the hot spots logic,
13 both in terms of the size of the unit of analysis, and also by
14 being able to track the number of officers assigned to those
15 places in response to their designation as a hot spot.

16 Q. Now, what effect would focusing just on hot spots and
17 ignoring the rest of a census tract have on the analysis?

18 A. Well, first of all, we would have to define what a hot spot
19 was. A hot spot conveys a sense that one particular location
20 has a crime rate that's quite elevated over another location.
21 So we don't really know quite what that means. If there is a
22 particular threshold of criminal activity, where that would
23 lead to the designation of a particular block as being a hot
24 spot, we don't know by how much -- what the actual value would
25 be, we don't know what its relative crime rate would be,

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1 whether it would be a relative increase in crime in one place
2 over the next. So the meaning of it is more of a
3 characterization than it is a precise operational definition.

4 Q. Had somebody given you a precise definition of hot spots,
5 using just that and not the information with respect to the
6 rest of the census tract, what effect would that have on the
7 validity of the analysis?

8 A. The rest of the tract or the rest of the city?

9 Q. The rest of the tract.

10 A. We think it would have biased what we understand to be
11 stop -- it would have led us to exclude information about stops
12 that took place elsewhere in the census tract.

13 Q. The same criticism applies with respect to the rest of the
14 city, is that correct?

15 A. Yes. If we only looked at the highest crime census tracts,
16 we would be ignoring a very large volume of stops that took
17 place, for example, in business districts and low density
18 residential areas and the like. Our analysis took into account
19 specifically the entire city, and we looked at specifically the
20 volume of crime as a predictor of the volume of policing and
21 the volume of stops.

22 Q. The city's experts have also criticized you for not taking
23 short-term spikes in crime into account. Do you have any
24 opinion of the validity of that criticism?

25 A. Well, we used months, and if there was a short-term spike

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1 in a particular place within a given month, it would be
2 captured in our data. We would know that within that month, if
3 there had been a spike in the crime rate in that month, in that
4 specific census tract, it would have been higher. So it was
5 built into the analysis.

6 And the same would be true of policing. We knew that
7 the number of police officers assigned to a particular place,
8 and who were actively making stops in a census tract, would
9 correspond to that spike, assuming that the officers were
10 allocated to respond to the spike.

11 Q. Now, with respect to the methodology -- moving on from the
12 benchmark and the methodology that you used in the disparate
13 impact analysis to reach your opinions, I believe you testified
14 yesterday that the first step in the analysis was to determine
15 the number of stops and the number of crimes and racial
16 composition, is that correct?

17 A. Yes.

18 Q. Is the results of that determination shown in your reports?

19 A. Say it again.

20 Q. Is that basic descriptive information shown in any of your
21 reports?

22 A. About the number of stops, crimes and the racial
23 composition? There's a series of graphs that we put at the
24 beginning of each of the first and second reports.

25 I mentioned yesterday that the starting point for our

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1 analysis was to simply look at the distributions of stops and
2 crimes across the city by some very basic demographic
3 parameters.

4 Q. Are the graphs you're referring to figures 1 through 8 that
5 appear beginning on page 26 of your first report?

6 A. Correct.

7 Q. I put up on the screen figure 1 from page 26. Could you
8 explain what that graph means?

9 A. OK. So the vertical axis in there is simply the number of
10 stops that take place per crime complaint within a police
11 precinct. The X axis is the time, the 24 calendar quarters for
12 the six-year period from 2004 to 2009. And each of the lines
13 represents a division of the precincts of the city into 25
14 percent brackets in terms of the percent black population in
15 each of those brackets.

16 So, for example, the line across the top, the one
17 that's elevated above the others, is the 25 percent of the
18 police precincts with the highest concentration of black
19 population. The other lines, as you can see from the labels in
20 the legend below, represent the distribution of black
21 populations between 15 and 75 percent of the city, and then 15
22 to 50, and the lowest would be 0 to 25 percent. So we have
23 arrayed the city, all of the precincts in the city in this
24 particular graph, in terms of where they fall on a distribution
25 of what we call quartiles.

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1 Q. This is not the result of your regression analysis. This
2 is just the starting point?

3 A. Yes. This is just an inspection of the data.

4 Q. Did you do a similar inspection of the data of the 2010
5 through June 2012 period?

6 A. Yes, we did. Those are on pages 13 through 15 of Exhibit
7 417.

8 Q. Did you draw any conclusions from these descriptive
9 statistics?

10 A. Well, if you go back to the very first one, for example,
11 figure 1 in the first report.

12 THE COURT: Which one?

13 THE WITNESS: Figure 1 on the first report. It's on
14 page 26 of the first report.

15 THE COURT: Yes.

16 A. The top line shows the number of stops for each crime
17 complaint in the neighborhood or the police precincts in the
18 city that have the highest concentrations of black population.
19 So there are more stops per crime in those areas compared to
20 any other areas of the city.

21 So just as an example, if there are, let's say, 20
22 crimes in a particular precinct, and there are 40 stops in that
23 precinct, so we would see a ratio of about two to one, 40 stops
24 for 20 crimes, crime complaints.

25 In another area of the city, it looks a little bit

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1 closer, so perhaps there would be 20 crimes, but the number of
2 stops might only be ten stops. So that would show up about .5
3 on this graph.

4 So the graph basically shows that -- this shows the
5 distribution by black population of that ratio of stops per
6 crime. So there are more stops for every crime complaint in
7 parts of the city than there are for others. And it turns out
8 that those parts of the city tend to be the parts of the city
9 that have the highest concentrations of black population.

10 We did the same analysis through the whole series of
11 graphs when we varied the specific types of crime complaints.
12 Sometimes we looked at weapons crimes, sometimes we looked at
13 property crimes -- not property crimes, violent crimes. And we
14 also varied those graphs by the population parameters.
15 Sometimes we looked at the total percentage of non-white
16 population. Sometimes we looked at the percentage of Hispanic
17 population.

18 Again, we did the same division here. We arrayed the
19 precincts of the city by 25 percent brackets. And in virtually
20 every graph, in that series of eight graphs, we showed that in
21 the precincts in the city with the highest concentrations of
22 either black or Hispanic or total non-White population, the
23 stop per crime ratio was much higher.

24 So this was the starting point for our thinking about
25 the disparate impact analysis, and it certainly did raise for

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1 us the hypothesis, the possibility that there was a racially
2 disparate allocation of stops, less so according to the crime
3 rate, or at least according to the racial composition of the
4 precinct as well as by the crime rate.

5 Q. Yesterday you mentioned several variables that you used in
6 your disparate treatment analysis, and to put things in
7 context, could you tell us what those variables were?

8 A. We also, to fully examine the question about whether or not
9 there was a disparate allocation of stops by racial composition
10 of the precinct, we also wanted to examine other factors that
11 were correlated with race that might be a factor in making that
12 kind of -- doing that kind of an analysis.

13 So we looked in addition at the concentration of
14 poverty or structural disadvantage, social disadvantage, in a
15 neighborhood. We looked at the percent foreign born people, or
16 immigrants, in those precincts. We also looked at whether or
17 not the stops took place in a low residential population area,
18 meaning a business district. And we also then, in order to
19 account for the differences in the distribution of stops
20 according to the crime rates, looked at the patrol strength,
21 the number of officers allocated to those areas.

22 Now, the social structural variable, what we call an
23 SES factor, socioeconomic status factor, is based primarily on
24 median income, and I forgot the other variables. Median income
25 was the main driver in that particular variable.

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1 Q. Why did you choose -- is the reason -- withdrawn.

2 Are the variables that you chose and the reasons you
3 chose them described in your first report?

4 A. Yes. On page 30 we talk about the general philosophy of
5 conducting disparate impact analysis. In a disparate impact
6 analysis, we try to look at the outcomes by race, and then we
7 look -- in our case, we looked at racial composition and crime
8 rate. And then we also wanted to look at all other factors
9 that were plausibly related to crime or to stops, including
10 those that were not explicitly by race, but certainly that were
11 correlated with race.

12 Q. Are there any variables that you're aware of that would
13 estimate the influence of the race -- the influence of race on
14 the number of stops that -- withdrawn.

15 Are there any other variables that you considered
16 using in your disparate impact analysis?

17 A. We considered -- the ones that we used were the ones that
18 we think had the closest associations with either crime or
19 race, as well as those that would bear on the stop volume, and
20 those that were the most reliably measured. One of the things
21 we tried to do all along is to minimize measurement error.

22 Q. And using variables other than the ones you used would have
23 introduced measurement error?

24 A. We believe so.

25 Q. You mentioned that one of the variables you used was patrol

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1 strength. Did you use patrol strength in all of your disparate
2 impact analyses?

3 A. We used it in the disparate impact analysis in the first
4 supplemental report. We did not use it in the February 2011
5 report, in Exhibit 412.

6 Q. I think you misspoke, Professor. Did you use patrol
7 strength in the first report, Exhibit 411?

8 A. Yes, we did.

9 Q. Did you or did you not use it in the disparate impact
10 analysis reported in your supplemental report, Exhibit 412?

11 A. No, we did not use it in 412.

12 Q. Why didn't you?

13 A. Because in 412 we switched our unit of analysis, as we
14 described yesterday, from the police precinct to the census
15 tract, or to the neighborhood. And the patrol strength data
16 that was provided to us at that time did not permit allocations
17 to any spatial unit that was smaller than the precinct. In
18 other words, we were stuck with precinct data, and to do the
19 model to examine smaller units of analysis, we simply didn't
20 have the data available at that time.

21 Q. Did you later get the data?

22 A. We created the data out of necessity. We switched our
23 measure of patrol strength when we wanted to look at the
24 smaller units of analysis.

25 Q. Did you use that data in your second supplemental report?

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1 A. Yes, we did.

2 Q. 2010 to 2012?

3 A. We used an alternate measure of patrol strength.

4 Q. Do you believe that not using patrol strength data in the
5 supplemental report affected your reliability of that analysis?

6 A. No, we didn't. And we didn't because the results that we
7 obtained were so similar with respect to the first report, and,
8 also, looking forward so similar to what we obtained in 417, in
9 the second supplemental report, that the estimates, to use
10 formal statistical language, the estimates that we observed
11 were robust to the inclusion or perhaps the exclusion of patrol
12 strength. However, patrol strength is really important. So
13 where we could construct a reliable measure, we included the
14 measure.

15 Q. To what extent did patrol strength influence -- I am not
16 looking for a number. I am just looking for a
17 characterization. To what extent did patrol strength influence
18 the outcome in the first report?

19 A. It was a statistically significant variable. It was a
20 significant predictor of the overall stop rate in the
21 neighborhood, in a precinct.

22 Q. Was it a strong predictor or a weak predictor?

23 A. It was statistically significant.

24 Q. So you have got the benchmark, you have got the descriptive
25 statistics, and you have got the variables. Then what did you

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1 do? How did you test for disparate impact?

2 A. We followed the methodology that we described on page -- in
3 the first report, and we conducted a series of regression
4 models.

5 Q. Were the procedures described on page 30 and 31 that you
6 were just referring to?

7 A. Yes. Those are the methods that we followed in estimating
8 these disparate impact models.

9 Q. What was the question you were trying to answer?

10 A. We were trying to look to see whether or not, after
11 controlling for crime, there was still an influence on the stop
12 rate that was attributable to the racial composition of the
13 neighborhood, in this case, the police precinct. And that was
14 also after controlling for other factors that were correlated
15 to race and crime.

16 Q. You used a regression analysis for this, right?

17 A. We did.

18 Q. What type of regression analysis did you use?

19 A. We used a negative binomial regression.

20 Q. What is that?

21 A. This is a particular family of regression models which is
22 designed to estimate parameters that would predict the counts
23 of particular events that took place in a particular area
24 during a particular time. So in our case, we were using the
25 negative binomial regressions to estimate the number of stops

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1 that took place in a police precinct in the first report during
2 a calendar quarter.

3 Q. This is to answer the question whether race influences
4 crime over and above -- influences stops over and above crime,
5 correct?

6 A. Yes. Again, the precise language to interpret this would
7 be whether or not, after controlling for crime, we observe a
8 difference in the stop rates that's predicted -- predicted in
9 the regression sense -- by the racial composition in the
10 neighborhood.

11 Q. What were the results?

12 A. Well, the results are presented in table 5.

13 Q. On page 33 of the first report?

14 A. Yes. And also in table 5 on in the second report. At some
15 point we will describe the differences between the first and
16 the second report.

17 To be precise, what we did here was to look at the
18 crime complaint -- the volume of crime complaints in a
19 particular calendar quarter.

20 We lost the picture.

21 MR. HELLERMAN: One moment.

22 THE COURT: What does lagged mean?

23 THE WITNESS: We looked at the month preceding or the
24 period preceding, in this case, the calendar quarter preceding.

25 MR. HELLERMAN: A little technical glitch, your Honor.

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1 The screen went blank.

2 A. So, for example, in the total stops model, the first
3 variable that we control for is the total number of crime
4 complaints in the calendar quarter preceding the period in
5 which we are observing the number of stops. So it's how many
6 stops took place in a precinct, for example, in the period
7 April to June, controlling for what happened, the crime volume
8 in that precinct during the period, controlling for the volume
9 of crime in January through March.

10 Again, the reason we lag things off is because we
11 understand that crime allocation decisions are made -- policing
12 allocation decisions and tactical decisions, resource
13 allocation decisions are made in response to what was observed
14 as the crime rate in the period preceding the month in which we
15 are observing the stop rate.

16 THE COURT: What does .280 represent?

17 THE WITNESS: Each regression coefficient refers to
18 the rate of change in a particular variable relative to the
19 outcome variable. So it's simply a way of talking about
20 how -- the amount of change in the stop rate relative to a
21 change in the total complaint rate.

22 THE COURT: I don't understand what you're talking
23 about, and I don't know the difference between the number in
24 the bracket and not in the bracket.

25 THE WITNESS: .280 is the regression coefficient. In

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1 the bracket is the standard error or the spread of the
2 estimate. In other words, thinking of a bell-shaped curve, if
3 it's very wide, it would probably not be quite as significant
4 as if it was very tight and narrow.

5 THE COURT: So you haven't gotten through to me at
6 all. I don't know what the .280 is.

7 THE WITNESS: If you could imagine a graph where on
8 one hand is the number of stops and the X axis is the number of
9 complaints, we would be observing different parts of the city,
10 the number of complaints, and the .280 is an estimate of the
11 slope of that line.

12 THE COURT: I don't understand what you're saying at
13 all. I can't understand what you're saying.

14 THE WITNESS: Let me try it in plain language. .280
15 shows simply the rate of change or the amount of change in the
16 stop rate that can be attributable to the rate of change
17 in -- the difference in the complaint rate during the preceding
18 calendar quarter.

19 .280 is simply an estimate of how much change there
20 is -- of that relationship, the volume of the change, the
21 volume of the relationship.

22 THE COURT: What does that mean? It went up?

23 THE WITNESS: Yes. A positive number indicates it
24 went up. So for each crime complaint -- as the crime complaint
25 rate went up, the number of stops went up. We would expect

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1 that. The little asterisk means it's statistically
2 significant. And we expect that, your Honor. We do understand
3 that stop rates do follow crime rates, as they should.

4 We will skip over the second line because that's a
5 line that's attributable to each of the specific types of stops
6 and suspected crime.

7 If you go down to the third line --

8 Q. Professor, before you get to the third line, could you
9 explain what the numbers in brackets are?

10 THE COURT: He did.

11 A. That's the standard error of the estimate, meaning the
12 spread of the estimate.

13 The coefficient is .867. It's positive and
14 significant. So that means after controlling for the effects
15 of crime complaint rates on the volume of stops, we still
16 observe a statistically significant contribution of the racial
17 contribution of the police precinct in this case to the overall
18 stop rates.

19 So this is where we get the statement, after
20 controlling for crime, we still observe a significant effect of
21 racial composition.

22 THE COURT: Does that mean that the stop rate of
23 blacks was four times roughly?

24 THE WITNESS: No, your Honor.

25 THE COURT: The .28 was the increase in stops?

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1 THE WITNESS: Yes. .28 is the relationship between the
2 complaint rate and stop rate.

3 THE COURT: The number of stops went up as the crime
4 rate went up.

5 THE WITNESS: Right.

6 THE COURT: But it went up by .28.

7 THE WITNESS: The reason why you can't read the
8 numbers literally is because it's a way of showing the strength
9 of the association between the two.

10 THE COURT: How do I compare the .28 to the .867?

11 THE WITNESS: One way to do it would be to get a sense
12 of the strength of the association. You could conceivably
13 divide, for example .28 by .088. That is one of the ways that
14 we decide whether it's happening by chance or happening
15 systematically.

16 THE COURT: I asked what, if any, conclusion can I
17 draw from the fact that the first number is .28 for total
18 complaints and .86 is for percent black? Is there any way to
19 compare those two numbers? Does it mean anything that one
20 number is three or four times the other?

21 THE WITNESS: No. Because the difference in the
22 numbers are attributable to the way the particular items are
23 measured.

24 So, for example, percent black varies from 1 to 100.
25 The neighborhood is either 1 percent black, 10 percent black,

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1 100 percent black. Total crime complaints represents the
2 volume of crime complaints. There could be zero. There could
3 be ten crime complaints, a thousand crime complaints. So the
4 scales are different so it makes it hard to make a direct
5 comparison of the coefficients.

6 THE COURT: I want you to know I can't make anything
7 of this. I don't know what this has to do with race.

8 MR. HELLERMAN: May I ask a question that may clarify?

9 THE COURT: I would like him to understand what I
10 can't understand and see if he can explain it to me. I don't
11 know what I can figure out here about race if you can't draw
12 some comparisons. I thought initially that the stop rate was
13 higher for blacks, but that's not what you're saying.

14 THE WITNESS: This is not for blacks. The stop rate
15 is higher in neighborhoods according to the percent of the
16 black population in the neighborhood. That's what percent
17 black means. It's the percent black population in the police
18 precinct.

19 THE COURT: And then the stop rate is higher.

20 THE WITNESS: The stop rate is higher -- as the
21 percent black population increases in a precinct, the stop rate
22 is higher, net of the crime rate.

23 THE COURT: A lot higher, right?

24 THE WITNESS: Again, the coefficient itself reflects
25 the scaling, the way that we measure the variable. Try to

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1 think of it in terms of, for example, understanding how much
2 money a person earns in a year, it might be a function of their
3 education, as well as a function of their IQ or a function of
4 some other variable. We measure education in terms of a very
5 limited number of categories, high school, college, beyond.
6 But we measure IQ in terms of a very broad scale of IQ. So,
7 again, the scales are very different and the way that the
8 coefficients would work out would be somewhat different because
9 of the different scaling.

10 What is most important to understand these numbers is
11 whether or not they are statistically significant and how
12 strong that association is.

13 THE COURT: So what pops out at you as you look at
14 this chart, table 5?

15 THE WITNESS: On table 5, what pops out to me is
16 specific to the claims in the case, we do find, as we expect,
17 that the volume of crime in the preceding period predicts the
18 number of stops in the subsequent period. But we also find
19 that the percent black population in a police precinct also is
20 predicting the number of stops in that precinct, which would
21 suggest there is something about the racial composition of the
22 precinct which is contributing additional information to
23 understanding the total volume of crime over and -- beyond or
24 after controlling for the total amount of crime.

25 THE COURT: Let's take our morning recess and

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1 reconvene at a quarter of 12.

2 (Recess)

3 THE COURT: During the break I thought more about this
4 table 5, and I just wanted to make sure I understand it.

5 So the stops go up as the reported crime goes up?

6 THE WITNESS: Correct.

7 THE COURT: But if they are perfectly aligned, it
8 would be 1.0, right? If the crime and stops went up
9 identically, would that figure read 1.0?

10 THE WITNESS: No. It would not be statistically
11 significant. If there was no relationship between the two --

12 THE COURT: That's a perfect relationship.

13 THE WITNESS: It's not a perfect relationship. If
14 there were no relationship, it would not be statistically
15 significant.

16 Can I draw a picture?

17 THE COURT: Yes. But hear me out first.

18 If it was one to one, in other words, for every
19 additional crime there was one additional stop, then that
20 number would be 1.0.

21 THE WITNESS: The number wouldn't be 1.0. These are
22 not percentages.

23 THE COURT: I know. But this number .280, or later
24 .867, is a correlation between the two, between the crimes
25 reported and the stops.

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1 THE WITNESS: It expresses the correlation.

2 THE COURT: Correct. If it went up exact, in other
3 words, exact, then it would be 1.0.

4 THE WITNESS: 1.0 would be the correlation. But
5 that's if they went up one to one.

6 THE COURT: Exactly. If it went up one to one, for
7 every additional crime there was one additional stop, then the
8 number would be 1.0.

9 THE WITNESS: Right.

10 THE COURT: So thinking about that 1.0, in
11 neighborhoods that are high percentage black, it's very close
12 to that 1.0. The rise in the stops is closer to the number of
13 reported crimes. It's .867 as opposed to 1.0. That's true,
14 right?

15 THE WITNESS: It's not literally true, but it's
16 figuratively true. The .867 represents, if you take two
17 neighborhoods and one neighborhood has a stop rate here
18 relative to the crime rate -- hold the crime rate constant.
19 You have one neighborhood over here where the percent black is
20 20 percent and another neighborhood here where the percent
21 black is 40 percent, what that number .867 represents is not
22 literally the difference between 40 and 20, but when you
23 average all the precincts, it's how fast it's going up, how
24 quickly the change takes place between the racial composition
25 in the neighborhood, how fast the -- the difference over time,

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1 the difference between the percent black in the neighborhood
2 and the stop rate in the neighborhood. So if one is over here
3 and one is over here, the .867 describes the slope of that
4 difference between the two observations.

5 THE COURT: Why was what I said literally true but not
6 figuratively true?

7 THE WITNESS: Because the higher the number, the
8 higher the slope.

9 THE COURT: Correct. I took you through the 1.0, and
10 I thought it would be an exact correlation, with every
11 additional crime there is an additional stop. Here it
12 approaches that much more closely than the .280 figure.

13 THE WITNESS: Yes.

14 THE COURT: The number of stops is closer to the
15 reported crime figure as a ratio than it was in total
16 complaints. The total complaints was only .28, but in the
17 black areas it was .86. Is that not right?

18 THE WITNESS: It's mostly right. The difference is
19 that the .86 takes into account the effects of the crime
20 complaint data. Think of the .86 as a regression coefficient,
21 which is just an expression of that ratio that you're talking
22 about.

23 THE COURT: Between the reported crime and stops.

24 THE WITNESS: That's after controlling for the crime
25 rate in the neighborhood. So, again, we are looking at the

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1 .867, taking into account already the crime rate in the
2 neighborhood.

3 THE COURT: Now you can draw me your picture. I think
4 I have it clearer than you want to make it, but that's OK.

5 Let's see your picture.

6 THE WITNESS: I was going to interpret what a
7 regression line actually means, how you can think about it when
8 you look at the slope.

9 THE COURT: Let's see your picture.

10 THE WITNESS: How can I draw it?

11 THE COURT: I guess you get a piece of blank paper.

12 THE WITNESS: And we will then project it up there.

13 MR. MOORE: Draw it first and then put it on the elmo.

14 THE COURT: Draw it and explain it to me and then put
15 it on the elmo.

16 THE WITNESS: A thicker pen would be better than a
17 thinner pen. Do you have a marker?

18 It's good. Give me a minute to draw.

19 THE COURT: Yes.

20 (Pause)

21 THE WITNESS: I think we can try it this way. With
22 apologies to the Court for a very hastily hand drawn picture.

23 THE COURT: First show me and then you can put it on
24 the elmo.

25 You have to speak loud enough for the record. Can you

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1 speak for the record while you're showing it?

2 THE WITNESS: So imagine that we are trying to
3 understand the relationship between the racial composition of a
4 police precinct and the number of stops that occur in that
5 police precinct. This is averaged over the entire time period.
6 We are averaging each of the calendar quarters in this report
7 and each of the months in the later report.

8 Each one of these dots on the map represents a
9 particular police precinct. And what this line represents is
10 the average relationship across each one of these observations
11 between the percent black in the police precinct and the number
12 of stops that takes place in the police precinct.

13 In other words, for example, we have a stop to
14 population ratio, for example, of 50 to 100, so maybe it's just
15 roughly maybe a --

16 Q. Professor, could you keep your voice up.

17 THE WITNESS: These are approximations. So here the
18 number of stops relative to the population is up here. In
19 other places the number of stops relative to the population is
20 down here and down here.

21 This is the average line, the distance that connects
22 all of these observations together. It's an average of all the
23 different observations.

24 THE COURT: What is this one number?

25 THE WITNESS: That's the .280.

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1 I'm sorry. It should be the .867. So it's .867.

2 So this is what the 867 means, your Honor. It's the
3 shape of the curve that averages these two together.

4 THE COURT: Now you can do it all over again on the
5 elmo.

6 THE WITNESS: One other thing. If there were no
7 relationship, this line would be flat. It would be just like
8 that.

9 THE COURT: So it sounds like exactly what I said.
10 The slope is steeper and closer to 1.0 as the black population
11 in that area increases.

12 THE WITNESS: It's possible for it to go above 1.0
13 because, again, the nature of the coefficient, the regression
14 coefficient, it's not a percentage and it's not simply that
15 correlation. It's really how steeply the line increases or how
16 shallow the line increases.

17 THE COURT: Go ahead. Show it to everybody.

18 MR. HELLERMAN: Can I mark this for identification?

19 THE COURT: Sure.

20 MR. HELLERMAN: I am marking it for identification as
21 Plaintiffs' Exhibit 411B.

22 A. OK. So this is why I don't really do this on the
23 blackboard very often when I teach.

24 MR. HELLERMAN: For the record, what you have put up
25 is Plaintiffs' Exhibit 411B.

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1 A. OK. So imagine that we are trying to understand the
2 relationship between the racial composition of a police
3 precinct and the number of stops that occur in that precinct.

4 So here is the Y axis for the number of stops. Just
5 for our hypothetical example, it can go from five up to perhaps
6 100 stops within a particular month or a calendar quarter. And
7 down here, the variation in the percent black in the police
8 precinct goes from 1 percent perhaps as high as 100 percent.
9 There are no police precincts where it's 100 percent. But
10 again, we are doing this to illustrate how to interpret what
11 the regression coefficient means.

12 Each one of these Ps on here represents an observation
13 that we make, averaged over the entire period of time, in other
14 words, 30 months -- the 24 calendar quarters in the first
15 report, averaged over time for each precinct. So this is
16 precinct number 8, this is precinct number 11, precinct number
17 3, precinct 75 -- again, there are 76 police precincts. So
18 this is just a sample of the 76 precincts.

19 If there were no relationship between the racial
20 composition in terms of the percent black and the stop rate,
21 this line would be perfectly flat. And that's what I have
22 drawn here. But it turns out that the average of these
23 different relationships, this to this for this precinct, this
24 to this for this precinct -- I'm sorry, this to this for this
25 precinct, is what we observe on the lines on the chart. And

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1 what the regression line is is a way to average across all of
2 those observations what we are seeing in terms of the
3 relationship between stops and racial composition.

4 And that slope of this line, again, if it were one,
5 there would be no relationship, or it would be zero, actually,
6 because there is no relationship. Here, it's .867, which
7 describes simply how fast that line is going up in the
8 relationship between these two variables.

9 Q. For the record, the horizontal line means what?

10 A. It means there is no relationship. That would be roughly
11 in our illustration.

12 Q. It means there would be no relationship?

13 A. No relationship.

14 Now, one thing that is important to bear in mind in
15 this example is that these numbers are adjusted for the crime
16 complaint rate in each of the precincts. And this is the
17 reason why we say that, after controlling for the crime rate in
18 the precinct, we observe a relationship between the racial
19 composition of the precinct, in this case percent black, and
20 the stop rate in the precinct in terms of the number of stops
21 we observed.

22 So, your Honor, this is the interpretation.

23 THE COURT: OK. Thank you.

24 MR. HELLERMAN: I move the admission of Plaintiffs'
25 Exhibit 411B.

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1 THE COURT: That's fine. He's using it as a
2 demonstrative exhibit in response to my question asking him to
3 explain further table 5. It's nothing new. It's his
4 explanation to the Court of how to interpret table 5.

5 (Plaintiff's Exhibit 411B received in evidence)

6 A. The asterisks in table 5 for each variable, and
7 particularly for this variable, simply show the statistical
8 significance of that slope. If it were not significant, we
9 would interpret that this particular set of observations just
10 happened by chance. But the fact that it's statistically
11 significant means it didn't happen by chance. It's a
12 systematic finding over time.

13 So this is the basis for each of the variables for
14 percent black, percent Hispanic, and percent other race for
15 making our claim that, after controlling for crime, we observed
16 an impact on the stop rate of the racial composition of the
17 police precinct. And this is averaged over time, controlling
18 for time. We used a very specific form of control where we --
19 yesterday we talked about what happens last week is a very
20 strong predictor of next week. So we control for that
21 phenomena, and this is what we observed.

22 So the rest of the table, your Honor, should I
23 explain?

24 Q. Professor, can I ask one question before you go on?

25 A. Yes.

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1 Q. The .867 number has three asterisks. What is the
2 significance of that?

3 A. It is statistically significant. It means this happened
4 not by chance. It would happen more than 99 percent of the
5 time. I'm sorry. Less than -- this is a unique finding. Less
6 than 1 percent of the time.

7 Q. What does the two asterisks with respect to percent
8 Hispanic mean?

9 A. That means it happens less than -- less than -- the three
10 asterisks means less than one out of 1,000 times. The two
11 asterisks means less than one out of 100 times. A single
12 asterisk means 95 times out of 100.

13 Q. What is the relationship between the fact that these
14 findings are statistically significant and your opinion that
15 racial composition predicts stops?

16 A. It means that there is a significant effect of the percent
17 black population in a police precinct on the stop rate in that
18 precinct after controlling for crime. And it didn't happen by
19 chance. It's a systematic finding.

20 Q. Thank you.

21 A. Your Honor, so under the violent crime category, we repeat
22 the same analysis -- the second column -- we repeat the same
23 analysis. But this time we introduce into the analysis one
24 more variable, and that variable is the percentage of crime
25 complaints that were attributable to the suspected crime for

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1 which the person was stopped.

2 So we take the total number of crime complaints, and
3 we put in a parameter, a number for the percentage in that
4 police precinct during that calendar quarter on average that
5 were attributable to violent crimes. And we observed the same
6 result.

7 What is interesting here is that the crime rate is not
8 significant. The total complaint rate in the prior period is a
9 significant predictor in the violent crime model.

10 THE COURT: What?

11 THE WITNESS: The .221, the first number, that's the
12 slope for the violent crimes. And that number is not
13 statistically significant, which means, at least with respect
14 to violent crimes, there doesn't appear to be a significant
15 relationship between the number of crime complaints and the
16 stop rate.

17 However, if you skip down to percent black, again, we
18 see the same outcomes. For both percent black and percent
19 Hispanic, that regression slope that I drew before is
20 statistically significant and it's at the .01 level. So 99
21 times out of 100 this is going to be what we see.

22 (Continued on next page)

23
24
25

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1 A. (Continuing) And we repeat this analysis for each of the
2 major crime categories that we identified earlier and that we
3 had been using to organize the data in the study for property
4 crimes and drug crimes and weapons crimes and so on.

5 And if you scan across to see whether or not there's
6 an effect of race, racial composition of the neighborhood, you
7 can see that in the total -- the model for total stops, for
8 just thinking about percent black for the moment, for total
9 stops for violent crimes, for drug crimes, for weapons
10 offenses, for trespass crimes, the percent black in the police
11 precinct is a statistically significant predictor of the stop
12 rate in that precinct after controlling for the total amount of
13 crime and the specific volume of the particular crime of
14 interest in that model.

15 So, what we observed there is for percent black a
16 fairly robust pattern of stops over time -- I'm sorry, of
17 racial composition on stops over time controlling for the crime
18 rate in each area.

19 THE COURT: Now, my last question probably doesn't
20 warrant an explanation. It may not be important. But when
21 there's a negative correlation in that first column of total
22 complaints as there is with property and drugs and weapons.

23 Do you see that?

24 THE WITNESS: Yes.

25 THE COURT: But yet one of those negatives is

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1 statistically significant and two of those negatives are not.
2 Why is that?

3 THE WITNESS: Imagine on my hand-drawn example, your
4 Honor, if the line moved the other way. If it was going --
5 instead of going up like that, it was going down.

6 And that means that for example in the property
7 crime -- let's stay on the drug crime model.

8 THE COURT: Yes, because that's one you said --

9 THE WITNESS: It's statistically significant. But
10 it's negative. That means that there are more stops in
11 neighborhoods where there are fewer suspected drug crimes --
12 I'm sorry. Where there are fewer drug crime complaints.

13 THE COURT: Yes.

14 THE WITNESS: It's counterintuitive.

15 THE COURT: Right. But it's statistically
16 significant.

17 THE WITNESS: It is.

18 THE COURT: Why?

19 THE WITNESS: The effective -- the effect of the
20 racial parameters, the racial composition parameters are highly
21 significant. So those lines if you look down to the 1.926 and
22 the 1.963, that's a very steep line.

23 So that means there's a really strong effect with
24 respect to drug crimes.

25 THE COURT: Explain the negative again. That means --

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1 THE WITNESS: The negative means very simply that the
2 fewer crime -- there's more stops where there are fewer drug --
3 more stops where there are fewer drug crime complaints.

4 THE COURT: There are more stops. So they're picking
5 up --

6 THE WITNESS: There are more stops -- there are more
7 drug stops --

8 THE COURT: The police are making more stops. They're
9 picking up on their effort.

10 THE WITNESS: They're making fewer stops.

11 THE COURT: I thought you said more.

12 THE WITNESS: I'm sorry. Fewer stops for drugs in
13 areas with higher crime volumes. In other words, that's the
14 total complaint line. So crime has a -- has a different
15 relationship --

16 THE COURT: So they're making fewer stops for drugs
17 even as drug crimes rise?

18 THE WITNESS: Exactly.

19 THE COURT: Except in black areas.

20 THE WITNESS: Exactly.

21 THE COURT: Okay. Interesting chart.

22 Q. Professor you mentioned yesterday that you performed a
23 sensitivity analysis with respect to the results on table 5.

24 A. Yes, we did. And with some trepidation I point to table 6
25 which shows what these sensitivity analyses were.

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1 THE COURT: Table 6.

2 THE WITNESS: Table 6. Yes. That's on page 36 and 37
3 and 38 of 411, your Honor.

4 MR. HELLERMAN: The first column -- the first panel on
5 table 6.

6 THE COURT: The good news is it looks familiar. It
7 comes right out of table 5.

8 THE WITNESS: The first panel summarizes table 5.

9 THE COURT: Correct.

10 THE WITNESS: Now the second panel -- the purpose of
11 the sensitivity analysis, to try and poke holes in what we did
12 in the first table.

13 THE COURT: So one of them omits the patrol strength,
14 and one omits the radio runs, and one omits both of those. And
15 one omits business district. One says it controls for public
16 housing population.

17 THE WITNESS: Yes.

18 Public housing is a special circumstance, as your
19 Honor knows from other litigation. So we wanted to see if, in
20 fact, the phenomena were being somehow driven by public
21 housing --

22 THE COURT: And one says splitting complaints.

23 THE WITNESS: I'm sorry?

24 THE COURT: The next one says splitting complaints.
25 What does that mean?

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1 THE WITNESS: Looking specifically at particular types
2 of crime complaints. We looked at violent versus nonviolent
3 crime complaints.

4 THE COURT: The last one says controlling for land
5 area.

6 THE WITNESS: That's the size of the police precinct.
7 And we understand that police precincts that are quite larger,
8 some that are --

9 THE COURT: So the bottomline is when you tried all
10 these variants, you found that it didn't affect your table 5.

11 THE WITNESS: Exactly.

12 THE COURT: Got it. That's all I need to know, I
13 think.

14 THE WITNESS: The technical term, your Honor, is
15 robust.

16 THE COURT: Right.

17 Q. Professor the table 5 that we've just been looking at is
18 for the 2004 to 2009 period, correct?

19 A. Correct.

20 Q. And it's based on calendar quarters in precincts; is that
21 right?

22 A. Calendar quarters in police precincts, yes.

23 Q. And did you also perform the same by -- negative binomial
24 regression analysis with respect to that period's data for
25 months and neighborhoods and census tracts?

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1 A. Yes, we did.

2 We did this for -- well we did it twice. Once in
3 table -- in 412 we did it in table S1.

4 Q. On page 17?

5 A. Yes.

6 Here I think we described this a little bit yesterday,
7 your Honor.

8 Here we simply --

9 THE COURT: Which one is this now?

10 THE WITNESS: This is in 412 on page 17.

11 THE COURT: Okay.

12 THE WITNESS: So we repeated the same analysis here
13 except we varied the size of the area or the unit of
14 observation.

15 The so the first model is police precincts.

16 This is just for total -- we didn't break anything
17 down by type of crime. We did totals.

18 The point of this was to illustrate doing the same
19 analysis where we used different units of observation.

20 So we described this a little bit yesterday. The
21 first one is for the 75 police precincts, 76 minus the 20 --
22 the Central Park precinct.

23 The second one is for 275 neighborhood units in the
24 city, which are roughly about 30,000 people each.

25 And the third one is for 2150, approximately, census

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1 tracts -- 2136 census tracts in the city.

2 The point of the table here was just simply to show
3 that repeating the model from table 5 in the first report,
4 regardless of whether we used a big area like a precinct, or a
5 moderately-sized area like a neighborhood, or a very small area
6 like a census tract, we observed exactly the same finding: A
7 statistically significant effect of the racial composition of
8 the area relative to the crime rate in the area. Predicting
9 number of stops.

10 And you can see that there's a lot of asterisks in
11 this able. So everything is quite statistically significant.

12 THE COURT: So how do you decide that?

13 So for example the first line across, total
14 complaints.

15 THE WITNESS: Yes.

16 THE COURT: The numbers are very different, .356,
17 .759, those are very different numbers. Each time you give it
18 three stars. How do you decide that?

19 Maybe you just randomly throw stars at things. How
20 does one know?

21 THE WITNESS: No, your Honor -- the computer actually
22 decides, because it's built into the memory.

23 But the basis for the computer to decide is that you
24 look at the ratio of the number -- for example, the .356 to the
25 number in the bracket. And if that -- that ratio is above,

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1 say, 1.9 is the standard threshold that most social scientists
2 use. If that ratio is high -- the higher the ratio the more
3 asterisks you get.

4 THE COURT: The higher ratio of what to what?

5 THE WITNESS: .356 to the .097.

6 In other words what it's telling you, your Honor, is
7 that slope that I drew on the page, that's 3 -- .356, for
8 example. And the .097 is just simply how tight that fit is.
9 In other words, whether there's a lot of variation from one
10 precinct to the next. If there's a lot of variation, then that
11 number in the brackets is going to be very big. In other
12 words, if all those dots on that chart were really spread out
13 all over the place, that number in the brackets would be very
14 high. And the ratio of the slope to the spread, in other
15 words, what I described just now as the spread, would be very
16 low and that would not be statistically significant.

17 Can I draw again?

18 THE COURT: Well, no. I'd like to know what the
19 number in the bracket -- when is the number in the bracket
20 defined as tight and when is it defined as a big spread in
21 figures.

22 THE WITNESS: It's hard really -- there is no real --
23 it's not -- it's really a relative thing. There is no
24 threshold definition as there would be with say IQ or
25 education. It's just simply a descriptive statistic that

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1 describes how spread apart those dots are on that chart.

2 THE COURT: I don't know what to make of .097, .029,
3 .008. I don't know what to make of those numbers.

4 THE WITNESS: Can I draw another picture?

5 THE COURT: If that's the only way you can explain it.

6 THE WITNESS: Your Honor, if you go back to the
7 exhibit that I drew before and you imagine those dots were
8 spread very, very far apart all over the chart.

9 THE COURT: They were when you drew it actually.

10 THE WITNESS: They're actually relatively tight.
11 Imagine when they are spread much further.

12 THE COURT: When you say higher and lower, north and
13 south?

14 THE WITNESS: Not north and south. If they were just
15 scattered more -- scattered farther away from that regression
16 line.

17 THE COURT: That's the point I mean. North, south,
18 east, west in all directions further from the line.

19 THE WITNESS: Further from the line.

20 THE COURT: Okay.

21 THE WITNESS: The further apart that the observations
22 are from the line, which is the regression line, the more
23 variance there is, the higher the number in the brackets is.

24 THE COURT: The higher the number in the bracket so
25 .097 is higher than .029?

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1 THE WITNESS: It is higher than .029, but both numbers
2 are actually pretty tight.

3 THE COURT: What's a non-tight number, 3.0?

4 THE WITNESS: I'm trying to find one on the chart that
5 would -- so if you look, for example, on the percent, other
6 race -- I'm sorry. If you look at percent other race under the
7 precinct model, where it says .601, that number below that is
8 .551.

9 THE COURT: Right.

10 THE WITNESS: In this model, that's high. So that
11 means they're very spread apart.

12 THE COURT: How would I know that? How would I know
13 that? I'm still trying to ask you the cutoff between tight and
14 loose, so to speak.

15 THE WITNESS: There is no absolute threshold, your
16 Honor. It's a really, as I said before, one looks at the
17 spread relative to the shape of the line to determine whether
18 or not it's statistically significant or not.

19 THE COURT: But all I have as the lay person looking
20 at the chart, and I just want to understand what's tight and
21 what's loose. And you won't tell me that anything over .4, for
22 example, is loose, even though you give me an example of .551
23 is quite different than .0 anything.

24 THE WITNESS: I understand your frustration, your
25 Honor.

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1 THE COURT: It should be a cutoff somewhere.
2 .551 you say is a lot of variation. What about .254?
3 THE WITNESS: That's a moderate.
4 THE COURT: And .370?
5 THE WITNESS: That's a little on the high side but not
6 very high.
7 THE COURT: So the cutoff is somewhere around .2 or
8 something? Between tight and loose?
9 THE WITNESS: Your Honor, I'm sorry to be the bearer
10 of bad news but there is no --
11 THE COURT: You were able to do it. You said that's a
12 little bit on the high side, that's high --
13 THE WITNESS: Within the distribution that we're
14 looking at here, relative to this array of variables, this
15 array of the data.
16 Again but I wanted to point out, your Honor --
17 THE COURT: The only reason I'm asking all this, I
18 want to know how you assigned or the computer assigned the
19 stars that means it's statistically significant. Otherwise I
20 wouldn't be bothering you with the bracket numbers.
21 THE WITNESS: Well what the computer does is the
22 computer looks at the ratio of the regression coefficient for
23 example in the first corner of the model, the .356, the ratio
24 of that to the .097. And if that's a very high ratio then it's
25 statistically significant.

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1 There -- there is a threshold that the computer uses.
2 Roughly 1.96 is the threshold for that ratio.
3 THE COURT: 1.96?
4 THE WITNESS: Yes.
5 THE COURT: What is the ratio between .356 and .097.
6 THE WITNESS: I'd have to do some math, your Honor.
7 THE COURT: Roughly.
8 THE WITNESS: Roughly, it looks like it's about four.
9 THE COURT: So that's well over the threshold of 1.96,
10 if that's what you said.
11 THE WITNESS: Yes, your Honor.
12 THE COURT: So the further above 1.96.
13 THE WITNESS: The stronger the association between
14 that variable and the outcome variable.
15 THE COURT: Okay. Thank you.
16 THE WITNESS: So we did it again in table -- on 412,
17 on that table S1, 412.
18 THE COURT: Yes.
19 THE WITNESS: We did it for different units of
20 analysis. We did it again in the second supplemental report,
21 which is 417. And there is another version. Again, with some
22 trepidation, I point your Honor to table 5 in 417.
23 THE COURT: Page.
24 THE WITNESS: Page 18.
25 THE COURT: Okay.

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1 THE WITNESS: And this model repeats the model that we
2 did in the first exhibit, in the 411, this time using data from
3 2011 -- from 2010 through June of 2012.

4 Q. Do the figures on figure 5, 417 represent the same thing as
5 the figures on table 5 from the first report?

6 A. Yes. They basically, with very few exceptions, replicate
7 the results from table 5 in the first report.

8 Q. And it's all the same -- the same language and terminology?

9 A. Same language, same regression coefficients, same meaning
10 of the regression coefficients, the same meaning of the numbers
11 in the brackets, the same question about ratios and so on.

12 THE COURT: Except there's going to be a lot more
13 statistically significant findings.

14 THE WITNESS: Yes, it is, your Honor.

15 It's possible that the reasons for the greater amount
16 of significance is because we used a shorter time period.
17 That's one of the reasons. We didn't explore the reasons for
18 why we have such strong findings here.

19 THE COURT: But your real point was they were
20 strikingly similar findings to table 5 in the first report?

21 THE WITNESS: Yes, your Honor.

22 THE COURT: Okay.

23 MR. HELLERMAN: And to table S1 in the first
24 supplemental report, Exhibit 412; is that correct?

25 THE WITNESS: Right.

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1 THE COURT: I'm sorry. What? What did you just say?

2 THE WITNESS: That the pattern of results that we
3 observed from table 5 in the first report to table S1 in the
4 first supplemental report to table 5 in the second supplemental
5 report essentially replicate over time.

6 THE COURT: Okay.

7 BY MR. HELLERMAN:

8 Q. Professor, just for the record what are tables S2 and S3 in
9 Exhibit 412?

10 THE COURT: What pages are those on?

11 MR. HELLERMAN: 18 and 19, your Honor.

12 THE WITNESS: Table S2 repeats the findings of table
13 S1 but looking only.

14 THE COURT: Eighteen, I have no table.

15 THE WITNESS: Eighteen in 412, your Honor.

16 THE COURT: Go ahead.

17 THE WITNESS: So that table replicates what we did in
18 table S1 on the preceding page.

19 THE COURT: Right.

20 THE WITNESS: But here we're looking only at stops for
21 violent crimes where the suspected crime is a violent crime.

22 THE COURT: Okay.

23 THE WITNESS: And table S3 repeats the results of
24 table S1 but looking only at weapons where the stops are for
25 suspected weapons offenses.

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1 THE COURT: Okay.

2 BY MR. HELLERMAN:

3 Q. What is table S3 from Exhibit 412?

4 A. Table S3 replicates table S1 but simply only for stops for
5 where the suspected offense is a weapons offense.

6 Q. And to close the circle, what opinion did you reach as a
7 result of the results of the two table 5s and table S1 and
8 table S2 and table S3?

9 A. That, again, after controlling for crime, that the racial
10 composition of a neighborhood, whether it be a police precinct,
11 a neighborhood or a census tract, is a statistically
12 significant predictor of the stop rate. Meaning, again, just
13 simply after controlling for crime, we observed a higher number
14 of stops based on the racial composition of the neighborhood.

15 Q. You also said yesterday that it's your opinion that
16 New York police department stops and frisks are significantly
17 more frequent for black and Hispanic residents than for white
18 residents after adjusting for local crime rates, racial
19 composition of the local population, police patrol strength and
20 other social and economic factors predictive of police
21 enforcement activity on the results of the regression analysis?

22 A. Yes. That is my opinion.

23 Q. How did you come to that opinion?

24 A. Well we estimated some regression models using a different
25 family of regression models, but similar, to look at the counts

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1 of the number -- the counts of individuals of various races,
2 the counts of their stops in a particular police precinct, in a
3 particular calendar quarter, controlling for the amount of
4 crime in the preceding period.

5 So it's the same logic as table 5 except here we're
6 looking at -- we varied this model -- we vary this regression
7 in two ways. One, the outcome -- what we're looking at here is
8 the number of stops overall. And then we're trying to predict
9 whether or not the race of an individual predicts the number of
10 stops. Before we were looking only at the racial composition
11 of the area. Here we're looking at racial compositions of
12 individuals controlling for all of the information that we put
13 into table 5.

14 So the best way to explain these kinds of hierarchal
15 models -- we call them hierarchal models because we're looking
16 at the hierarchy of the individual within a larger area.

17 Try and imagine that we're trying to understand in the
18 context of school research the outcomes of kids on test scores.
19 Everybody is taking tests these days. And so we'd like to know
20 certain things about the kid. We'd like to know things about
21 himself, his IQ, perhaps, some characteristics of his family,
22 things that are unique to that kid.

23 But then we also, in order to understand his test
24 score, probably want to know things about the school itself,
25 how often the teachers turnover, what the annual school budget

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1 is, how long the principal has been in effect, and possibly
2 even the aggregate test scores in that school.

3 So if you imagine that kind of analogy. I think we're
4 all comfortable and familiar with thinking about the
5 controversies around school testing.

6 We did basically the same analysis here. We looked at
7 the number of stops of individuals of particular races,
8 controlling for the -- and based on characteristics of that
9 person, as well as characteristics of the locations where those
10 stops took place.

11 And so in table 7 we show the results.

12 MR. HELLERMAN: Page 42.

13 THE WITNESS: Page 42 of 411.

14 And we use a reference group, your Honor. In order to
15 understand the -- in order to interpret the regression
16 coefficients, for example, in the first row that's the number
17 of stops of Blacks relative to Whites.

18 In order to make these kinds of comparisons --

19 THE COURT: Start all over again. Page 42.

20 THE WITNESS: Page 42.

21 THE COURT: Now what.

22 THE WITNESS: The first block of variables where it
23 says race group indicators. Each one of those regression
24 coefficients there is a comparison of Blacks to Whites.

25 THE COURT: Blacks who were stopped?

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1 THE WITNESS: The numbers of stops of Blacks relative
2 to the number of stops of Whites.

3 The second row is the number of stops of Hispanics
4 relative to the number of stops of Whites.

5 And the third row is the number of stops of other race
6 people relative to the number of stops of Whites.

7 THE COURT: Why do these already have three stars?
8 What's the statistical significance right away of those three
9 things you just told me.

10 THE WITNESS: Because they are stopped much less often
11 than are Whites. The negative coefficient there for the other
12 race.

13 THE COURT: Oh, there.

14 No. I asked why all three have three stars.

15 THE WITNESS: Well, your Honor, this is -- this is
16 what the computer told us when we plugged in the numbers.

17 THE COURT: You're supposed to be smarter than the
18 computer. So why?

19 THE WITNESS: I'd like to think I am, your Honor.

20 THE COURT: Why do they all have three stars?

21 The stops of Hispanics are virtually the same as the
22 stops of Whites. That it guess three stars.

23 The stops of Blacks is one-and-a-half times as much.
24 It gets three stars.

25 The stops is others is less than Whites but it gets

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1 three stars.

2 Why is everything getting three stars?

3 THE WITNESS: If you envision the demonstrative that I
4 drew before, that simply indicates whether or not that rise
5 over time is statistically significant relative to how
6 closely -- how consistent the -- all those little Ps would be,
7 the average of those observations.

8 Might I draw again, your Honor?

9 THE COURT: I don't understand why they're all
10 statistically significant. Why is it statistically
11 significant, others are stopped less often than Whites. I
12 don't know -- that's where I'm a little lost, why these are
13 statistically significant. Factually, they're fine with me. I
14 understand the first number.

15 THE WITNESS: The reason --

16 THE COURT: The 1.613 or the 1.070 or the negative
17 .281. I understand them as just a number.

18 THE WITNESS: The reason, your Honor.

19 THE COURT: The relationship between stops of Whites
20 and non-Whites. I get it. But I don't know why it's
21 statistically significant.

22 THE WITNESS: Because the relationships are very
23 strong.

24 In other words, again, thinking about the
25 demonstrative. Imagine if all of those observational points

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1 were really bunched closely together. That's what the strength
2 of the association means.

3 THE COURT: Okay.

4 THE WITNESS: There's -- in other words, there's very
5 little spread. We were talking before about spread. There's
6 very little spread around that line. They very tightly bunched
7 around the line.

8 THE COURT: Okay. I don't think it matters. But go
9 ahead.

10 THE WITNESS: And, again, these estimates are adjusted
11 for --

12 THE COURT: Are these estimates?

13 THE WITNESS: No. I'm sorry. These are regression
14 coefficients.

15 THE COURT: Right.

16 THE WITNESS: They're not estimates.

17 THE COURT: Actual numbers.

18 THE WITNESS: It's the ratio.

19 THE COURT: They're actual numbers.

20 THE WITNESS: No. No. These are not numbers of
21 stops. These is, again, similar to the demonstrative this is a
22 coefficient describing the shape of a line.

23 THE COURT: I know. But it isn't based on the ratio
24 of stops of Blacks compared to stops of Whites?

25 THE WITNESS: It's based on the ratio.

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1 THE COURT: Actual numbers though.

2 THE WITNESS: But the coefficient is not the ratio.
3 The coefficient is when we sum across all of the observations,
4 that's the ratio of -- I'm sorry. That's the ratio -- the
5 number is the slope of the line, and the coefficient is how
6 tightly bunched the numbers are together.

7 THE COURT: I got all that. But it's based on actual
8 stops.

9 THE WITNESS: It's based on -- yeah, we're counting
10 stops.

11 THE COURT: Counting stops. Okay.

12 THE WITNESS: One more time, your Honor.

13 The numbers where it says precinct, level of
14 characteristics, all of those numbers for individuals, for
15 Blacks relative to Whites and so on, are adjusted for the crime
16 conditions and social conditions in the precinct where the
17 stops take place.

18 MR. HELLERMAN: Is table seven --

19 THE COURT: So I'm not sure what this chart is telling
20 me that table 5 didn't tell me.

21 THE WITNESS: Table 5 is telling you about the racial
22 composition of a particular police precinct. And whether or
23 not the number of stops increased in that police precinct as
24 the racial composition of the precinct changes.

25 THE COURT: I guess that's right. Let me go back.

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1 Where was table 5?

2 THE WITNESS: Table 5 was a couple of pages earlier.

3 MR. HELLERMAN: Page 33.

4 THE WITNESS: Thank you.

5 THE COURT: Start again.

6 The difference between 5 and 7.

7 THE WITNESS: Table 5 describes what happens in the
8 precincts as a function of the racial composition and the crime
9 rate in the precinct overall. That's the total picture of
10 stops.

11 THE COURT: Okay.

12 THE WITNESS: Table 7 breaks down the stops between
13 particular group -- particular groups, race groups.

14 So table 7 is individuals. Table 5 is the aggregate
15 for the entire precinct.

16 THE COURT: I don't know what you're talking about. I
17 don't know the difference.

18 THE WITNESS: Well, your Honor, in -- we're counting
19 in table 5, we're trying to look at the relationship between
20 the concentration or the racial composition of the precinct.
21 In other words, the percent of the precinct that is a percent
22 black or a percent Hispanic. And we simply look overall of
23 what happens.

24 So using the school analogy. It's like looking at,
25 for example, just simply the aggregate scores, test scores in

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1 the entire school.

2 In table 7 we're looking at the test scores that we
3 observe for individual students in the school, controlling for
4 the aggregate of the school.

5 So that's the difference between the two. One is
6 individual test scores. The other is the average test score
7 across the schools.

8 THE COURT: Okay.

9 But the bottomline is when you do it that way, which
10 is different than table 5, the bottomline finding, once again,
11 is what?

12 THE WITNESS: That Blacks are more likely to be
13 stopped relative to Whites. And Hispanics are more likely to
14 be stopped relative to Whites. Controlling for the crime rate
15 in the precinct. And controlling for all of those other
16 factors in the precinct, including the racial composition of
17 the precinct, the aggregate racial composition of the precinct.

18 THE COURT: How about other race people?

19 THE WITNESS: It's an interesting finding, your Honor.
20 Compared to Whites other race people are stopped less often
21 overall, less often for property crimes, less often for drugs,
22 more often for violent crimes. It's an interesting and
23 variable pattern overall.

24 THE COURT: But the total, total.

25 THE WITNESS: I'm sorry. Which?

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1 THE COURT: .731. What does that mean?

2 THE WITNESS: Oh, down at the bottom.

3 THE COURT: I don't know.

4 THE WITNESS: You mean in the middle?

5 THE COURT: Yes. It's in the middle.

6 First I see Blacks .935. Hispanic .565.

7 THE WITNESS: That means that in the police precinct
8 overall, the higher the percentage of people of other race in
9 the precinct, the higher the overall stop rate.

10 THE COURT: Now --

11 THE WITNESS: It's a curious finding, your Honor. It
12 appears on the surface to be contradictory.

13 THE COURT: Okay. It does.

14 THE WITNESS: It does. But that's the point of doing
15 the exercise where we actually control for the aggregate
16 conditions and look at the effects of the stop policy on
17 individuals as opposed to the overall neighborhood.

18 THE COURT: Okay.

19 BY MR. HELLERMAN:

20 Q. Tables eight, nine and ten, are they the results of
21 sensitivity analyses that you did with respect to table seven?

22 A. Yes. And again we used the same kinds of changes.

23 Table 8 -- what's the variance in table 8 -- table 8
24 excludes the predominantly commercial areas of the city, Wall
25 Street, midtown -- I'm sorry. Yeah, we exclude the commercial

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1 areas, places where there are very low population, residential
2 population.

3 So table 8 is simply subtracting out the police
4 precincts that are located, for example, on Wall Street, in
5 Central Park, obviously, in midtown.

6 THE COURT: What effect did that have?

7 THE WITNESS: None. We observed the same
8 characteristics.

9 And in table 9 we do the same estimate where we look
10 exclusively as those precincts, the commercial precincts.

11 THE COURT: And what did you find?

12 THE WITNESS: Again the same finding.

13 Which is interesting, your Honor. Because there's
14 really very little residential population in the variance.

15 THE COURT: Right.

16 THE WITNESS: And table 10 does the same thing except
17 here we are looking at police precincts, only that small subset
18 of precincts which are predominantly white. Or police
19 precincts where there is a stronger racial mix.

20 And we find, again, the same -- we observed the same
21 finding.

22 THE COURT: Namely that?

23 THE WITNESS: That Blacks and Hispanics are more
24 likely to be stopped relative to Whites in places where the
25 population is predominantly white and/or where the racial

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1 composition is very mixed.

2 And I think that was the result of -- that was the sum
3 of the robustness checks that we did, the sensitivity checks.

4 Q. So are tables seven, eight, nine and ten also the basis for
5 your opinion that Blacks and Hispanics were significantly more
6 likely to be stopped than Whites?

7 A. Yes.

8 And one last point, your Honor, we did in 417 repeat
9 that analysis for the more recent time period. And that's
10 shown in table 7 on page 20 of 417.

11 THE COURT: What's this one, I'm sorry, again? What
12 is this?

13 THE WITNESS: This is table 7 on 417 repeats table 7
14 from 411.

15 THE COURT: And comes out with the same finding?

16 THE WITNESS: Almost exactly the same finding.

17 MR. HELLERMAN: It repeated for a period of time.

18 THE COURT: Yes, of course. I understand.

19 Q. And what's the basis for the opinion that you expressed
20 that Black and Hispanic -- withdrawn.

21 THE COURT: I'm sorry. Is there a pending question?

22 MR. HELLERMAN: No.

23 Q. Professor, do you have confidence in your disparate impact
24 analyses and opinions that we've just been through?

25 A. Yes.

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1 Q. Professor, have you reviewed the preliminary alternative to
2 Fagan regression set forth in appendix 1 to Dennis Smith's
3 December 19, 2011 declaration?

4 A. Yes, I did.

5 MR. HELLERMAN: One moment, your Honor.

6 I'm sorry. It's appendix I, not appendix 1.

7 THE WITNESS: I remember reviewing an alternate
8 regression specification around that time.

9 THE COURT: He said he remembers.

10 THE WITNESS: I do recall reviewing an alternate
11 regression specification around that time.

12 THE COURT: One moment before you continue.

13 Whenever, you're ready Mr. Hellerman. I can go five
14 more minutes. Then we'll take a lunch recess at five of one
15 until five after two.

16 MR. HELLERMAN: Thank you, your Honor.

17 I'm going to hand the witness the Smith preliminary
18 alternative that I just referred to which is not in evidence.

19 Q. Professor, without telling us what appendix 1 to the Smith
20 declaration I just gave you, without saying what it says or
21 what it includes, have you -- have you reached a conclusion as
22 to the validity of his analysis?

23 A. Yes.

24 Q. And what opinion?

25 A. I am -- I'd actually -- I think the analysis is flawed in
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1 fairly significant ways.

2 Do you want me to expound?

3 Q. Yes, please. But I want to correct myself again. I said
4 appendix 1. I meant appendix I.

5 In what respects do you think it's flawed?

6 A. What the regression attempts to do is to replace some of
7 the models that we did in the original report, in Exhibit 411.
8 And I guess it's some -- one of the table 5 models.

9 And it includes variables about the number of suspects
10 of various race groups in the precinct at the time -- I guess
11 it's the number of suspects as opposed to some other measure of
12 the number of suspects.

13 So they replicated our results or try to replicate our
14 results in the left-hand column of this exhibit. And then they
15 substitute a different model.

16 MS. COOKE: Objection, your Honor, to the extent the
17 witness is testifying now, it is not that he recalls it, but
18 he's actually testifying from a document that's either not
19 being displayed to the court, and I would note that this is
20 actually an exhibit to Defendants' Exhibit O8. So if we'd like
21 to admit it, if he's going to be testifying from it.

22 THE COURT: It's going to be coming in. All the
23 reports are coming in. So there is no reason not to admit
24 Exhibit I.

25 MR. CHARNEY: That's true, your Honor. Although we do
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1 note that there are going to be some redactions to defendants'
2 experts' reports as well.

3 MS. COOKE: Not with respect to this Exhibit I.

4 MR. CHARNEY: That's fine.

5 MR. HELLERMAN: Your Honor, let me just check that.

6 THE COURT: Okay. So Exhibit I is received.

7 MS. COOKE: Exhibit I of Defendants' O8.

8 THE COURT: Exactly Defendants' O8 you called it?

9 MS. COOKE: Yes. O as in the letter. 8.

10 (Defendants' Exhibit O8 received in evidence)

11 MR. HELLERMAN: Let me just get the document in front

12 of you.

13 Q. You were going to elaborate on why you believe the analysis
14 in appendix I to Dennis Smith's December 19, 2011 declaration
15 is flawed?

16 A. Right. So this presents the results of two different
17 regression models. The first one is an attempt to replicate
18 what we did. And it says that according to the text that
19 accompanies the table, it says this is -- compared -- it
20 substitutes -- it -- that it replicates our model. I wasn't
21 sure if the same control variables were included in there. The
22 results for the control variables weren't included.

23 But the point of the exercise was to show that in the
24 alternative model if you substitute information about the
25 racial composition of the suspect pool, that you would get

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1 different results and that the racial composition of the
2 precinct would disappear. So there are a couple things that I
3 was a little suspicious about in the model.

4 First of all, when you specify a regression model of
5 this sort, it's always important to have a reference group if
6 you're trying to capture a particular universe on a variable.
7 So, they're looking at black suspects, white Hispanic suspects,
8 other suspects, white suspects. I assume this is the number of
9 suspects. And so I'm not sure what the comparison group was.

10 It appears that the comparison group then would be
11 either race unknown or other or some other category. But I
12 would only assume race unknown. So I was a little curious
13 about that.

14 But second, as we pointed out before, during this
15 period of time from 2004 through 2009 information about
16 suspects was missing in a very high percentage of crime
17 complaints.

18 Q. Do you mean the race of suspects?

19 A. The race of suspects, yes.

20 Without going back to the tables I think we
21 established before that in almost 70 -- 65 percent overall -- I
22 actually don't recall the figure off the top of my head -- but
23 suspect race information is missing.

24 So I'm not quite sure about how the missing
25 information was accounted for in this model. I really can't

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1 quite understand what it is exactly that I'm looking at because
2 of that.

3 So, you know, one might argue that there's a lot of
4 measurement error in here. It's maybe the simplest way to do
5 it. If they're trying to measure some sense of the criminal
6 activity in each of the police precincts by race, then there's
7 an awful lot of missing data because we just don't know the
8 race of all of the crime suspects in that -- in each of the
9 precincts during that period of time in a large percentage of
10 the cases.

11 THE COURT: It's now five of one. We'll reconvene at
12 five after two.

13 (Luncheon recess)

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AFTERNOON SESSION

2:09 p.m.

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THE COURT: Please be seated.

4

MR. CHARNEY: Your Honor, before we get back into Professor Fagan, I wanted to briefly ask a question. It's a sequestration issue that I just wanted to get your Honor's clarification on.

5

6

7

Professor Fagan is going to testify this afternoon about, as you know, about something to do with the RAND report and whether it would have been reasonable for the NYPD to rely on it. I believe we have assistant Commissioner McGuire who is going to be one of the witnesses to testify about the NYPD's reliance on the RAND report and I don't know if that -- we don't think it's proper given it's really the same subject matter, so.

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THE COURT: We have a rule that one expert could be present when the other side's expert testified.

16

17

18

MR. CHARNEY: That's fine.

19

THE COURT: Right. So this is a little bit analogous to that, I think. He's still an expert. He's still giving an expert opinion. Essentially -- is it Commissioner McGuire?

20

21

22

MR. CHARNEY: Yes.

23

THE COURT: Commissioner McGuire is going to rebut or respond to this expert's opinion. While he's not technically designated an expert, he's the designated respondent. So I

24

25

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1 think it's analogous to the rule that we had with experts that
2 they could be present. It's a fair question, fair
3 clarification, but I'll allow him to stay.

4 MR. CHARNEY: Okay.

5 THE COURT: All right.

6 MR. HELLERMAN: May I proceed your Honor.

7 THE COURT: Please.

8 DIRECT EXAMINATION CONTINUED

9 BY MR. HELLERMAN:

10 Q. Professor, did you review the portions of the report of
11 Dennis Smith and Robert Purtell dated February 1, 2013
12 regarding disparate treatment which starts I believe on page 62
13 of that report?

14 A. Yes, I did.

15 THE COURT: Could I ask you both to keep your voices
16 up a little more. You've fallen back into your habits of not
17 speaking loudly.

18 THE WITNESS: It's my illness.

19 THE COURT: You're still ill?

20 THE WITNESS: Coughing up all kinds of stuff.

21 THE COURT: More than I wanted to know.

22 Q. Did you form any opinions about their analysis as set forth
23 in that report?

24 A. I did. It would be helpful if I could see the report as we
25 discuss it. Is that possible? It's an awful lot to commit to

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1 memory.

2 MR. HELLERMAN: I'll bring it up to you.

3 Q. So the pending question is whether you reached any opinions
4 about the methodology and their conclusions?

5 A. Well I had a lot of questions about it. And the -- some of
6 my questions led me to the opinion that the report itself may
7 not be reliable as evidence.

8 Q. Would you tell us why.

9 A. Well, I can walk through it.

10 You're referring to the analysis on page what?

11 Q. Starting on page 62.

12 MS. COOKE: Your Honor, to the extent that he has
13 opinions about it, there's been -- I'm allowing him to testify
14 as to his reaction to it. But these opinions, he didn't do a
15 surreply or a reply report.

16 THE COURT: One expert always rebuts the other. We
17 expect that.

18 MS. COOKE: Fine. I just raise for the Court this is
19 not --

20 THE COURT: I understand. But it's not his
21 affirmative report, so to speak. It's where he takes issue
22 with the other expert.

23 MS. COOKE: To the extent then that our experts will
24 be permitted to respond to these newly identified criticisms,
25 because they are not provided in writing in any balance of an

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1 expert report.

2 THE COURT: Sure.

3 MS. COOKE: Thank you.

4 Q. So what questions do you have that give you pause?

5 A. Well let me focus on what I believe to be perhaps the two
6 that are the most important. One of the concerns that was
7 raised in this report about our work is the specific question
8 about the use of our negative binomial regressions and the
9 particular question about whether or not we should include
10 zeros -- observations in census tracts where there were zero
11 counts of stops or zero counts in the level of crime data.

12 And I really didn't quite understand why zeros would
13 be omitted.

14 THE COURT: I'm sorry. Why --

15 THE WITNESS: Why they would run regressions in table
16 7 of their report omitting -- they identify it in table 7,
17 omitting zeros. In other words, omitting observations from the
18 analysis -- not omitting, either omitting or adjusting for it.
19 Observations where there were no crimes reported in a
20 particular period. Okay.

21 And so they say -- account data for stops, arrests,
22 etc. has a significant number of zero counts where no stops
23 arrests were made in a given census tract. And table 7
24 identifies a number of zero stops.

25 And then I think what they do is they rerun our

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1 models, particularly the ones in -- looks like it's table 5
2 model.

3 Q. What page?

4 A. This is on page 68.

5 Omitting all the zeros.

6 MS. COOKE: For the record, can we identify though,
7 this is not in evidence, this is page 68 of Defendants' Exhibit
8 H13 to be admitted once redacted for some portions that have
9 been ruled excluded by the Daubert. But it's not in evidence.
10 So he's referring to H13 page 67. Is that what you said?

11 THE WITNESS: Sixty-eight.

12 MS. COOKE: For the record so the record is clear.

13 THE COURT: That's fine.

14 THE WITNESS: So they criticize the fact that we left
15 the zeros in. And I didn't really quite get the criticism.
16 And the best way I could explain to the bench and to the court
17 and to my colleagues was to use a baseball analogy, since it's
18 the opening week of baseball season.

19 And so imagine that we're trying to compute somebody's
20 batting average. And we look at the batting average. And
21 batting averages typically are the number of hits. We look at
22 the number of hits out of the percentage of total at bats. And
23 we compute their batting average. And we throw out bases on
24 balls, walks, where the person has walked and so on.

25 You're a baseball fan, I assume.

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1 THE COURT: I am.

2 THE WITNESS: Good.

3 So imagine then that we decided somehow -- and
4 strikeouts would be included in that denominator.

5 But imagine then that we decided somehow we were going
6 to try and estimate how good a hitter a person is by looking at
7 their batting average, but we're not going to include any of
8 the instances where they strikeout. We're only going to look
9 at the number of times that they reach base as a function of
10 the number of non-strike-out at bats.

11 That doesn't make any sense. A person would have a
12 very inflated batting average if we threw out their strikeouts.
13 Imagine, a baseball fan, we threw out Curtis Granderson
14 strikeouts. Curtis Granderson strikes out a disproportionate
15 amount of time when he's at bat. In fact, I think he broke the
16 record for strikeouts very recently.

17 That's kind of the equivalent of what was done here.
18 They basically threw out the zeros. And I had a very hard time
19 understanding the nature of the regression, talk about a zero
20 bias, why one would throw out the zeros. Now there's a couple
21 of reasons why.

22 One, zeros are perfectly valid observations. Why --
23 throwing them out makes absolutely no sense. And it obviously
24 introduces a bias into the data.

25 Second, negative binomial regressions particularly

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1 within the programming code that we use, which is a program
2 called Stata basically accounts for zeros. It measures
3 dispersion. Dispersion is a way to account -- one of the
4 parameters that talks about what the zeros mean and how
5 influential the zeros may be. And deals with it.

6 And there are tests that you could look at to see if
7 the model is, in fact, over-dispersed. And you could run
8 models that are over-dispersed to account for if you have a
9 very heavy concentration of zeros.

10 So we looked at the zeros. And the zeros accounted
11 for the 2010 to 2012 period no more than about five percent of
12 the stops. And that was just by our estimate. That's not in
13 evidence anywhere. We just looked at this and said well wait a
14 minute, how big a problem is this. And so we ran it.

15 So this is one of the reasons why I have caution,
16 great caution about table 8 and table 9 which is this analysis
17 where they throw out the zeros.

18 The second --

19 Q. Before you go on to the second.

20 So you used zeros, right?

21 A. We kept all the zeros in. Zeros are live observations.

22 Q. Do you have any way of estimating the effect of Dr. Smith
23 and Purtell not using the zeros?

24 A. No. We couldn't really because the way that they structure
25 the model that they offered as an alternative doesn't appear to

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1 replicate the models that we used, at least not perfectly.

2 Q. Do you believe their omission of zeros undermines the
3 validity of their conclusions?

4 A. Yes. The model also isn't a perfect replication of our
5 model. If I'm not mistaken, just looking at the table, for the
6 model, it looks like patrol strength wasn't in there. And
7 patrol strength is an important variable that needs to be
8 accounted for in estimating the models of relationships of
9 crime and racial composition to stop. So it's not in there.
10 And we were a little -- it was a little curious about what
11 happened to patrol strength.

12 The other concern we had is one that we've discussed
13 before, which is in table 9 they look at -- in lieu of crime as
14 a -- in lieu of crime as a measure of the total criminal
15 activity, they refer to a measure of criminal suspects, the
16 presence of criminal suspects. And they do a rate of Hispanic
17 suspects per ten thousand persons and black suspects per ten
18 thousand persons, so on.

19 But there's two issues that arise with that. One, as
20 we discussed this morning, suspect race information is
21 missing -- is only available in about 63 percent of the cases
22 overall for the city during the 2010 to 2012 period -- 2010 to
23 2011 period, which is the period that the merge file that was
24 used by the city's experts in this case.

25 So, right away we see that there is missing data for

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1 at least a third of the population. And unless there is some
2 other rich source of data available about those cases and the
3 neighborhoods where they took place and a whole host of
4 reliable data that would allow for imputation, I didn't see any
5 imputation -- I didn't see any attempt to adjust for the
6 missing data.

7 So there's kind of a built in selection bias by the
8 omission of roughly one-third of the cases where suspect data
9 is missing -- are missing. The data are plural.

10 The second thing that led me to be somewhat concerned
11 about the model is that, you know, we talked about it before
12 when you estimate a model of this sort and you're trying to get
13 a phenomenon of Hispanic -- trying to measure -- decompose a
14 phenomenon into its constituent parts. So, for example, we're
15 looking at crime suspects. And this may be what may be the way
16 that it's -- my prior concern with the missing suspect data is
17 addressed.

18 Here, the analysts use Hispanic suspects, black
19 suspects, white suspects and other suspects. So there has to
20 be some omitted reference category and I'm not quite clear what
21 the omitted reference category was, whether it was the
22 unknown -- the one-third of cases that were unknown. That
23 probably wouldn't make a whole lot of sense because it doesn't
24 really go to the disparate impact claim about treatment of
25 black individuals in neighborhoods based on the racial

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1 composition. Just simply goes to a body of unknown people.

2 So, I was a little concerned about that. And, again,
3 as I said, the patrol strength variable is not included in
4 here. I'm not quite sure why. I think we did produce it to
5 the city as part of our discovery procedures.

6 Q. Professor, what reference variable did -- was used in your
7 disparate impact analysis?

8 A. We compared the -- we compared everything to a percentage
9 of the white population in the precinct or the neighborhood or
10 the census tract.

11 Q. And that was the omitted variable?

12 A. That was the omitted variable.

13 Q. They don't omit any racial group?

14 A. I don't know what the omitted variable is here. It
15 certainly is not Whites.

16 Q. Because Whites are included?

17 A. Yes. So it's not clear what the omitted variable was.

18 Table 10. Patrol strength does appear. And there's
19 an attempt to use a somewhat slightly different model than we
20 use. Again, using suspects. And trying to breakdown crime
21 complaints in terms of just simply the composition of the crime
22 complaints, meaning percent that were quality of life, percent
23 that were violent, percent that were property and so on,
24 without accounting for the actual total number of crime
25 complaints.

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1 So they've substituted the suspect data for the crime
2 complaint data. And broken down the suspect data by race.
3 But, as we said before, that only accounts for 63 percent of
4 all the crime suspects.

5 Q. And for that reason do you believe that the Smith Purtell
6 disparate impact analysis is unreliable?

7 A. Yes. Yes.

8 Q. And --

9 A. Complicated answer is simple. I do.

10 Q. And is the fact that they didn't omit white suspects from
11 their analysis in your opinion, did it render their opinion
12 unreliable?

13 A. No. They kept white suspects in.

14 Yes. The fact that they didn't make references to
15 white suspects in order to be more specific and tailor the
16 analysis to the disparate impact claim, that to me is a -- it
17 undermines the probative value of the regression model relative
18 to the claims of the case.

19 Q. Do you have any other questions or criticisms about Smith
20 and Purtell's disparate treatment analysis?

21 A. None that I think I want to burden the Court's time with.

22 Q. Professor, you testified earlier that it would have been
23 unreasonable for any policy analyst in the New York police
24 department to conclude from the RAND report that there weren't
25 racial disparities in New York police department's stop and

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1 frisk activities.

2 Do you recall that?

3 A. Yes. In Exhibit 411.

4 Q. Where in Exhibit 411?

5 A. Well it's a rather lengthy section beginning on page 71 and
6 continuing for many pages up through page 102. There also was
7 some appendix material that addresses the RAND report.

8 Q. And does -- do you address the RAND report in your
9 supplemental report, Exhibit 412?

10 A. In 412?

11 Q. Yes.

12 A. I don't recall.

13 Q. Draw your attention to page 48.

14 A. Yeah. We just simply responded to some of the concerns
15 that the city had raised about our analysis.

16 Q. Can you summarize for us the bases for your opinion that it
17 would have been unreasonable for any policy analyst in the New
18 York police department to conclude from the RAND report that
19 there weren't racial disparities in the NYPD stop and frisk
20 practices?

21 A. Yes. In the first substantive analysis that the RAND
22 report addresses they try to model -- they try to replicate the
23 models that Professor Gelman and myself published in our 2007
24 JASA article, Journal of American Statistical Association.

25 Q. What are you referring to when you say the first

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1 substantive analysis?

2 A. In chapter three I believe it is of the RAND report.

3 Q. Is that the portion of the RAND report concerning external
4 benchmarks?

5 A. Chapter three is external benchmarks, yeah.

6 Anyway, so they tried to replicate the analysis that
7 Gelman and I did. They substitute different measures of
8 violent crime suspects for the analysis that we used which was
9 to look at all -- at the time, at all suspects as identified
10 by -- through the arrest data.

11 But other crime suspects, as we talked before, account
12 for a relatively small percentage of the data -- of the suspect
13 information that's available during that period of time. And I
14 think we have discussed the evidence on that in table 18 in
15 the -- I guess it's the October 2010 report, Exhibit 411.

16 So they replicated the analysis in that section using
17 really only partial data. And without some very clear showing
18 about exactly what any adjustments, if any, were made in those
19 models to account for the fact that suspect race was available
20 for violent crime -- violent crime suspect race was available
21 only for a small percentage of the cases.

22 Q. And you testified that you can't -- nobody can reliably
23 impute from the suspect crime data for violent crimes to
24 anything beyond that?

25 A. Right. It's basically -- it's almost about 80 percent of

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1 the data.

2 I'm sorry. I take it back. It's -- the suspect race
3 is missing in a fairly large number of the cases, roughly a
4 third of the cases. And for violent crimes it's missing in an
5 even larger percentage.

6 (Continued on next page)

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1 Q. Do you know what that larger percentage is?

2 A. Well, on table 18, we report that violent crime suspect
3 data is available in 45.85 percent of the cases. That's for
4 2005.

5 Q. Do you have reason to believe that policy analysts in the
6 New York Police Department would have known that there was so
7 much of the data missing for the race of crime suspects?

8 A. I can't imagine how somebody familiar with the database,
9 given all the attention focused on violent crime suspects,
10 would not have been aware of that.

11 The second concern was with the internal benchmarking
12 analysis, which was in chapter 4 of the RAND report. Our
13 concern there was fairly simple. In that report, in that
14 analysis, the stops chosen for that analysis were based on a
15 subset of all stops. And those were stops that were made by
16 officers who did 50 or more stops during the study period.

17 We attempted to look at that and show that that
18 accounted for -- and I don't remember. I'm sorry. I don't
19 have in front of me the exact percentage. But that accounted
20 for a relatively small percentage of all of the stops that were
21 made during that period.

22 So right away there is a very fairly strong selection
23 bias that's introduced into that analysis by focusing on a
24 subset of officers who quite likely very, very different from
25 the larger population of officers who were making stops during

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1 that period of time.

2 Q. Do you have reason to believe that a policy analyst in the
3 New York Police Department who is reading this analysis would
4 have known that?

5 A. I have a hard time imagining that at some point during the
6 production of the RAND report that this information wasn't
7 revealed and the question wasn't asked. My view is that if I
8 asked the question, somebody else who knows the data as well I
9 do would have asked the same question.

10 Q. Is it correct that what the RAND report purports to do is
11 to draw conclusions regarding disparate impact on the basis of
12 stops made by only 50 officers?

13 A. No, no. Officers who made 50 stops or more during a
14 particular period of time.

15 Q. I understand.

16 A. And we view that as a select group of officers.

17 One of the other concerns was one that was raised by
18 the RAND analysts themselves. The RAND analysts themselves
19 said, look, if the department itself has a very high level to
20 bias, then the procedure that they use to detect bias is
21 probably inadequate to detect bias. So we don't have any base
22 rate information about what the level of bias is, but certainly
23 by placing that kind of a limitation on their own analysis, I
24 think the RAND people were quite honest and introduced a level
25 of uncertainty that is pretty profound in the interpretation of

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1 these data.

2 Q. Do you know how many officers were the subject of RAND's
3 internal benchmark analysis?

4 A. I would have to again go back and look at my data and my
5 report. So you will have to forgive me if I am thumbing
6 through here. 2756 officers. That's stated on page 87 of 411.
7 2756 officers completed 50 or more UF-250 forms during 2006.
8 And by our estimate those officers -- and also reported by
9 RAND -- those officers made 54 percent of all stops during
10 2006. So 46 percent of all of the stops made in 2006 were not
11 accounted for in the RAND analysis.

12 Q. Is there the same imputation problem here as with respect
13 to the missing crime suspect data?

14 A. Yes.

15 Q. Do you have any other bases for your opinion that
16 reasonable policy analysts in the NYPD could have relied on the
17 RAND report to conclude that there was no racial disparities in
18 the stop and frisk program?

19 A. Yeah. To be succinct, in table 5.2, in the third section
20 of the RAND report, which dealt with stop outcomes, as they
21 call it -- language that we use at various times as well --
22 there is pretty straightforward evidence in that section of
23 disparate racial treatment of individuals in the study areas
24 that they have highlighted.

25 Q. Do you recall any in particular?

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1 A. Yeah. I am looking here. Table 5.2 shows that non-whites
2 who were stopped have a frisk rate that's about three to four
3 percent higher than the frisk rate for white pedestrians.

4 THE COURT: Say that again.

5 A. Table 5.2 of the RAND report shows that non-whites who were
6 stopped -- combining blacks and Hispanics I assume -- have a
7 frisk rate that is about three to four percent higher than that
8 for white pedestrians.

9 THE COURT: Three to four percent higher?

10 THE WITNESS: Three to four percentage points higher.

11 When you link that back to the actual magnitudes, it
12 represents a 10 to 12 percent higher rate of being frisked for
13 non-whites.

14 Q. Do you recall any other racial disparities shown in stop
15 outcomes?

16 A. Blacks are about 15 percent more likely to be frisked than
17 whites. But that's roughly four to five times greater than the
18 rate that was suggested by RAND in its report in the same
19 table.

20 Q. So you're saying there is an inconsistency between the
21 table and the text of the RAND report?

22 A. Yeah. We say at the very end, a careful reading of the
23 section, meaning section 5 of the report --

24 Q. What are you reading from?

25 A. I am reading from my own data.

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1 Q. Which?

2 A. Page 101. Last sentence.

3 Q. Of Exhibit 411?

4 A. Yes. Page 101.

5 Q. I interrupted you.

6 A. We just simply used in that paragraph several different
7 comparisons to show that there is in fact a consistent pattern
8 of racial disparity in nearly all of the post-op outcomes that
9 they chose for analysis.

10 I should add that the analysis was done in a select
11 subset of precincts and areas. We don't have data about what
12 those areas were. They say which areas they were, but what
13 percentage of the city that accounted for.

14 Q. Is it your opinion that a reasonable policy analyst in the
15 NYPD would have noticed these racial disparities?

16 A. I would think --

17 MS. COOKE: Objection, your Honor. It's calling for
18 speculation.

19 THE COURT: This is the third time and you didn't
20 object to the first two. I was surprised. But I will sustain
21 it now. I don't see how he knows what they knew or were
22 thinking. But it was the third time he asked the same
23 question.

24 MS. COOKE: Sorry.

25 THE COURT: All right.

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1 Q. Is it your view, Professor, that somebody reading the RAND
2 report as saying that there were no racial disparities would
3 have had to have ignored RAND's findings of racial disparities
4 in stop outcomes?

5 A. I think if a reasonable person -- if a person who had some
6 training, any training in statistics would look at the results
7 reported in Table 5.2 and 5.3, and they would simply inspect
8 the results, they would conclude that there had been racial
9 disparities in post-op outcomes.

10 MR. HELLERMAN: One moment, your Honor.

11 Q. Professor, have you told us all the reasons and bases for
12 your opinion that a reasonable policy analyst in the NYPD
13 should not have relied upon the RAND report as evidence of lack
14 of racial disparity?

15 A. Those are the main ones that I can recall at the moment.

16 Q. You said earlier that your work in this case, including
17 analyzing a number of stops -- withdrawn.

18 You said earlier that your work in this case included
19 analyzing the number of burglaries reported in the vicinity of
20 David Floyd's home in a period of time before he was stopped at
21 his home. Do you recall that?

22 A. Yes.

23 Q. Is that opinion summarized anywhere in your reports or
24 declarations?

25 A. I am looking. I believe it was in -- I would have to go

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1 back and see which declaration. I believe it's 413.

2 Q. Is that your declaration dated September 28, 2011?

3 A. Yes, it is.

4 Q. What did you do in reaching the opinion?

5 A. Well, we were given the address around which to try and
6 locate the number of burglary complaints that took place. We
7 located the address on a census tract map. We saw that the
8 location of the address was towards the eastern side, the
9 eastern border of one of the census tracts. So we looked for
10 burglary complaints both in that census tract as well as in the
11 adjacent tract, understanding that crimes nearby to the house
12 but falling across the administrative border would certainly
13 attract the attention of the police. And we counted the number
14 of burglaries in the two-month period preceding the stop of
15 Mr. Floyd, my understanding of the date of the stop of
16 Mr. Floyd. We looked in January and February of 2008.

17 Q. How many burglaries were there in those two census tracts
18 in that period?

19 A. There was one burglary in -- I am trying to get the tract
20 number. One burglary in tract 66 and zero burglaries in the
21 adjacent tract 214.

22 Q. Why did you use the time period of the two months preceding
23 that stop?

24 A. Our understanding is that policing decisions, allocation of
25 resources, foci of enforcement activities were linked to the

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1 incidence of crime in particular locations. And this
2 information was updated on a fairly regular basis. Regular
3 could mean weekly, monthly and so on. So we decided that a
4 two-month period of time was plenty of time for that kind of
5 updating, and we looked for a two-month period.

6 Q. What data did you look at in reaching your conclusion that
7 there was only one burglary in those two census tracts?

8 A. The crime complaint databases produced to plaintiffs by the
9 city.

10 Q. You said that you looked at census tracts 66 and 214?

11 A. Correct.

12 Q. Why those two?

13 A. One of them is where the stop -- one of them contained the
14 location of the stop. The other was the adjacent tract that
15 was very close to the stop. So we wanted to account for any
16 burglaries that might have taken place in nearby areas, in
17 another administrative unit.

18 MR. HELLERMAN: I would like to put up a
19 demonstrative.

20 Q. Do you recognize this demonstrative?

21 A. Yes.

22 Q. What is it?

23 A. It looks -- it's a map of the two census tracts that we
24 looked at, and the A is the location of the stop of Mr. Floyd,
25 as I understand it from information provided by plaintiffs.

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- 1 Q. Are the borders of the two census tracts that you examined
2 shown on this demonstrative?
3 A. Yes, they are.
4 Q. Can you tell us what those borders are?
5 A. The border on the east is Rosedale Avenue -- I'm sorry, on
6 the west. The Cross Bronx Expressway runs from northwest to
7 southeast along the northern border of each of the two tracts.
8 There is a street whose name I can't quite identify that
9 bisects the two tract area.
10 Q. Is that Westchester Avenue?
11 A. I don't know. You have to put that back.
12 Q. Yes, sir.
13 A. On White Plains Road, which is a very heavily trafficked
14 thoroughfare, is the eastern border of one of the tracts, and
15 the southern border is Westchester Avenue of both tracts.
16 Q. How close to the Cross Bronx Expressway would you
17 say -- withdrawn.
18 There is an indication with the letter A. Do you know
19 what that represents?
20 A. Yes. As I said, that's the address of the stop location of
21 Mr. Floyd.
22 Q. What border of the two census tracts is the location of
23 David Floyd's home closest to?
24 A. It's right on the northern border and eastern border of
25 that census tract.

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1 MR. HELLERMAN: Just a moment, your Honor.

2 Q. Please forgive me if you already included this in a
3 previous answer, but why did you use census tracts as opposed
4 to any other spatial unit?

5 A. This was the unit of analysis that we chose for our
6 analysis of crime complaints throughout the city. They are
7 relatively small areas. You can see from the map that, for
8 example, the tract, I believe it's 214 -- sorry, is it 66? No,
9 214. That tract encompasses, roughly, an eight or nine block
10 square area. It's a fairly small area spatially, where there
11 is probably a lot of foot traffic and pedestrian traffic and
12 perhaps vehicle traffic around the street. So it's a fairly
13 tight, small area. We think census tracts make a lot of sense
14 when we are looking at localized crime problems and localized
15 enforcement.

16 Q. Do you have any understanding as to how the NYPD defines
17 areas, for example, in allocating police resources?

18 A. I think they look at specific locations and then organize
19 those locations within beats and sectors.

20 Q. So those locations are smaller than census tracts?

21 A. Probably. They may look for patterns in particular streets
22 or storefronts. It varies. We actually really don't know.
23 It's not well disclosed exactly what the resolution is, the
24 spatial resolution, the focus on the lens. Sometimes it's a
25 particular building, sometimes it's an area of a couple of

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1 blocks, sometimes it's a larger area. It really kind of
2 depends.

3 Q. Are you confident that census tracts was the correct unit
4 of space to use for your determining how many burglaries there
5 were in the vicinity of Mr. Floyd's home in the two-month
6 period preceding his stop?

7 A. I think so, especially given the boundaries, the fairly
8 large thoroughfares that represent boundaries that bisect and
9 border the area.

10 Q. Professor, yesterday when testifying about the increased
11 use of the stop factor furtive movements, I believe I heard you
12 say that the fraction of stops for furtive movement was checked
13 off, went from about 2 percent in 2004 --

14 A. 20 percent.

15 Q. I think you said 2 percent.

16 A. No. I said .2 on the graph, which represented 20 percent.

17 Q. I have just put up figure S2 from Exhibit 412. Is that the
18 graph you're referring to?

19 A. Yeah. The numbers on the sides are fractions of a whole of
20 the 100 percent. So .2 represents 20 percent, .3 represents 30
21 percent, and so on. So the number rose from approximately 20
22 to 25 percent in 2004 to nearly 50 percent by the end of 2009.

23 Q. Is that for any particular racial group?

24 A. The rate of checking off furtive movements rose equally for
25 all groups and was the highest for African Americans, who were

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1 the most frequently stopped racial group.

2 Q. But the 20 percent figure for 2004 refers to whites,
3 correct?

4 A. Average of whites and others. Blacks and Hispanics were
5 higher as the figure showed.

6 Q. Professor, you testified that you used a negative binomial
7 regression analysis to get the results that you based your
8 opinion on that the racial composition of an area predicts
9 stops over and above crime after controlling for crime and the
10 other socioeconomic conditions related to crime.

11 A. Yes.

12 Q. What type of regression analysis did you use to get the
13 results on which you based your opinion that blacks and
14 Hispanics are stopped more frequently than whites and are more
15 likely to be stopped than whites?

16 A. That was a hierarchical poisson regression.

17 THE COURT: I saw the word on the report.

18 Q. What is a multi-level hierarchical poisson regression?

19 A. It's two things at the same time. In the regression family
20 of poisson regressions, we are trying to understand the
21 frequency of counts of specific events. We are looking at
22 counts. The analogy that I think is most useful to the
23 untrained, statistically untrained, is to think about, if
24 you're running a shipping company and you are interested in
25 predicting the number of icebergs that are going to flow

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1 through your shipping lane so you can time the dispatch of your
2 cargo ships from Newark to Southampton, or wherever they go in
3 England, and you want to know factors that are going to predict
4 the number of icebergs that are likely to flow in your path, so
5 you want to be able to model, for example, characteristics of
6 the weather -- this is the multi-level part. So the second
7 part, we want to know things about the weather, average wind
8 speeds during the period of time, ocean temperature, air
9 temperature, things about the size of the arctic ice mass, and
10 so on. At the individual level, you would want to know
11 characteristics of the ship, how fast it's going, how laden it
12 was with cargo, basically those two things. I suppose the size
13 of the ship as well.

14 So that's an example of using this kind of
15 hierarchical model and poisson are counts of events.

16 Q. Why did you determine to use a multi-level poisson
17 hierarchical model rather than any other kind of model with
18 respect to your frequency and likelihood opinion?

19 A. For that question we used that model, in part, in large
20 part, because that was the model that Professor Gelman and I
21 had used successfully and published data on in 2007 relative to
22 the data that we had observed in the 1999 attorney general
23 report. And Gelman is pretty smart about statistics, a lot
24 smarter than I am. I am good. He is really good. Anyway,
25 Gelman and I published this paper in the Journal of American

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1 Statistical Association, which is the leading statistics
2 journal in the United States, and probably in the world, maybe
3 the Royal Statistical Society might come close. So we thought
4 if it was good enough for the peer reviewers in JASA, we
5 thought it would good enough for making the case in this
6 report.
7 Q. Were there any other types of regression analyses that you
8 used in connection with any of your opinions in this case other
9 than negative binomial regressions and multi-level poisson
10 regressions?
11 A. Very good. Those were the -- I believe that's the only
12 regression models we relied on.
13 Q. Are those two models commonly used in disparate treatment
14 analyses?
15 A. They are used in disparate treatment analyses, yeah.
16 Q. Are they commonly used in other areas of criminology?
17 A. Yes. I think they are -- particularly, negative binomial
18 regressions are used quite often to estimate, for example, the
19 effects of a criminal justice treatment program or intervention
20 program on recidivism rates of offenders following their
21 release from prison. They are widely accepted within
22 criminology, and for that matter within health sciences and
23 other social sciences, to model the counts of events that take
24 place. This is where you get the notion of an event model.
25 They count specific events that take place in people's lives.

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1 Q. So the types of regression analyses that you used in your
2 work in this case are used in other social science fields as
3 well?

4 A. They are extremely common and, in fact, in my
5 responsibilities as a peer reviewer for several of the journals
6 in which I am an editorial board member I have reviewed many
7 manuscripts that actually used these models.

8 MR. HELLERMAN: May I just take a moment?

9 THE COURT: Are you just about done?

10 MR. HELLERMAN: I am just about done. I want to
11 consult with my colleagues.

12 Q. I think I have just a couple of more questions.

13 Professor, would you turn to appendix table D1 of your
14 first report?

15 A. Appendix D?

16 Q. D1.

17 A. Of 411? Appendix table D1.

18 Q. I'm sorry.

19 THE COURT: Where is that one?

20 THE WITNESS: It's at the end of appendix D.

21 THE COURT: In which report?

22 THE WITNESS: 411.

23 THE COURT: The last chart.

24 THE WITNESS: Last table. There is a chart next to
25 it.

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1 THE COURT: OK.

2 Q. Does this table state the fractions of stops based on fits
3 suspect description?

4 A. Yes, it does.

5 Q. And does table D1 include both radio runs and non-radio
6 runs?

7 A. Yes, it does.

8 Q. Earlier you testified with respect to table 11 that in only
9 13.6 percent of all stops was fits description checked?

10 A. Right.

11 Q. Did that include radio runs and non-radio runs?

12 A. I think it excluded radio runs.

13 Q. What is the percentage of fits description that includes
14 radio runs and non-radio runs as shown in appendix table D1?

15 A. 13.1 percent.

16 Q. That's pretty close to the 13.6 percent shown in table 11,
17 correct?

18 A. Yeah. I would call that -- the difference is negligible.

19 MR. HELLERMAN: No further questions.

20 THE COURT: OK. Ms. Cooke.

21 MS. COOKE: Yes.

22 CROSS-EXAMINATION

23 BY MS. COOKE:

24 Q. Good afternoon, Professor Fagan.

25 A. Hello.

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D448FLO4 Fagan - cross

- 1 Q. Yesterday you testified that you had published in the
2 Journal of Empirical Studies on a paper regarding public
3 housing?
4 A. Empirical Legal Studies.
5 Q. What year was that publication?
6 A. 2012.
7 Q. What was the title of that publication?
8 A. Good lord, I have to remember.
9 Q. Was there a co-author?
10 A. The co-author was Professor Garth Davies. I think it's
11 selective enforcement in public housing. I don't want to sound
12 like I am bragging, but I have published a lot of papers and I
13 don't have all the titles committed to memory.
14 Q. Did you do regression analysis in that article?
15 A. Yes, we did.
16 Q. What was your benchmark?
17 A. Well, which regression analysis? We did a couple of them.
18 Q. We will start with the first regression analysis you recall
19 in that article.
20 A. It would be very helpful if I actually had a copy of the
21 article to refer to.
22 Q. Do you recall any of the regression analysis benchmarks you
23 did in that article?
24 A. I'm sorry?
25 Q. Any of the benchmarks for any of the regressions in that

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1 article that you recall?

2 A. We have consistently used, as I said on direct, a
3 combination of population and crime as the benchmarks.

4 Q. With respect to your work with law enforcement agencies,
5 yesterday you testified that you have been working since 2002
6 with the city of Chicago, is that correct?

7 A. Yes.

8 Q. That's on an operation safe neighborhoods program?

9 A. Yes. Program safe neighborhoods.

10 Q. It's with respect to gun violence?

11 A. Yes.

12 Q. It began in 2002. When did that end?

13 A. It's ongoing.

14 Q. By whom were you retained to work on that project?

15 A. I was working with two other investigators who were
16 retained, and I think the three of us had a grant, a sub-grant
17 from the Illinois Criminal Justice Authority to conduct
18 research and evaluation activities in conjunction with -- to
19 support an evaluation of project safe neighborhood.

20 Q. To support an evaluation. For whom was your evaluation
21 going to be provided?

22 A. Both the Illinois Criminal Justice Authority and the U.S.
23 Department of Justice who is the overall sponsor of the PSN
24 program.

25 Q. Have you published an analysis or report with respect to

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D448FLO4 Fagan - cross

1 that work in Chicago?

2 A. We published two papers with respect to that report. We
3 have a third one that we just submitted to peer review.

4 Q. So you're aware that the crime rate in Chicago is
5 significantly higher than New York, correct?

6 A. Yes.

7 Q. In fact, gun violence in Chicago is rising, correct?

8 A. In certain areas it is. Actually, it just declined in the
9 last two months.

10 Q. You work with the Boston police department. Yesterday you
11 testified that you have analyzed FIR data?

12 A. Field interrogation report data. We started doing that in
13 June of 2012, and that project is continuing to date.

14 Q. Who hired you or retained you for that project?

15 A. No one hired me. I am working together with Professor
16 Anthony Braga from Rutgers School of Criminal Justice and
17 Professor Christopher Winship from Harvard University, and we
18 are working as volunteers with the department, but we have been
19 given full access to the data through the department. In fact,
20 for the first meeting I had to pay for my own plane fare to get
21 up there.

22 Q. With respect to your work with the New Jersey state police,
23 that was in connection with a consent decree?

24 A. Yes.

25 Q. By whom were you retained to do that work?

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1 A. Governor's advisory commission on police standards and
2 practices. I believe that's the name of the agency.

3 Q. What year?

4 A. 2007.

5 Q. Yesterday you testified that you had been rejected for
6 publication at some point. What year was that?

7 MR. HELLERMAN: Objection. It mischaracterizes the
8 testimony.

9 THE COURT: In what way? You had been rejected for
10 publication at some point. Do you know what she is talking
11 about?

12 THE WITNESS: I do.

13 THE COURT: Go ahead.

14 A. I have had articles submitted for publication in peer
15 review journals. They have been rejected by one journal. We
16 revised and resubmitted the papers, and they eventually were
17 published in another journal.

18 Q. I think you were referring to a specific one yesterday that
19 you did not identify. Do you recall what you were referring to
20 yesterday?

21 A. I wasn't referring to a specific one. This has happened --
22 obviously, it happens more than once when you write a lot of
23 papers.

24 Q. You referred to the fact that you had corrected errors or
25 made adjustments to the article and then submitted it for

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- 1 publication in a different publication, is that correct?
2 A. We respond to concerns that were raised by reviewers that
3 led the editor to make a decision to accept or reject a paper.
4 Sometimes we accept the critiques that were raised and
5 sometimes we don't accept the critiques and simply do a
6 revision of the paper, make it a little clearer perhaps, change
7 the writing, and submit it to another journal where it might
8 receive a different review.
9 Q. Have you had a paper rejected for publication that involved
10 your regression analysis in some way?
11 A. On which topic?
12 Q. A topic related to policing, police practices.
13 A. Not that I can recall.
14 Q. Have you had a paper rejected for publication addressing
15 disparate impact, racial disparate impact?
16 A. Not that I can recall, no.
17 Q. Professor Fagan, you have never worked as a police officer,
18 is that correct?
19 A. Correct.
20 Q. You have never been hired by a police department to do work
21 on behalf of the police department, correct?
22 A. I am thinking for a second. Not that I can recall off the
23 top of my head. If I do remember, I will bring it to the
24 attention of the Court.
25 Q. Thank you.

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D448FLO4 Fagan - cross

1 A. Unless you count the Department of Justice or the New York
2 State Attorney General as police departments. The attorney
3 general is the highest law enforcement officer in the state.
4 We did work for him.

5 Q. Understood. I was referring to municipal police
6 departments.

7 You have no degree in statistics either, is that
8 correct?

9 A. True.

10 Q. Your formal education, you testified yesterday, with
11 respect to statistics is limited to courses that you took in
12 connection with your degrees, is that right?

13 A. Correct. As well as experience over 35 years of doing
14 this.

15 Q. Understood.

16 In your 35 years in the field, you have never
17 testified in litigation on behalf of a police department, have
18 you?

19 A. On behalf of a police department? I don't believe that I
20 have.

21 Q. So we have discussed in the last couple of days the three
22 reports, expert reports, that you filed in this case, Exhibits
23 411, 412 and 417, is that right?

24 A. Yes.

25 Q. In these reports, am I correct that you were largely

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- 1 addressing Fourteenth Amendment analyses as to whether there
2 was a disparate impact or racial bias in the stop and frisk
3 pattern by the New York City Police Department, and then you
4 were addressing a Fourth Amendment analysis about whether stops
5 were made pursuant to reasonable and articulable suspicion?
6 A. Those were the two primary topics in each of the reports,
7 yes.
8 Q. In addition to those three reports, you have filed with
9 this Court four declarations in support of various motions,
10 including a class certification motion, a summary judgment
11 motion, and a Daubert motion, is that correct?
12 A. That's correct.
13 Q. Those four declarations also contain some substantive
14 analysis on the same issues, correct?
15 A. Some, yeah, to varying degrees.
16 Q. In sum, your analysis in this case has covered 4.43 million
17 UF-250s, spanning approximately eight years, correct?
18 A. Correct, eight and a half.
19 Q. The 2.8 million UF-250s you analyzed for 2004 through 2009
20 are in your first report?
21 A. Yes.
22 Q. That's Exhibit 411. And 1.6 million UF-250s were analyzed
23 for your second supplemental report, Plaintiffs' Exhibit 417,
24 correct?
25 A. Yes.

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1 Q. And you're aware that the defendants' experts responded to
2 your various reports and analyses each time you issued one,
3 correct?

4 A. Yes.

5 Q. And you have reviewed the expert reports by the defendants'
6 experts?

7 A. Yes.

8 Q. So you're aware that the defendants' experts have
9 identified many problems and concerns they have with your
10 analyses and conclusions, isn't that right?

11 A. Yes.

12 MR. HELLERMAN: Object to the form.

13 THE COURT: I will allow it.

14 Q. And some of the concerns that the defendants' experts have
15 identified over the years have had to do with the model you
16 have used for your regression analyses under the Fourteenth
17 Amendment disparate impact, is that correct?

18 A. I don't believe that the defendants' experts were objecting
19 to the selection of the functional form of the model. I think
20 they were objecting to the specification of the model.

21 Q. So you understand that there were problems with defendants'
22 experts or concerns they raised with respect to the structuring
23 of your model, is that correct?

24 A. I would not characterize them as problems.

25 THE COURT: What do you mean by specification?

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1 THE WITNESS: Which variables were included. For
2 example, which time period and so on.

3 Q. Would you agree that that could be referred as the design
4 of your model?

5 A. I suppose. Specification is the correct technical term.

6 Q. Because specifications of a model, you have choices you can
7 make to include or not include?

8 A. Can we go back to a previous question? I don't know that I
9 would characterize the disagreements that I would have with
10 defendants' experts as being problems. I would characterize
11 them as being areas of disagreement over selection of
12 variables, operation of variables, measurement decisions, and
13 so on. Problems I think suggests a judgment that I wouldn't
14 make.

15 Q. I guess it was the defendants had problems, the defendants'
16 experts.

17 A. They may have problems. I don't know that they address
18 problems that exist in the reports. It's semantics, counsel.

19 Q. And using your regression model, you have concluded that
20 race is the predictor for whether a person is stopped in New
21 York City, is that right?

22 A. We say that race -- that after controlling for crime and
23 other relevant variables, racial composition of a neighborhood
24 predicts the stop rate in the neighborhood.

25 Q. You're aware that one concern that the defendants' experts

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1 have raised about your regression model was that you were using
2 the wrong benchmark in that model, is that right?

3 A. They have said that on many occasions.

4 Q. Another concern defendants' experts raised was your failure
5 to take into account realities of the NYPD policing in your
6 model?

7 A. I have read that in their reports.

8 Q. For example, your use of a census tract as a unit of
9 measurement, correct?

10 A. I have seen criticisms of that, yes.

11 Q. They have criticized your calculation of patrol strength
12 for use in your regression model, is that right?

13 A. Yeah, in kind of a vague way. They didn't register a
14 criticism. I am not quite sure I understood what the criticism
15 was.

16 Q. They have criticized your use of calendar month lags for
17 crime, isn't that right?

18 A. Yes.

19 Q. But in all of your subsequent reports, your initial report,
20 your supplemental report and your second supplemental report,
21 and declarations, you only addressed two concerns raised by the
22 defendants' experts in the last two and a half years, isn't
23 that right?

24 A. Well, of the ones that you just ticked off, I would say we
25 addressed the question of the time period. We addressed the

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1 question of the unit of analysis in terms of the size of the
2 unit of analysis. I wouldn't agree on the patrol strength
3 claim. We did what we had to do given the condition of the
4 data that was given to us.

5 Q. The defendants' experts also identified concerns they had
6 with your Fourth Amendment analysis, is that right?

7 A. Yes, they did.

8 Q. For your Fourth Amendment analysis, as you have explained,
9 you created a classification system for you to determine the
10 presence or absence of apparent reasonable suspicion, is that
11 correct?

12 A. We really weren't judging whether or not reasonable
13 suspicion existed. We really couldn't -- we simply applied a
14 classification system and suggested, to use the language of the
15 Court, apparently justified or apparently unjustified.

16 Q. You were making judgments with respect to the UF-250 data
17 as to whether or not information present in that UF-250 form
18 appeared to support reasonable suspicion, appeared to not be
19 supported by reasonable suspicion, or was unable to be
20 generalized, is that correct?

21 A. Well, we operationalized reasonable suspicion into a set of
22 categories about justified, unjustified, etc. So to that
23 extent, I suppose the answer might be yes. Again, we
24 recognized that the decision about whether a stop was made on
25 the basis of reasonable suspicion is one that can be made by

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1 the Court, not by me.

2 Q. In terms of categorizing into the three categories I just
3 mentioned for your classification scheme -- apparently
4 justified by reasonable suspicion, apparently unjustified based
5 on a lack of reasonable suspicion, and unable to be
6 generalized -- you created those three classification
7 categories, correct?

8 A. I suppose we could continue to argue this, but I think for
9 the purposes of moving on it's fair enough. You can say that.

10 Q. And using those three categories, you sorted the UF-250
11 data into those three categories, correct?

12 A. Correct.

13 Q. But in order to sort the UF-250 data, you did make
14 judgments with respect to the information contained on the
15 UF-250 form, correct?

16 A. Yes.

17 Q. In fact, you're aware that the defendants' experts
18 identified a major error in your Fourth Amendment analysis and
19 your reasonable suspicion calculation of the 2.8 million
20 UF-250s from your October 2010 report, isn't that correct?

21 A. They identified an error that we subsequently corrected,
22 yes.

23 Q. An error to the magnitude of more than 400,000 UF-250s that
24 were misclassified, isn't that right?

25 A. I don't recall the exact number.

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D448FLO4 Fagan - cross

1 MS. COOKE: Just one moment, your Honor.

2 Q. You recall that the error was in the classification of some
3 as unable to be generalized when they should have been
4 classified as apparently justified, isn't that correct?

5 A. Yes.

6 Q. And this error inflated the conclusion in your October 2010
7 report by nearly 40 percent in the indeterminate category,
8 isn't that right?

9 A. First of all, it did not change the percentage of cases
10 that we classified as apparently unjustified.

11 Q. My question, Professor Fagan, was with respect to the
12 inflation of the figure represented in your 2010 report as a
13 result of the error?

14 A. I did not calculate the degree of inflation. I can tell
15 you that the apparently unjustified percentage dropped from
16 either 26 or 24 to 15.

17 Q. To 15.

18 A. That's the percentage of non-generalizable cases.

19 Q. This error required you to move UF-250s that had been
20 categorized as apparently ungeneralizable into apparently
21 justified, isn't that right?

22 A. That's correct.

23 Q. So it increased the reported number of justified UF-250s in
24 your 2010 report, raising it from 69 percent to 79 percent,
25 isn't that right?

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Fagan - cross

1 A. Yes.

2 Q. Your second supplemental report, which you served in
3 November of 2012, you analyzed 1.6 million UF-250 forms,
4 correct?

5 A. Yes.

6 Q. And you concluded that the vast majority of stops,
7 approximately 88 percent, were apparently justified by
8 reasonable suspicion, isn't that right?

9 A. Yes.

10 Q. And you concluded you couldn't generalize the status of
11 approximately 6 percent of those UF-250s?

12 A. Yes.

13 Q. And you classified approximately 6 percent as apparently
14 unjustified by reasonable suspicion, is that correct?

15 A. Among the non-radio runs, correct. And overall correct.

16 Q. You would agree that 88 percent is a significant
17 improvement from the 78 percent of the UF-250s you found had
18 apparently reasonable suspicion in 2004 to 2009, correct?

19 A. You mean statistically significant?

20 Q. Yes.

21 A. No. I didn't perform any statistical significance test.
22 It's a jump of 10 percent.23 Q. A jump of 10 percent. It's a jump of 20 percent from where
24 you originally issued your report with the error in October of
25 2010, correct?

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D448FLO4 Fagan - cross

1 A. From the original report?

2 Q. 69 percent to 88 percent?

3 A. I don't know. I would have done the comparison a little
4 differently, but I will accept that you have characterized the
5 numbers correctly.

6 Q. In your second supplemental report for your Fourth
7 Amendment analysis, you engaged in an analysis of handwritten
8 narratives that are written by the officer in the box on the
9 UF-250 form where they check other, is that correct?

10 A. Correct.

11 Q. You didn't analyze all of the narratives for officers who
12 checked other on UF-250 forms for that period, did you?

13 A. No. We only analyzed, as we stated in the report, those
14 narratives on which the ultimate classification of the stop
15 would depend on the interpretation of the narrative.

16 Q. You drew a sample, in fact, of those stops to analyze the
17 narratives, isn't that right?

18 A. Yes.

19 Q. Your sample size was 3,710?

20 A. Yes.

21 Q. You reviewed the narratives for 3,710 UF-250s and reached
22 conclusions about the apparent justification of reasonable
23 suspicion, is that correct?

24 A. For those stops, yes.

25 Q. Then you took your conclusions based on that sample of

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D448FLO4 Fagan - cross

1 3,710 and applied it back to the population from which the
2 sample was drawn, is that right?

3 A. Yes.

4 Q. The sample was drawn from a population of 84,000 UF-250s?

5 A. Correct.

6 Q. So you had missing data that you used your sample
7 conclusions to apply to the hole?

8 A. As we stated in the report, we weren't able to classify
9 about 27,000 stops.

10 Q. You applied the results of your sampling of 3710 to
11 approximately 55,000 UF-250s, isn't that right?

12 A. We were able to do so, yes.

13 Q. But other times during your testimony in the last two days,
14 you have expressed concerns with respect to missing data in
15 your ability to interpolate that data, is that correct?

16 A. Yes.

17 Q. But that's what you did with your sampling, isn't that
18 right?

19 A. This is quite different than a statistical interpolation.
20 What we did was we identified text strings and we sought in the
21 other cases where the exact match of those text strings could
22 be determined, and then we captured those cases and ultimately
23 did the coding on those cases. So there is nothing
24 probabilistic about it. This was simply a match of text string
25 to text string.

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D448FLO4 Fagan - cross

1 Q. You didn't exactly match text strings, did you, because you
2 created meta categories for the text strings, isn't that right?

3 A. Yes. We used an inductive method and created categories
4 based on fairly similar homogenous text strings.

5 Q. We will get there in a little bit as well.

6 Moving on, you actually reported in your November 2012
7 report that you drew the sample of 3,710 from a universe of
8 156,090 UF-250s?

9 A. I explained yesterday to Mr. Hellerman about the source of
10 that typographical error.

11 Q. First of all, the error was brought to your attention when
12 the defendants filed their expert report on February 1, 2013?

13 A. Yes.

14 Q. But you only acknowledged and corrected that error a few
15 days ago in advance of your testimony here at this trial, isn't
16 that right?

17 A. Yes. We weren't aware of it until we saw the report.

18 Q. The report was served on February 1, 2013, correct?

19 A. I don't recall. Probably.

20 Q. And today is April 4, 2013, correct?

21 You have to answer verbally.

22 A. Yes.

23 Q. And you said that the typographical error was the result of
24 other sampling that you had done on the wrong categories, is
25 that correct?

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- 1 A. We had considered alternate constructions of the categories
2 from which to draw the sample, and one of the options that we
3 considered would have produced a sample of 156,000. We
4 ultimately rejected those definitions and reverted to the
5 definitions as published in our report, but the typographical
6 error carried forward from the earlier version of the report
7 that we had drafted or that section of the report.
8 Q. You didn't produce the results of those other categories in
9 that sampling to the defendants in this litigation, did you?
10 A. No, we didn't.
11 Q. Did you not use them because you didn't like the results?
12 A. No.
13 Q. With respect to your sampling work on this 3,000 --
14 A. To the best of my knowledge, we actually -- I don't
15 remember seeing the results about that sample. I'm not sure we
16 produced those results.
17 Q. Who is "we"?
18 A. Myself and my research associates.
19 Q. But you did sample from 156,090 based on other categories?
20 A. Well, originally we defined the categories in a way that
21 would generate that larger sample. We never did the sample.
22 We actually redefined the universe and then drew the sample
23 from the smaller unit.
24 (Continued on next page)
25

D449flo5 Fagan - cross

1 Q. You didn't provide defendants information about the
2 categories that you had originally anticipated sampling on and
3 then redefined for the purposes of 3710, correct?

4 MR. HELLERMAN: Objection. Mischaracterizes the
5 testimony.

6 THE WITNESS: I don't recall.

7 THE COURT: One moment.

8 (Record read)

9 THE COURT: That is a convoluted question. I will
10 sustain the objection as to the form.

11 Q. You stated that the 156,090 number, the typographical error
12 that made its way into your report, was the result of a
13 different set, a wrong set of categories from which you
14 intended to draw a sample; is that correct?

15 MR. HELLERMAN: Mischaracterizes the testimony.

16 THE COURT: He'll figure that out.

17 Is that correct or not correct? Is that what you
18 said?

19 THE WITNESS: I don't know if we -- "intended" is the
20 right word.

21 We defined a set of categories and initially
22 considered those as the ones that we would sample from.

23 We went back and inspected the categories, realized
24 they were the wrong categories, changed the code, and then
25 proceeded to do the analysis.

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D449flo5 Fagan - cross

1 Q. Did you for --

2 A. But the original --

3 THE COURT: Go ahead.

4 THE WITNESS: But the -- when we looked at the
5 original code that produced the larger sample, but then we
6 changed the categories and shrunk the sample down to 84.

7 But as it turns out, there was no difference. In
8 fact, the sample that we drew was actually of the 84,000.

9 Q. Did you provide information to defendants with respect to
10 the set of categories you just mentioned that were related to
11 the 156,090?

12 A. No. I don't believe we did. We didn't use them. So it
13 didn't seem to be relevant.

14 Q. But it's your testimony today that they're different than
15 the categories associated with the 84,000 presented in your
16 report?

17 A. Well they're somewhat more expansive, obviously.

18 Q. Yesterday you testified about the peer review process for
19 which your submission for publication undergoes; is that
20 correct?

21 A. Yes.

22 Q. You stated that those conducting the review -- will, is it
23 true that those conducting the review don't replicate your work
24 to the extent it might contain a regression analysis?

25 A. Depends on the journal. Some journals require that you

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1 actually archive your data and your code. Some journals don't.

2 Q. Have you had to supply archived data and codes with a
3 journal for peer review?

4 A. Not with a journal.

5 We've submitted archived data and codes with respect
6 to a couple of larger research projects for which other
7 publications were created.

8 Q. How have you submitted your underlying data and codes for
9 regression analysis in articles of publication?

10 A. We have been asked by persons wishing to replicate our
11 results if we would share our code, and we've done so.

12 Q. But has that been part of the peer review process that you
13 testified to yesterday?

14 A. No.

15 The peer review process generally requires that one
16 explicate in detail the methods that one used to do
17 measurements, and how the models were specified, probably some
18 rendition of the math that goes into the models, as we did in
19 our reports. And that ought to be sufficient. We call that
20 leaving footprints. And generally that's sufficient for
21 somebody to pick up an article and, were they able to get the
22 data, to replicate the analysis.

23 Q. But you wouldn't then typically be providing coding
24 instructions for your use in manipulation of the data to people
25 for peer review; is that correct?

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D449flo5 Fagan - cross

1 A. Coding instructions?

2 Q. Yes. Coding instructions, like you had to produce to the
3 defendants' experts in this case.

4 A. You mean how we created a particular variable?

5 Q. Yes.

6 A. No. That's generally not archived in the course of peer
7 review.

8 Q. And so without access to the data, someone for peer review
9 wouldn't be able to necessarily replicate the results of your
10 journal article, correct?

11 A. Well without access to the data they couldn't replicate the
12 data for the journal whether they had the coding instructions
13 or not.

14 Q. So hypothetically if you were to have submitted your
15 October 2010 report in this case before modification for peer
16 review, they would have never known that you had misclassified
17 400,000 UF 250s as unable to be generalized, as identified by
18 the defendants' experts; is that right?

19 A. Well I think that would depend on the journal.

20 If we were submitting the Fourth Amendment analysis to
21 a peer review journal, we probably would have broadcast the
22 categories that we had defined and published in the various
23 reports for the classification scheme. Those would have been
24 either in the main text of the paper or attached as an appendix
25 because it's so fundamental to the analysis.

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D449flo5 Fagan - cross

1 Q. But here the error in your October 2010 report that was
2 identified by the defendants' experts was an error in your
3 coding instructions; isn't that right?

4 A. Yes. I believe that's -- as best I can recall.

5 Q. Because your report and the language of your report
6 describing your analysis was accurate, right?

7 A. Yes.

8 Q. So someone reading your article submitted -- journal
9 article if it had been submitted for peer review wouldn't have
10 known about the error in your coding instructions, right?

11 A. They wouldn't have unless we made public our coding
12 instructions.

13 Q. Yesterday you mentioned that this peer review process was a
14 gatekeeping function. But it wouldn't have detected these
15 mistakes, right?

16 A. On balance, probably not.

17 Q. And, in fact, most scholars have a proprietary interest in
18 their work and don't share their underlying data or coding
19 instructions with the public; isn't that right?

20 A. That's quite variable by the investigator.

21 Q. Here in this case you've required the city to enter into
22 confidentiality agreements with respect to your proprietary
23 work; isn't that right?

24 A. On certain aspects of the data analysis.

25 And I repeat: Certain aspects.

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D449flo5 Fagan - cross

1 Q. This is a slide from the demonstrative that your counsel
2 showed yesterday during your testimony with respect to your hit
3 rate analysis.

4 Do you recall this?

5 MR. HELLERMAN: Objection. I didn't show it.

6 THE COURT: Actually, I don't remember it being shown
7 but if you remember -- if you remember it, that's fine; if not,
8 it's still in the report.

9 MS. COOKE: It's a part of the demonstrative slides.

10 THE COURT: No big deal. You can still go into it.

11 Anyway, this comes from your report. Does it?

12 MS. COOKE: It's sourced from October 15, 2010, table
13 15, and your second supplemental report, table 15.

14 THE WITNESS: Compilation of the two reports.

15 THE COURT: Okay.

16 Q. And you testified as to this hit rate information
17 yesterday.

18 Do you recall?

19 A. I do recall, yes.

20 Q. And you recall testifying that for 2004 through June 2012
21 that there were 4.43 approximately million stops?

22 A. Yes.

23 Q. And of those 4.43 million stops, you testified that gun
24 seizures occur in only .14 percent, correct?

25 A. Yes.

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D449flo5 Fagan - cross

1 Q. And weapon seizures in .93 percent?

2 A. Yes.

3 Q. And contraband in 1.77 percent; is that correct?

4 A. Yes.

5 Q. But those percentages are misleading, aren't they,
6 Professor Fagan?

7 A. I wouldn't know.

8 Misleading in what respect?

9 Q. Well, you calculated figures from the 4.43 million universe
10 of stops; isn't that right?

11 A. Yeah.

12 Q. But you're aware that of the 4.43 million stops, only
13 approximately half of those stops resulted in a frisk; isn't
14 that right?

15 A. That's about right.

16 Q. What's that?

17 A. That's about right.

18 Q. And so in approximately 2.2 million stops people weren't
19 frisked; is that right?

20 A. Correct.

21 Q. So you've included in the calculation of the hit rate,
22 stops in which officers never frisked, let alone found a gun,
23 weapon, or contraband; isn't that right?

24 A. Yes.

25 Q. So these figures should be doubled at least, right?

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Fagan - cross

1 A. No.

2 Q. Well, you're also aware from your review of the UF 250 data
3 from 2004 through 2012 that of the 4.43 million stops only
4 8 percent of the people were searched; isn't that right?

5 A. I don't recall but sounds about right.

6 Q. And eight percent of 4.48 million is about 367,000; isn't
7 that right?

8 A. That's about right.

9 Q. So you've included in your hit rate nearly 4.1 million
10 stops in which officers never searched a person, let alone
11 found a gun, weapons, or contraband; isn't that right?

12 A. Well, that's the math. I wouldn't embrace it or deny it.

13 Q. And when you considered the hit rate for gun and weapon
14 seizures from the people frisked, it's about 1.5 percent,
15 right?

16 A. I would need my calculator to do that.

17 Q. Well .14 percent and .93 percent is 1.07 percent, right?

18 A. Right.

19 Q. And only about half of the people are frisked, right?

20 A. Right.

21 Q. So that would be about 1.07 percent from 2.2 million,
22 correct?

23 A. Right. If you want to follow down that path, sure.

24 Q. And the number of people searched, the universe was
25 8 percent as we've just discussed, right?

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D449flo5

Fagan - cross

1 A. Yeah.

2 Q. So 8 percent of the 4.43 million is approximately 367,000,
3 right?

4 A. Right.

5 Q. So the hit rate for gun and weapon seizures for the people
6 who were searched is approximately 9 percent; isn't that right?

7 A. Well by this logic, sure.

8 Q. Yes.

9 When you consider the hit rate for contraband searches
10 for people who were frisked, understanding people who were
11 frisked as half of the total stops, you're frisk rate hit rate
12 increases to 2.3 percent; isn't that right?

13 A. Yes.

14 Q. And for people who were searched, that's the universe of
15 367,000 stops, your hit rate jumps to 14 percent?

16 A. Right.

17 Q. Isn't that right?

18 You also testified yesterday that random checkpoints
19 in the Indianapolis v. Edmond case had a better hit rate than
20 the NYPD's reasonable suspicion based stops; is that right?

21 A. Considering the total number of stops, yes.

22 Q. Considering the total number of stops by the NYPD?

23 A. No. Considering the total number of stops made in the
24 Edmond case.

25 Q. The total number of stops there was 1,161 stops; isn't that

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1 right?

2 A. They made drug arrests in about -- roughly five percent.
3 Arrest totals were about nine percent.

4 Q. And you're aware that in the Edmond case, stops were
5 specifically done to look for evidence of drugs, right?

6 A. I believe that's the case -- no, no. Actually it's -- I
7 thought it was a random checkpoint.

8 Q. Those were vehicle stops for drugs, correct?

9 A. I thought it was a random checkpoint.

10 Q. The crime purpose of those checkpoints was to search for
11 drugs; is that correct?

12 A. I would have to go back and reread the case.

13 Q. Did you read the case?

14 A. I did I read a lot of cases. I don't have the details of
15 each case.

16 Let me interject something here, Ms. Cooke. Do you
17 mind? Because I think there's a bit of specious math going on
18 here.

19 THE COURT: I'll allow because this is a nonjury
20 trial. I want to hear what he has to say.

21 What is it you want to say?

22 THE WITNESS: Just because a frisk or a search is
23 conducted doesn't necessarily invalidate the calculation of the
24 hit rate.

25 If a person is stopped on reasonable suspicion of

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1 anything, that is a stop. Whether or not the stop proceeds
2 through the secondary and tertiary phases of the stop doesn't
3 negate the fact that the stop took place because there was
4 reasonable suspicion.

5 So to me our numbers actually make perfect sense in
6 that if the officer is making a stop, searching for contraband
7 or drugs or -- or drugs or other contraband, or weapons, or
8 somebody had a warrant, or whatever -- which wouldn't be
9 reasonable suspicion. But, it doesn't negate the fact that the
10 stop took place.

11 The criterion is a search based on reasonable
12 suspicion that crime is afoot, to use the Terry language.

13 And so these are all stops. They're all stops.
14 Whether or not it proceeded to a frisk or a search doesn't
15 qualify and change the denominator for whether or not a gun was
16 seized.

17 The officer formed suspicion, we assume, and then
18 conducted -- and then proceeded through the stop. And he
19 either found guns or he didn't. Or he found contraband or he
20 didn't. So I'm not sure that there's information added by
21 narrowing the criteria for the conduct of the search.

22 Q. Professor --

23 A. Or whether or not -- for conducting a frisk or a search.

24 Q. Professor Fagan, you said a stop occurs whether or not the
25 officer finds guns, finds contraband, finds a weapon, right?

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1 A. Right. He doesn't know that the person has it on him or
2 her -- mostly him -- when he makes the stop. He suspected that
3 that's one of the possible outcomes of the stop.

4 Q. But making the stop on the basis you understand of a penal
5 law felony or a misdemeanor, correct?

6 A. A suspected one, yes.

7 Q. And they're --

8 A. Or an administrative code. We found lots of administrative
9 code --

10 Q. Many suspected penal law felonies or misdemeanors which are
11 not gun-related crimes, drug-related crimes or weapon-related
12 crimes, correct?

13 A. Correct.

14 Q. So the stop is not necessarily made on -- made by an
15 officer for the purpose --

16 THE COURT: If I could save you both some time. It
17 might help to have my reactions. Usually you don't get that
18 benefit from a jury. But I have no problem with the gross
19 statistic that says that if X number of stops resulted in X
20 number of seizures of guns. I see all the points you're trying
21 to make. But there's still -- that gross statistic is still of
22 interest to me. 4.4 million stops resulted in a seizure of
23 1.77. That's the fact.

24 Q. With respect to the Edmond case, Professor Fagan, you're
25 aware those were vehicle stops, right?

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1 A. Yes.

2 Q. And the vehicle stops involved an officer -- one officer
3 making observations into the car while it was stopped, correct?

4 A. Correct.

5 Q. And another officer with the drug sniffing dog circling the
6 car; isn't that right?

7 A. Correct.

8 Q. And you're aware that in Edmond the Supreme Court said that
9 the random stopping of cars specifically to look for drugs was
10 illegal?11 THE COURT: I got to put a stop to this. It is not a
12 good use of my time. For one thing, I've said repeatedly that
13 one issue that is not present here is the effectiveness of this
14 policy because that's not for this Court. This Court is only
15 here to judge the constitutionality. Whether this is good or
16 bad is of no interest. I've said it. And I don't always get
17 to explain what I mean by that. But what I mean by that is
18 there are effective police tactics that might be good for
19 reducing crime but that are unconstitutional.20 So the Court's interest is only with the constitution,
21 not with the effectiveness. And both sides should recognize
22 that.23 So I'm not interested either way. But I wanted to
24 explain why.

25 Some people don't understand that comment. There are

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1 police tactics that could reduce crime that don't happen to be
2 constitutional. That's the point.

3 I'm talking about other ones. There are ones out
4 there that one could do. One could have preventive detention.
5 Everybody, I think, would worry about it being criminal. It
6 could be unconstitutional. Our constitutional doesn't allow
7 that. We could stop giving Miranda warnings. That would
8 probably be exciting for reducing crimes. But we don't allow
9 that.

10 So there are a number of things that might reduce
11 crime but they're unconstitutional. This Court is only
12 concerned with the constitution, not with the effectiveness of
13 the policy. I've tried and tried to explain that. This is
14 my third or fourth try. I've done it in opinions. Now I've
15 done it on the record here. That's the reason that I don't --
16 that I'm not concerned with the effectiveness because it's
17 outside my role. It's not what I do.

18 Q. Professor Fagan --

19 THE COURT: So I don't need to -- don't go on with
20 Edmond. It doesn't matter to me. I'm not interested in the
21 Edmond case. I'm not interested in the seizure of guns --

22 MS. COOKE: Arrest and summons rate for the New York
23 City Police Department stops.

24 THE COURT: So we're moving on?

25 MS. COOKE: Yes, we're moving on.

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1 Q. This is another page of the demonstrative slides provided
2 by the plaintiffs to defendants in this case.

3 Do you recognize the information contained on this
4 slide for January 2004 to June 2012, arrest and summons hit
5 rates, sourced from your October 15, 2010 report, table 14.
6 And your second supplemental report, table 14.

7 Do you recognize that information?

8 A. Yes.

9 Q. And so for 4.43 million stops, the NYPD's arrest hit rate
10 is 5.7 percent; is that correct?

11 A. That's what it says. Yes.

12 Q. And the summons hit rate is 6.39 percent, correct?

13 A. That's what the demonstrative says, yes.

14 THE COURT: And those are not overlapping? Those are
15 separate?

16 THE WITNESS: No. There's a small number of stops --
17 negligible number of stops --

18 THE COURT: That's negligible?

19 THE WITNESS: It's negligible.

20 THE COURT: So if they were added up -- she took it
21 off the screen, but it was about 12 percent? Roughly? It was
22 a five and a six.

23 THE WITNESS: 12.09.

24 THE COURT: So about 88 percent of the people who were
25 stopped are essentially told to go on their way.

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1 THE WITNESS: Correct.

2 Q. For your Fourth Amendment analysis of the NYPD's UF 250
3 database, you did a review of the stop circumstances on side
4 one and the additional circumstances on side two of the UF 250
5 form, correct?

6 A. Yes.

7 Q. You testified yesterday that a decision and rule changed in
8 your second supplemental report with respect to your
9 classifications of UF 250s for the Fourth Amendment analysis?

10 A. Yes.

11 Q. Which decision and rule changed?

12 MR. HELLERMAN: Object to the form. I just don't
13 understand the question.

14 THE COURT: You don't understand the question.

15 The question is: Does the witness understand?

16 THE WITNESS: I think I do.

17 THE COURT: Okay.

18 THE WITNESS: I'd have to put them up side by side,
19 but I think the main change that we made was consideration of
20 stops where there were -- we did not -- we put stops where
21 there were multiple additional circumstances into the not
22 generalizable category. That was one change.

23 And I believe we changed with respect to the presence
24 of one conditional -- conditionally justified circumstance and
25 an additional circumstance. And we counted those, I believe,

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1 as justified.

2 I think those were the two major changes. I would
3 have to go back again, your Honor, and compare side-by-side.
4 But the two sets of decision rules are in evidence.

5 THE COURT: But I was about to say you're probably
6 going to be able to do that tonight because I don't think
7 you're going to be done with cross.

8 THE WITNESS: If your Honor would like me to do it,
9 I'm happy to do it.

10 Q. Well I would -- we will revisit that question tomorrow. I
11 would like to know.

12 With respect to the modified decision rules applied
13 for reasonable suspicion analyses in your second supplemental
14 report, did you recalculate your Fourth Amendment analysis
15 using those new decision rules on the 2004 to 2009 data?

16 A. I believe we went back and attempted it, yeah.

17 Q. You believe you went back and attempted?

18 A. Think we did, yeah.

19 Q. Did you produce those results to the city?

20 A. No, I don't -- that I don't think we did.

21 Q. When do you think you went back and re-did the 2004 to 2009
22 reasonable suspicion analysis?

23 A. I would have to go back and look and see when we did it.

24 Q. Do you recall how the numbers changed?

25 A. No, I don't.

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1 Q. Do you recall if more stops were apparently justified by
2 reasonable suspicion?

3 A. I said I didn't recall.

4 MS. COOKE: Your Honor, the city would like production
5 of that additional work with respect to the reasonable
6 suspicion analysis redo with respect to the 2004 to 2009 data.

7 THE COURT: It's too late for discovery.

8 MR. CHARNEY: It's also in the demonstratives that
9 were used with Professor Fagan.

10 THE COURT: Speak to counsel after 4:30 and direct her
11 attention to where it is. If she already has it, that's great.

12 So I accept your assistance. Point it out to them.

13 MR. CHARNEY: Yes. We will, your Honor.

14 Q. You testified yesterday about the UF 250 form and what it
15 was designed to do. But you have no personal knowledge as to
16 why the form was designed the way it was, do you?

17 A. Personal knowledge, no.

18 Q. And you weren't present at meetings with the police
19 department when the design of the form was discussed, correct?

20 A. No.

21 Q. You didn't participate in any revisions to the design of
22 the form, did you?

23 A. No.

24 Q. The form provides an officer the opportunity to report the
25 time observed before a person was stopped; isn't that right?

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1 A. Yes.

2 Q. But you didn't include the length of time observed in your
3 reasonable suspicion analysis in your reports, did you?

4 A. No.

5 We inspected the data to see if, in fact, it would add
6 new information. And we found that something like 80 percent
7 of -- 75, 80 percent of all the periods of observation were
8 either one or two minutes. And since there was no variation on
9 that, there didn't seem to be any usable information that would
10 move our analysis one way or the other.11 Q. And your determination that there wasn't any useful
12 information, was that based on any methodology?13 A. Yeah. One looks for variation on a variable to see if, in
14 fact, there is variation. And that variation distributes
15 across in a nonrandom or random way across the population.16 And we observed very little variation. So absent
17 variation there was no point in doing the analysis.18 Q. Did you speak to any officers to determine that the period
19 of observation prior to the stop didn't contribute to
20 reasonable suspicion?

21 A. Well let me break that question up in two parts.

22 We did not speak to any officers about the use of the
23 period of observation.

24 Q. Did you speak to any officers about the UF 250 form?

25 A. No.

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1 Q. Did you speak to any officers about observations they make
2 contributing to reasonable suspicion to make a stop?

3 A. Not for 4.4 million stops, no.

4 Q. Did you speak to any officer for any stop?

5 A. No. A small number of stops would be uninformative
6 relative to the body of stops that we were trying to analyze.

7 Q. You didn't consider any information outside of the UF 250
8 form when conducting your analysis, did you?

9 A. No.

10 We tried to manage the information that was available
11 to respond in a parsimonious way to the questions that were
12 raised in the case.

13 Q. But there are other sources of information that the NYPD
14 prepares with respect to stops made on reasonable suspicion;
15 isn't that right?

16 A. To my understanding.

17 Q. You're aware of memo book entries?

18 A. Yes.

19 Q. Trespass crime fact sheets?

20 A. Yes.

21 Q. Arrest and complaint reports?

22 A. Yes.

23 Q. Criminal court complaints?

24 A. Criminal court --

25 THE COURT: I'm sorry. Can you tell me where this is

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1 going? Because obviously he could not do that for 4.4 million
2 stops. He did what he did. He did a statistical study.
3 You're welcome to attack it. But saying he didn't investigate
4 all 4.4 million is kind of not a productive line of
5 cross-examination.

6 MS. COOKE: Thank you, your Honor.

7 THE COURT: Just can't be done.

8 Q. You've previously asserted in papers submitted to this
9 court in this case that trying to classify those handwritten
10 narratives associated with the "other" checkbox would invite a
11 host of biases and errors for your work in this case; is that
12 right?

13 A. We did say that, yes.

14 Q. And you, in fact, said that it would render your
15 conclusions statistically meaningless, right?

16 A. Well conclusions based on that kind of analysis, at that
17 time that's what we believed -- that's what I believed.

18 Q. And that was because you had concerns about trying to
19 analyze similar utterances, handwritten narratives that might
20 have different intended meanings; isn't that right?

21 A. That's correct.

22 Well I retract. We just simply thought that the
23 complexity and variability and heterogeneity of the utterances
24 captured in those text strings across 2.8 million stops, across
25 the multiple categories of suspected crime, assuming that the

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1 narrative somehow spoke to the suspected crime, would pose an
2 extraordinarily complicated and perhaps -- complicated task
3 whose results would be difficult to interpret.

4 Q. Directing your attention to Plaintiffs' Exhibit 415,
5 paragraph 10, page 6.

6 This is the declaration that you submitted in support
7 of the city -- the plaintiffs' opposition to the city's motion
8 to exclude your opinions and testimony in this case, right?

9 A. Yes.

10 Q. And in paragraph 10 it reads --

11 A. Paragraph six or ten?

12 Q. Paragraph ten, page six.

13 "Unlike the stop circumstances checkboxes, these
14 handwritten notations have no inter-rater reliability; that is,
15 the same or similar utterance may have very different intended
16 meanings depending on, among other things, the situation and
17 experience of the officer. Analyses that attributed the same
18 meaning to such similar utterances would risk errors since
19 there is no way to ascertain agreement among different officers
20 as to the meanings of these utterances. No such dilemma exists
21 among the checkboxes where training and feedback can and should
22 be shared -- can and should create a shared meaning of these
23 established categories."

24 Did you write that paragraph?

25 A. I did.

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1 Q. And so you, in fact, didn't believe that you could
2 attribute meaning to same or similar utterances that might have
3 different meanings depending on which officer wrote it, right?

4 A. At that time, as I testified yesterday -- or was it
5 Wednesday -- that's what I believed, yes.

6 Q. And this declaration, look at the signature page, was
7 submitted on February 2, 2012. Correct?

8 A. Yes.

9 Q. And then you served an expert report in the Ligon related
10 case in July of 2012; is that correct?

11 A. Correct.

12 Q. And in July of 2012 you claimed that to more fully
13 understand the various meanings that officers apply in the
14 "other" checkbox you analyze the text strings, right?

15 A. That's correct.

16 THE COURT: What was the size of the universe there?

17 THE WITNESS: In Ligon. 1800 or so cases.

18 THE COURT: 1800?

19 THE WITNESS: Yes.

20 That was the total universe. I think we actually
21 analyzed the text strings of a subset of those cases. I don't
22 remember which.

23 But can I bring -- we also did it in Davis, as you
24 well know.

25 MS. COOKE: Correct.

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1 THE WITNESS: And we did it there for a subset of
2 trespass stops.

3 THE COURT: Approximately how many?

4 THE WITNESS: Roughly 200,000, although I don't
5 remember within the 200,000, how many of those cases turned on
6 the text string.

7 MS. COOKE: It was closer to 500,000, I can represent
8 to the Court.

9 THE COURT: That he had to review the text strings?

10 MS. COOKE: That there were 500,000 trespass stops.

11 THE COURT: But he had to review the text strings.

12 THE WITNESS: The number of stops in Davis that turned
13 on the text strings was a much smaller subset.

14 Q. And in Davis you reviewed a sample of 3,000, correct?

15 A. Yes.

16 Q. And in your Floyd analysis here you reviewed a sample of
17 3,710.

18 A. Correct.

19 Q. And in both of those cases, in Davis and in Floyd, you
20 applied the results of those small samples to a larger
21 population, correct?

22 A. That's correct.

23 THE WITNESS: Can I explain, your Honor? Or do you
24 want me to wait for the question?

25 THE COURT: No. I'd like you to go ahead and explain.

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1 THE WITNESS: As I mentioned, from what I recall in my
2 testimony from yesterday, we undertook those analyses in those
3 two specific cases because it was a narrow subset of all of the
4 stops. These were trespass stops.

5 And we assumed going in that the utterances associated
6 with the trespass stops would be fairly consistent because they
7 were utterances reflecting back to a very specific suspected
8 crime. And also because trespass stops tended to take place
9 more often than not in public housing we also thought that the
10 circumstances under which those stops took place would be
11 circumscribed.

12 So some of the subjective factors that we were worried
13 about in the 2010 report and also in the February 2012
14 submission were not in play when we conducted the analysis of
15 the trespass stops.

16 So it was a different exercise. And we did it with
17 some trepidation. And we walked away with results that we
18 think were reasonable. Certainly not error free, but
19 reasonable.

20 Having gone through that experience and learning about
21 how to do this, again with some trepidation, we applied it in
22 this case for a much more heterogeneous set of stops.

23 Q. Because you didn't apply it to just trespass stops in
24 Floyd, right?

25 A. That's what heterogeneous means. It's both trespass and

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1 multiple other stops -- other suspected crime categories.

2 Q. When did you reach the conclusion that you could apply this
3 other narrative analysis to the data in Floyd?

4 A. In Floyd?

5 After we were finished with the Davis and Ligon
6 reports, my research associates and I, we sat back and we
7 looked at it, and we said hmm, this could be done with probably
8 more degree of confidence than we thought originally, but
9 perhaps not full confidence. And I think we bounded our degree
10 of confidence -- we did it yesterday in direct testimony, and I
11 think in the reports.

12 Q. You filed your Davis report on June 29, 2012; isn't that
13 right?

14 A. Yes.

15 Q. And the Ligon report was in July of 2012?

16 A. Correct.

17 Q. And you testified in Ligon on October 15, 2012, right?

18 A. Yes.

19 Q. And October 15 you still -- you still had -- you still
20 stated that the text string analysis wouldn't be appropriate
21 for your analysis in Floyd, correct?

22 A. In testimony in Ligon?

23 Q. Yes.

24 A. We were thinking about it, and hadn't reached a conclusion
25 yet.

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- 1 Q. But when you testified in Ligon, you defended your decision
2 not to do the text string analysis in Floyd as inappropriate
3 and introducing potential biases and errors, correct?
4 A. Until we started to do it, that was my -- that was my
5 opinion. And then we thought hard and said do we want to do
6 this here? Would it contribute meaningfully? Could we do it
7 with some confidence in the rigor of the analysis? And we made
8 the attempt.
9 Q. And about six weeks later you served your report in Floyd,
10 right?
11 A. Yes.
12 Q. For the sampling of these text strings and the analysis you
13 conducted, you identified that you pulled a universe of 84,000
14 UF 250s, right?
15 A. Yes.
16 Q. But these 84,000 UF 250s were all supposed to be from the
17 unable-to-be-generalized category, right?
18 A. Correct.
19 Q. But, in fact, doesn't four percent of your sample of the
20 3710 come from the unjustified category?
21 A. Four percent? What was the number?
22 Q. What's that?
23 A. Four percent.
24 Q. Four percent of 3710, yes.
25 A. I think I did recall that. But I think that was an anomaly

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1 in the coding and classification. I'd have to go back and
2 investigate again what the reasons were.

3 Q. The defendants' experts identified that 4 percent of your
4 sample didn't come from the unable-to-be-generalized when they
5 filed their report on February 1, 2013?

6 A. It's 4 percent of 3710.

7 Q. Yes.

8 A. Those were what we call presentably justified.

9 I don't recall how they got in. We did analyze them
10 and reclassified them nonetheless.

11 Q. So it was a mistake?

12 A. I don't know if it was mistake on our part. I think it was
13 an anomaly in the coding. But I'd be happy to inform the court
14 tomorrow where the sources of that error came from.

15 Q. Who prepared the coding?

16 A. My research associate, under my supervision.

17 Q. And so there was -- anomaly was an error in the coding,
18 correct?

19 A. I believe so.

20 I also should say on the record that we don't believe
21 that four percent, which ultimately were reclassified
22 accurately one way or the other, would move the dial a whole
23 lot and substantively change the outcome of our
24 classification. It's a pretty small number relative to the
25 population.

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1 Q. You're not an expert in sampling methodology, guidelines
2 and criteria, are you?

3 A. An expert in sampling?

4 No. I wouldn't call myself an expert in sampling.
5 I've applied conventional rules in sampling.

6 Q. You don't teach any courses on sampling methodology,
7 guidelines or criteria, do you?

8 A. Nope.

9 Q. You haven't published any articles or studies in the field
10 of sampling?

11 A. In the field of sampling? Well I don't think there's a
12 journal of sampling.

13 But I've published articles that use sampling.

14 THE COURT: I kind of wondered that about courses.
15 Are there courses?

16 THE WITNESS: There are advanced graduate courses that
17 do teach sampling theory.

18 THE COURT: But the whole course is sampling or
19 sampling theory?

20 THE WITNESS: I'm not aware of any, but I know it's a
21 topic that's addressed in some very advanced statistical
22 courses.

23 THE COURT: I'M sure it's a topic. I just wanted to
24 know if it's a whole course.

25 THE WITNESS: There are people who specialize in
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- 1 sampling.
2 Q. You're aware that in order to draw a valid inference from a
3 sample, the sample size must be sufficient, correct?
4 A. Yes -- well, sufficient for what?
5 Q. Sufficient from the population from which it's drawn to be
6 reliable.
7 A. Sufficient -- I'm not sure what sufficient means.
8 Q. Sufficient in size?
9 A. Sufficient in size for what?
10 Q. You drew a sample of 3,710, correct?
11 A. Yes.
12 Q. I believe you testified yesterday that you wanted your
13 sample to be between 3,000 and 4,000 in size; is that correct?
14 A. Yes.
15 Q. Because you believed that would be sufficient in size for
16 the population from which you were drawing in, correct?
17 A. Yes.
18 Q. Because you wanted to apply the results of your conclusions
19 from your sample back to the whole, correct?
20 A. We -- that was our ambition, yes.
21 Q. So you're aware that in order to draw valid inferences from
22 your sample conclusions to a whole, your sample has to be of a
23 sufficient size, correct?
24 A. Yes.
25 Q. You're also aware the sample must be representative in all

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1 material aspects from the population in which it's drawn,
2 correct?

3 A. In order to avoid selection bias, yes.

4 Q. And the sample must be randomly selected, correct?

5 A. Well, there's different versions of random. But yes,
6 random is one component of the sampling strategy.

7 Q. In your second supplement report, however, you didn't
8 provide justification that your sample size was large enough
9 for the analysis you intended to perform, did you?

10 A. We did not.

11 Q. And you didn't provide justification that your sample size
12 was representative of the population from which it was drawn,
13 did you?

14 A. We -- in that case -- no, well, it was. We made it pretty
15 clear in the report, and also in the code that we produced,
16 that the procedure for sampling was to identify the
17 distribution of the 84,000 stops according to the suspected
18 crime. And we inspected the distribution of the suspected
19 crime. And for those categories that were overrepresented or
20 very heavily represented we oversampled within that category.
21 And for those that were of less frequent in the data, we took a
22 different sample.

23 So, for the categories that were overrepresented or
24 more heavily represented, to be accurate, we sampled five
25 percent of those cases randomly from within that bin of stops.

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1 And for the other categories we sampled three percent within
2 that bin of stops.

3 Our goal was to reach a -- again, a sample total of
4 between three thousand and four thousand which was feasible.

5 Now the goal of this enterprise, by the way, was to be
6 able to -- it was an inductive model. And there's -- inductive
7 research is a very specific kind of qualitative analysis
8 methodology where one tries to make inferences about sort of
9 narrative or qualitative data back to a whole of a population.
10 It's a difficult task to do. It's one of the reasons we had
11 some trepidation to do it.

12 But we did do it, using the text strings. And I
13 thought we were fairly successful given the time and resources
14 available to us.

15 To the extent it's a random sample, it's a stratified
16 random sample. The strata themselves represent the
17 distribution of stops by suspected crime. So in that sense it
18 is a methodologically valid sample.

19 Q. With respect to the random selection how did you select the
20 sample size?

21 A. We provided the code. So you probably know if you've
22 looked at the code.

23 We say given each category, we use what's called a
24 random seed so that we know -- tell the computer to start at
25 different places within the subset of stops. And we say sample

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1 N, where N is a percent. And the computer will then select
2 randomly that subset of cases, take them out and put them into
3 a separate data file.

4 Q. So the way in which your sample was stratified was based on
5 suspected crime?

6 A. Correct.

7 Q. But in your report you said you suspected crimes that were
8 the majority of stops in your larger subset, correct?

9 A. Those are for the oversamples.

10 Q. That was for the 5 percent trespass property and other
11 stops?

12 A. Correct.

13 Q. And then 3 percent for violent crime, weapon, drug, and
14 quality of life stops?

15 A. Yes. Those were the less frequent stop category.

16 Q. You didn't stratify your sample based on any other
17 dimensions of the UF 250s in your population, did you?

18 A. No. They were random. So we didn't feel the need to
19 stratify.

20 One of the purposes of doing a random sample was to
21 capture all of the variability within that category that you're
22 sampling from.

23 Q. So you don't know if your sample of 3,710 represents the
24 whole, for example, in terms of the number of precincts
25 represented in the whole?

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1 A. We did not question that. We did random sample.

2 Q. You don't know if the sample is representative of the
3 boroughs that are represented in the whole, do you?

4 A. Correct.

5 Q. You don't know if your sample is material in other aspects
6 such as time of day, right?

7 A. We don't know.

8 Q. Whether or not --

9 A. I mean time of day -- most -- we all know most of the stops
10 take place sometime between very early evening and sometime in
11 the middle of the night or closer to a couple of hours into the
12 morning hours. There's very little distribution on that. I
13 think we have a graphic that shows that at some place.

14 And so we didn't feel the need to stratify on that.

15 Q. Do you know that to be the case for the 84,000 population
16 from the whole from which you were drawing that, in fact, the
17 times were relatively consistent?

18 A. One of the reasons you do random sample is to -- you do put
19 some faith in the randomization procedure that, in fact, you
20 will produce a sample that's representative of the whole or of
21 the subset that you're sampling from.

22 Q. In fact, you acknowledge that trespass stops were
23 oversampled, correct?

24 A. Yes.

25 Q. Did you draw a second sample and compare it?

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- 1 A. No.
- 2 Q. So you had no basis --
- 3 A. We didn't have a lot of time.
- 4 Q. So you had no basis of comparison for your initial sample?
- 5 A. (No response).
- 6 Q. 3,710 the ones reported?
- 7 A. Basis for comparison to what? To the whole?
- 8 Q. Mm-hmm.
- 9 A. No.
- 10 We had a basis. We didn't do the comparison.
- 11 Q. You didn't provide any estimates with respect to the margin
- 12 of error for your findings on your sampling, correct?
- 13 A. We did not.
- 14 Q. But that's a standard practice in sampling methodology,
- 15 isn't it?
- 16 A. Usually I think when one is testing out a specific
- 17 hypothesis, that would be the case.
- 18 We weren't testing out a hypothesis. We were
- 19 basically trying to develop a scheme that would allow us to
- 20 characterize a large population.
- 21 Q. Without a margin of error aren't you in effect claiming
- 22 that your sample is a perfect representation of the population
- 23 from which it's drawn?
- 24 A. I don't think we ever make that claim.
- 25 Q. Without a margin of error isn't that what's being

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1 represented?

2 A. I think people who are going to make claims that this is a
3 perfect representation would go to great lengths to make the
4 claim that this is a perfect representation and provide proof.
5 In our case we simply stated this is a stratified random
6 sample.

7 THE COURT: Are we still talking about text strings?

8 THE WITNESS: Yeah.

9 THE COURT: We are.

10 Q. You said "we" a lot in terms of discussing your reports and
11 your research for this case.

12 Who did the work with respect to the sampling and the
13 review of the narrative text strings?

14 A. Well first I use the termed "we" often sometimes as the
15 royal we, simply as a manner of speech.

16 But I had research associates who worked with me; in
17 this particular case, Professor Geller, Amanda Geller worked
18 with me on this, under my supervision.

19 Q. So one person reviewed the 3,710 narrative text strings?

20 A. No. No. No. Professor Geller -- I supervised Professor
21 Geller and vetted her work to do the code and extract the
22 sample. The text strings were done by paralegals at Covington
23 under my supervision.

24 Q. How many text strings did you read in classifying to your
25 meta categories?

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1 A. I probably read about maybe four or five hundred of them --
2 at least as the outset to see how the classifications were
3 going.

4 Q. Did you change or disagree with any of the classifications
5 made by others?

6 A. Sure.

7 Q. Do you recall which ones?

8 A. Off the top of my head, no.

9 Q. Appendix C in your second supplemental report reflects the
10 meta categories and the subthemes or categories for the seven
11 crime categories used in your sample, right?

12 A. Which? Which part of C? It's a pretty long appendix.

13 Q. I was just referring generally. But appendix C is broken
14 up into like C1. Am I reading this correctly?

15 C1 is the coding categories for other stop
16 circumstances and violence including murder?

17 A. Yes.

18 And then the reduced categories are in table C2 for
19 violence.

20 And table C3 is for property, repeats that for
21 property.

22 And table C4 is the reduced categories and the
23 legal -- the justification classification for each one of
24 those.

25 So it proceeds through the entire set of the crime

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1 categories.

2 And in table C14 produced, to get to the end of the
3 appendix, table C14 shows the meta categories and the
4 justification decisions for "other."

5 And then C15 provides an overall summary of the
6 frequency distribution of all of the text strings -- the
7 meta categories of the text strings.

8 Q. And in order to create the meta categories you had to come
9 to a uniform meaning or term for the narrative text strings
10 organized below it, correct?

11 A. That was the task, yes.

12 Q. So, for example, turning to page 10 of appendix C, item
13 number 27 is a meta category entitled entering and exiting,
14 correct?

15 A. Mm-hmm.

16 Q. And then next to it in the column there's two entries. One
17 reads attempting to open bank door?

18 A. Mm-hmm.

19 Q. And the second one says attempting to open door?

20 A. Correct.

21 Q. So I'm correct that those two phrases, attempting to open
22 bank door and attempting to open door, that was the narrative
23 from those UF 250s, correct?

24 A. Correct.

25 Q. And you determined the meta category for that would be

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1 referred to as entering and exiting?

2 A. Yes.

3 Q. And then if we look at page 24, which is table C4, these --
4 this is the listing of those meta categories and the -- it's
5 called, the column says "inclusive terms/subcategories."

6 You've given it a conditionally justified, apparently
7 justified, or apparently unjustified heading or assignment,
8 correct?

9 A. Yes.

10 Q. And so item 27 which we were just looking at, entering and
11 exiting, corresponds to item 27 in table C4, correct?

12 A. Correct.

13 Q. And looking at item 27 in table C4, you've assigned that
14 apparently unjustified?

15 A. Correct.

16 Q. Right?

17 So the officers' text string, attempting to open bank
18 door, would be quoted as apparently unjustified as a stop
19 category in your reasonable suspicion analysis?

20 Correct?

21 A. Yes.

22 I'm sorry.

23 Q. And likewise, turning back to page 11, number 37, the
24 meta category is GLA. I understand that to be grand larceny
25 auto; is that correct?

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1 A. Yes.

2 Q. And then in the column to the right there's a list of the
3 narrative text strings from the UF 250s, correct?

4 A. Yes.

5 Q. And the top one is breaking into car?

6 A. Yes.

7 Q. Right?

8 So you determined that the narrative text string by an
9 officer written -- that wrote "breaking into car" would go into
10 a meta category of grand larceny auto?

11 A. Yes.

12 Q. And then turning to page --

13 THE COURT: Twenty-four.

14 Q. Twenty-four, looking at item 37, the corresponding
15 meta category, that was assigned the classification of
16 apparently unjustified?

17 A. Yes.

18 Q. So the UF 250s that the officer marked other and wrote
19 breaking into car, you termed that checkbox for that purpose as
20 apparently unjustified --

21 A. Yes.

22 Q. -- reasonable suspicion?

23 Turning to page 38, table C9, which is the coding
24 category for other stop circumstances and trespass stops.

25 Page 38. Item 17. This is a meta category entering

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1 and exiting.

2 Correct?

3 A. Yes.

4 Q. And to the right there's a list of several narrative text
5 strings from UF 250s which you placed in the meta category of
6 entering and exiting?

7 A. Yes.

8 Q. And the fourth item down I see, it reads enter a restricted
9 area in that column, correct?

10 A. Mm-hmm.

11 Q. And down the fifth item up, and the sixth item up read
12 observed entering through exit gate and observed walk through
13 open exit date respectively, correct?

14 A. Mm-hmm. Yes.

15 Q. And similarly the third one up, the second one up, and the
16 first one up from the bottom are also statements of observed
17 male entering through exit gate, walk through exit gate, walk
18 through exit gate, correct?

19 A. Yes. I see them.

20 Q. So those narratives that officers populated in the other
21 text of a UF 250 indicated people entering through exits,
22 correct?

23 A. Correct.

24 Q. And that have been characterized as exit gates, correct?

25 A. Yes. They have -- they are entering through exit gates or

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1 exiting through entry gates, yes.

2 Q. Turning to what's not -- it's page 47 but there is no page
3 number. Item 17, which is this entering and exiting
4 meta category. You've assigned the classification of
5 apparently unjustified to those narrative text strings where an
6 officer made observations of people entering a restricted area
7 or entering through exit gates, correct?

8 A. Correct.

9 Q. Turning to --

10 A. There were 2600 of these. Just to remind you and the
11 Court.

12 THE COURT: I'm sorry. 2600 of what?

13 THE WITNESS: Of these categories.

14 THE COURT: The --

15 THE WITNESS: There were 2600 analytic categories.

16 When you sum across all of the -- the entries in appendix C.

17 THE COURT: Okay.

18 Q. So for 3710 UF 250s there's 2600 text strings?

19 A. 2600 -- think it was 2600 -- yeah, categories of text
20 strings.

21 Q. Turning to page 49 which isn't numbered but falls between
22 48 and 49 which are numbered. It's table C11, the coding
23 categories for other stop circumstances in quality of life/high
24 discretion stops.

25 First, what are you referring to as a high discretion

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1 stop?

2 A. A stop where an officer has -- traditionally in the study
3 of policing, across many studies, where officers exercise a
4 great deal of discretion as to whether or not to actually make
5 a stop and if they do make a stop to make an arrest.

6 Q. Can you give an example.

7 A. (No response).

8 Q. Of what you have in your mind when you're referring to that
9 category of high discretion stops?

10 A. Somebody carrying a marker in their hand.

11 Q. Carrying a what?

12 THE COURT: How about these? How about number seven?
13 On the subway platform, very close to the wall at the very end
14 of the platform, or leaning over the edge at the end of the
15 platform. There you go.

16 THE WITNESS: That's pretty vague.

17 THE COURT: That's what I mean. That's a good
18 example.

19 Q. That wasn't the crime -- that wasn't the crime suspected on
20 that UF 250.

21 A. No. That was the behavior. That -- whether or not that
22 behavior is actionable by an officer in terms of leading to the
23 formation of suspicion, that's the one where we would say
24 that's high discretion.

25 Q. With respect to number nine that reads meta category is

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1 gambling and the narrative was gambling. And then you have
2 category 14 which is indicia of gambling. And the three
3 narratives read: Males congregated in circle with money in
4 hand, observed shooting dice for U.S. currency, U.S.C., and
5 playing cards/blocking ped traffic, right?

6 A. Yes.

7 Q. And turning to page 51 you categorized or assigned the
8 classification to number nine, gambling, as apparently
9 unjustified. But number 14, indicia of gambling, apparently
10 justified.

11 Is that right?

12 A. Yes. What was the first one?

13 Q. 9. And 14.

14 A. Yes.

15 Q. So --

16 A. Because we -- well, just take this -- a claim of gambling
17 in and of itself, we have no idea what that means; whether
18 there was money being exchanged, whether somebody was writing
19 down numbers and betting slips. Just a claim of gambling is a
20 claim. We have no -- we have no understanding from that
21 utterance whether or not that constitutes gambling.

22 The others are more behavioral indicia, the incidents
23 of gambling under number 14.

24 Q. Looking at --

25 A. Which I might say I myself disagree with, having engaged in

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1 various times in card games with my friends in public
2 locations, various times in my adolescence and young adult
3 years. I'm not quite sure that I would think of myself as
4 having committed a crime in those circumstances.

5 Q. Looking at table 12C which appears on page 31 of your
6 second supplemental report.

7 A. Table 12C.

8 THE COURT: You said page 31?

9 MS. COOKE: Page 31.

10 THE COURT: 12C --

11 MS. COOKE: 417, page 31, it's table 12C.

12 THE COURT: I'm not sure I'm with you. Hold on.

13 THE WITNESS: It's this one, your Honor.

14 THE COURT: Okay.

15 Q. This table, 12C reports the results of your analysis of the
16 UF 250s between 2010 and June 2012 following your
17 reclassification at the narrative categories, correct?

18 A. Right. We applied the narrative categories back to the
19 full sample, picked up 57,000, reclassified those. And the
20 remainder were -- stayed as not generalizable.

21 Q. So the reclassification, if I understand it, moves a
22 certain number of UF 250s from the nongeneralizable category
23 into either apparently justified or apparently unjustified,
24 correct?

25 A. Correct.

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1 Q. And to see the difference between the two preclassification
2 and postclassification of the narratives, we'd have to look at
3 table 12 and compare it to 12C.

4 Table 12 is on page 26, correct?

5 A. Yes.

6 Q. And looking at page 26, table 12C, I see -- you've broken
7 it into radio runs and non-radio runs on both charts -- but you
8 see that for the total stops involving radio runs the not
9 generalizable percentage went from 10.75 to 7.58, correct?

10 THE COURT: I'm sorry. I didn't find that. Say it
11 again.

12 I'm sorry. On the radio runs.

13 MS. COOKE: Yes. Radio runs. Total stops not
14 generalizable is 10.57 percent. And according to table 12C on
15 page 31 which is on the screen, total stops for radio runs in
16 the nongeneralizable categories dropped to 7.58, correct?

17 THE WITNESS: Yes.

18 Q. And that's because the apparently justified total radio
19 runs moved from 85.76 to 87.51?

20 A. Correct.

21 Q. And the apparently unjustified moved from 3.48 to 4.91,
22 correct?

23 A. Correct.

24 Q. So is it fair to say that about 50 percent even
25 distribution moved from -- moved to both apparently justified

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1 and apparently unjustified on the figure that moved?

2 A. That's -- yes. That's the way the math worked out.

3 Q. And is that the same case -- about approximately the same
4 case for the radio runs that --

5 A. Yes. It was about 50/50.

6 Q. 50/50 split.

7 So of the number of UF 250s that moved out of the
8 not-generalizable category about half of them went to
9 apparently justified and half went to apparently unjustified?

10 A. Correct.

11 Q. And you -- I believe you testified or, at least it's
12 reported in your report, that you weren't able to classify all
13 of the 84,000 UF 250s based on this sample result, right?

14 A. Right.

15 Q. But you believe that if you were able to, you have no
16 reason to think the results would be different, correct?

17 A. It's a pretty reasonable hypothesis to throw out.

18 Q. So would it be fair to say that your belief is that some
19 other number of the UF 250s in the not-generalizable category
20 would move and about half of them would move to apparently
21 justified and about half would move to apparently unjustified?

22 A. It's possible again.

23 With one caution, and I think it's an important
24 caution. One of the reasons we couldn't classify those text
25 strings was because they were really quite anomalous. So the

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1 question then would become is -- would there be an
2 extant probability that an anomalous unclassifiable text string
3 would fall into one category or another.

4 And I actually think that the reason why they weren't
5 able to be picked up as text strings was because they were
6 particularly anomalous. And my sense, my guess would be,
7 having done inductive -- this kind of inductive analysis of
8 narratives and text strings and discourse and so on, is that
9 the more analyses -- more anomalous they are, the less -- the
10 less easily generalized they would be. And they certainly
11 wouldn't fall into neat preexisting categories.

12 THE COURT: Okay. With that, we are going to stop for
13 the day. We didn't take an afternoon break. So some of us are
14 having an afternoon break now.

15 We'll reconvene at 10:00 tomorrow morning.

16 MR. MOORE: One quick housekeeping. Did we move 289
17 in?

18 289 was the 81st precinct tapes. And 289T was the
19 transcript. Just move the admission of those.

20 THE COURT: I don't know who is representing the city
21 but that seems right to me.

22 MS. COOKE: No objection.

23 THE COURT: I assume nobody objects. Okay. They're
24 received in evidence.

25 See you tomorrow at 10:00.

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1 As soon as you clear out, there's another case
2 waiting.
3 (Plaintiffs' Exhibits 289 and 289T received in
4 evidence)
5 (Adjourned to April 5, 2013 at 10:00 a.m.)
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