

RED HILL VALLEY PARKWAY INQUIRY

TRANSCRIPT OF PROCEEDINGS
HEARD BEFORE THE HONOURABLE
HERMAN J. WILTON-SIEGEL
held via Arbitration Place Virtual
on Thursday, September 29, 2022 at 9:31 a.m.

VOLUME 60

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1 Arbitration Place Virtual

2 --- Upon resuming on Thursday, September 29, 2022

3 at 9:31 a.m.

4 MS. RAINSFORD: Good morning,

5 Mr. Izadpanah. Thank you for joining us today.

6 Before I ask you some questions, I'm going to ask

7 the court reporter to swear you in.

8 AFFIRMED: PEDRAM IZADPANA

9 EXAMINATION BY MS. RAINSFORD:

10 Q. I would like to start

11 with some questions about your professional

12 background. You worked for CIMA from

13 approximately 2009 to July 2018?

14 A. That's correct.

15 Q. And what roles did you

16 hold since 2009?

17 A. So, I started as an

18 engineer, traffic engineer, and then project

19 manager, senior project manager, and in the

20 meantime became associate partner and partner with

21 the firm, too.

22 Q. And then after you left

23 CIMA, where did you end up working?

24 A. So, I started immediately

25 at TES Information Technology as the vice

1 president. And then this year, TES Information
2 Technology merged with True North Safety Group, so
3 I'm a director of transportation engineering at
4 True North Safety Group right now.

5 Q. And how does your role at
6 True North Safety Group and at TES, how did that
7 differ from your role at CIMA?

8 A. By and large the same. I
9 have more responsibility in leadership right now
10 and also I'm more working on technology-related
11 matters. Mostly we have a software product that
12 municipality use for traffic engineering and road
13 safety analysis and data management, so that's the
14 difference between my role at TES and TNS compared
15 to CIMA.

16 Q. Thank you. And I
17 understand you completed your schooling in
18 engineering. Where did you graduate from?

19 A. So, I did my undergrad
20 and my Master's at Sharif University of Technology
21 and Ph.D. at the University of Waterloo.

22 Q. I understand that you're
23 also a licensed professional engineer?

24 A. That's correct, in
25 Ontario.

1 Q. In Ontario. Are you
2 licensed in any other jurisdictions?

3 A. No.

4 Q. Okay. And so, before we
5 get into your involvement with projects on the
6 LINC and Red Hill Valley Parkway, I'm hoping you
7 can help us understand the group you worked in at
8 CIMA and the type of engineering you do.

9 So, what group were you in at
10 CIMA?

11 A. In traffic and road
12 safety here in Ontario, and I had -- at the end, I
13 had several people reporting to me and, depending
14 on -- mostly my expertise or my role is to analyze
15 data and provide recommendations for the design
16 or -- to municipalities by and large to improve
17 their traffic safety and safety.

18 Q. And I understand you were
19 the road safety traffic engineering group and that
20 differs slightly from road design engineering.
21 And could you help us understand the difference?

22 A. Yeah. There's a big
23 difference. I don't know how to design. I don't
24 design. My role is to look at the traffic data
25 and consider the geometry and traffic conditions

1 and environmental conditions and overall identify
2 any issues that might exist with the road. And
3 then as part of our recommendation would be to
4 others to look at the design, change the design
5 perhaps, if necessary, or consider our
6 recommendation in their design.

7 Q. And can you explain just
8 briefly the difference in approaches between an
9 engineer specializing in road design and an
10 engineer specializing in road safety and traffic
11 engineering?

12 A. Road designers, they're
13 given some parameters. For example, the design
14 speed, the curvature of the road, they look at the
15 environment and expected traffic volume. And,
16 based on those, they use, in Canada, Geometric
17 Design Guide for Canada and also in Ontario there
18 are some manuals in Ontario that they utilize to
19 identify the slope of the road and the roadside,
20 number of lanes and how the configuration of the
21 cross section is and the curvatures and all that.
22 So, traffic engineers and planners provide some of
23 those initial inputs to the design and then the
24 designers will take it from there.

25 Q. And I understand as part

1 of a road safety engineer's job, they would be
2 involved in road safety audits. Were you aware of
3 any traffic or road safety audits on the RHVP
4 prior to its opening?

5 A. No. I don't know.

6 Q. So, now I'm going to get
7 into your involvement with the RHVP.

8 Registrar, if could you could
9 call up CIM366.

10 And so, this is an e-mail that
11 you sent on April 24, 2013 to your colleagues at
12 CIMA, with the subject line "Red Hill Valley
13 Parkway Internal Kickoff," and you write:

14 "Here are my notes from
15 our internal kickoff
16 which was held on
17 Wednesday, April 24."

18 Do you remember writing this
19 e-mail?

20 A. I saw it as part of my
21 preparation for this.

22 Q. It was a couple of years
23 ago, I understand. And do you recall attending
24 the meeting?

25 A. I don't, but I have

1 attended based on this note.

2 Q. Okay. So, you understand
3 from the e-mail that you have attended?

4 A. Exactly.

5 Q. And I guess in that same
6 vein, looking at the e-mail and your own
7 recollection, do you remember what the meeting was
8 about and what project it pertained to?

9 A. Yeah. So, basically
10 because we were going to meet with a client to
11 have the kickoff meeting, we wanted to be prepared
12 for that meeting and come up with our questions
13 for the client to have a productive kickoff
14 meeting. I think that's the purpose. Sometimes
15 we did that if the project is larger in a scope.

16 Q. And in the e-mail you
17 wrote that Hamilton had a concern or the client
18 has a concern that the highway has not been built
19 according to MTO standards, but the public are
20 considering it similar to the 400-series highway.
21 Do you recall the City expressing this concern?

22 A. At that time, we hadn't
23 met with the City. Basically that's something
24 that we heard in the office, that that's why this
25 assignment is being initiated.

1 Q. And when you say heard in
2 the office, who would that information have come
3 from?

4 A. I don't remember.

5 Q. Okay. But presumably one
6 of your colleagues who maybe had contacts with the
7 City?

8 A. That's right.

9 Q. And so, do you have any
10 understanding of what the meaning of the client
11 has a concern that the highway has not been built
12 according to MTO standards?

13 A. Sorry, can you repeat
14 that?

15 Q. Do you recall what was
16 meant by the client has a concern that the highway
17 has not been built according to MTO standards?

18 A. Yeah. I think one of the
19 differences that the LINC and the Red Hill, they
20 had at the time, the posted speed is 90. For most
21 of the 400-series highways, they're a 100
22 kilometres an hour posted speed limit. And it was
23 the concern that when people are getting on the
24 LINC from the QEW, on the Red Hill Valley Parkway
25 from the QEW, 403, they don't feel, they don't

1 know, that this road is really different and
2 they're driving at the same speed.

3 Q. So that would be, kind
4 of, the MTO standard that hadn't been built
5 according to, to your understanding?

6 A. Exactly. That's one of
7 the differences. My knowledge is more on the LINC
8 rather than Red Hill, but for the LINC we have
9 different types of medians, spacing of
10 interchanges are different than MTO highways and
11 the roadside is different. That's what I think we
12 all know about that is different from MTO
13 highways.

14 Q. And so, this initial
15 e-mail, it later turns into the 2013 RHVP safety
16 review.

17 And, Registrar, if you could
18 call up CIM9115.0001.

19 And so, these are meeting
20 minutes from April 26, 2013 and this is when you
21 have the kickoff with the City. And, again,
22 you're listed as an attendee on this e-mail. And
23 then after that we don't have documents which
24 suggest your involvement, including the final
25 report. What do you remember of your involvement

1 after this point in the project?

2 A. Yeah. So, we went -- we
3 had this kickoff meeting and I recall the kickoff
4 and the City staff came for the kickoff to our
5 offices. And then Dr. Masliah was just hired by
6 the firm, so what happened was that he took over
7 as the project manager for this study and then I
8 changed my focus to other projects.

9 Q. Okay. So, you remember
10 that Dr. Masliah, kind of -- you transitioned over
11 to him and you were on other projects after this
12 point?

13 A. Exactly.

14 Q. And so, Registrar, if you
15 could call up HAM41871.

16 And so, this is the final Red
17 Hill Valley Parkway safety review. Did you
18 receive a copy of this report?

19 A. As part of the inquiry?

20 Q. No, sorry. In your role
21 as CIMA, before the inquiry?

22 A. I didn't have
23 involvement, so I don't think -- I did not review
24 or worked on it.

25 Q. Okay. So, you typically

1 wouldn't receive reports for projects you weren't
2 involved in?

3 A. Yeah. So, the work flow
4 is that there are people that -- there's a project
5 manager, there's a project director, and also
6 there are technical staff who work on the
7 projects. The technical staff draft a report and
8 the project manager reviewed and then the project
9 director would verify. And this really depends on
10 the scope of the project. This is generally the
11 case for the larger projects. For the smaller
12 projects, usually a technical team or a person and
13 a project manager would be sufficient.

14 Q. Okay. Great. And we'll
15 get into that, I think, with your involvement with
16 the 2015 CIMA LINC report, because it sounds like
17 you did a role similar to that.

18 But would you have received a
19 copy of this report if you were working on other
20 projects for the Red Hill Valley Parkway? In your
21 role at CIMA, would you ever receive, like go
22 through, past roads on the same roadway in
23 preparing for another project on the roadway?

24 A. In remind, to see what
25 happened.

1 Q. Okay. So, now I'm going
2 to go to the 2015 CIMA --

3 A. Sorry. Just to answer
4 your question, when you're saying "received,"
5 there was no transmission. We have a file
6 management system. The previous projects are all
7 available to everybody.

8 Q. Okay. So, it might be
9 something you could consult, but you wouldn't have
10 received it in an e-mail or something?

11 A. No.

12 Q. Okay. So, jumping
13 forward in time to the 2015 CIMA LINC report.

14 And, Registrar, if you could
15 call up HAM701.

16 So, this is the final version
17 of the report, the Lincoln Alexander Parkway
18 median safety study. What was your role on this
19 report? I think you briefly, kind of, described
20 it in relation to other reports, but if you could
21 just describe it here?

22 A. Yeah. I believe I was
23 the project manager for this report.

24 Q. If we go to image 2, it
25 lists you as a preparer. Sorry, image 3. A

1 reviewer.

2 A. Yeah. So, Mr. Hawash and
3 Mr. Thukral reported to me. We worked on this
4 project together. I was the project manager and I
5 reviewed. And then Brian, as the project
6 director, verified the report.

7 Q. And would you have been
8 involved in the drafting of the report?

9 A. As part of my reviews,
10 because each report could go through multiple
11 versions to be reviewed thoroughly. I put
12 comments. The team would address. I might write
13 a few sentences in the report of course.

14 Q. And then so after you
15 reviewed, would anybody else review it after you?

16 A. I think Mr. Malone has
17 done it, based on this.

18 Q. So, you would review
19 first and then Mr. Malone would be the final
20 reviewer?

21 A. That's right.

22 Q. So, my understanding is
23 that while you were working on this LINC report,
24 the City requested that CIMA also prepared a
25 similar report for the RHVP.

1 Registrar, if you could call
2 up HAM56684.

3 So, this is the Red Hill
4 Valley Parkway detailed safety analysis,
5 November 2015 report. What was your level of
6 involvement with this report?

7 A. I don't recall I had any
8 involvement with this.

9 Q. And so, you actually
10 weren't listed as a preparer or reviewer on this
11 report, but we do see that you're copied on a
12 number of e-mails, including if you can call up
13 CIM10192.

14 And so, this is an e-mail from
15 one of your colleagues, Mr. Malone, and you're
16 copied on this e-mail and it's -- I'll give you a
17 moment to look it over, but he's describing, I
18 guess, the origin of the project and you're copied
19 on this e-mail?

20 A. Mm-hmm. That's not
21 unusual, because when a request comes, we don't
22 know who is going to do the project at the time,
23 so Mr. Malone distributed it to those who have
24 expertise and said, heads up, this is coming.

25 Q. And then after this

1 point, do you remember being involved in the
2 report in any way?

3 A. No. Based on for the
4 preparation for this meeting, I looked at the
5 communications. My staff worked on the project,
6 but from time to time I was copied on the e-mails
7 for the purpose of knowing -- for their timesheet
8 purposes by and large, that your guy is working on
9 this project, so you're looking at the timesheet
10 and know where the time is going.

11 Q. Okay. And so, were you
12 involved in any of the discussions between the
13 City and CIMA about the drafts of the 2015 RHVP
14 report?

15 A. No.

16 Q. And then, Registrar, if
17 you can call up CIM9287, please.

18 So, these are meeting minutes
19 from October 20, 2015 for the RHVP safety review,
20 LINC safety review and you're listed as one of the
21 people who got a distribution of the report. It
22 doesn't appear that you're present. And can you
23 explain why you would have received a copy of
24 these minutes?

25 A. Yeah. I think because my

1 staff were involved or I think it was probably, I
2 believe, there is a linkage to the LINC report
3 that I was involved in. That's why my name is
4 there.

5 Q. And then finally, if we
6 could, Registrar, if you could call up OD 7,
7 image 41. Thank you. And so, if we're looking --
8 if you could call out paragraphs 124 and 125,
9 please.

10 And so, this is -- it's
11 referring to an e-mail where you're e-mailing
12 Mr. Ferguson at the City and you're attaching a
13 document which summarizes the City's comments and
14 CIMA's responses for both the LINC and RHVP safety
15 reviews. And I understand from your evidence that
16 you were working on the 2015 CIMA LINC report and
17 only involved in the RHVP report for staffing
18 considerations.

19 Why were you tasked with
20 e-mailing Mr. Ferguson for those reports?

21 A. I don't know. Yeah, I
22 don't recall why, but just to reduce the
23 communications. I don't know.

24 Q. Would you have been
25 involved in any of the language on the responses

1 to the 2015 CIMA RHVP report?

2 A. I don't believe, because
3 I wasn't involved in the project, so I wouldn't
4 review the comments.

5 Q. Okay.

6 A. Yeah.

7 Q. So, it might have just
8 been easier to send one e-mail?

9 A. That's what I can come up
10 with. I don't know.

11 Q. And so, you worked with
12 many clients in your position at CIMA and then
13 later at TES and True North. How did you do find
14 the City compared to your other clients?

15 A. Hamilton?

16 Q. Yeah.

17 A. It's very similar to
18 others. There's no difference. It's a larger
19 City, more staff. That's all.

20 Q. And so, then the reports
21 were -- the 2015 CIMA LINC report and the RHVP
22 reports were presented to the public works
23 committee on December 7, 2015. Do you recall
24 attending that meeting?

25 A. No. I did not attend.

1 Q. Okay. So, you recall not
2 attending?

3 A. Yes.

4 Q. And if you could,
5 Registrar, please call up CIM9999.

6 And so, this is an e-mail you
7 were copied on from Mr. Malone and he's forwarding
8 the -- Registrar, if you could please call up
9 image 2 and put it side by side with image 1.

10 And so, if you look at the
11 bottom of your right screen, you'll see a
12 January 24, 2014 e-mail from Ludomir Uzarowski to
13 Gary Moore and it has the 2013 friction numbers,
14 and I understand the 2007 numbers are also in
15 there as well. Do you recall receiving this
16 e-mail?

17 A. I see that at the end I'm
18 copied on it, but I wasn't involved in the project
19 and that's why I don't recall it. And even if I
20 did, I wouldn't know, wouldn't understand any
21 friction number, to be honest. I have no idea
22 what they mean.

23 Q. Okay. So, I take it you
24 don't have any expertise in any friction?

25 A. No.

1 Q. Do you know why this
2 e-mail would be sent to you?

3 A. Because same, I think,
4 what I explained before; because of the
5 involvement of some of my staff in the project,
6 that's why I was copied on it.

7 Q. Okay. But this isn't a
8 staffing consideration thing. This is more of a
9 knowledge friction piece and you would sometimes
10 receive e-mails like this?

11 A. Yeah. Yeah. I was not
12 involved in any conversation related to this.

13 Q. Okay. And so, to the
14 extent that you reviewed this, what did you
15 understand this e-mail to mean when Mr. Malone
16 says:

17 "It does not help very
18 much since it appears
19 that the City abdicates
20 responsibility for
21 assessing friction on the
22 pavement surface to the
23 MTO for some reason.
24 We'll need to decide how
25 to deal with this in the

1 report."

2 What report did you understand
3 him to be referring to?

4 A. Based on what I see,
5 probably it's the Red Hill report. Right? I
6 don't know. I think we should ask Mr. Malone, but
7 this is -- I'm assuming it's related to the Red
8 Hill report when he refers to Red Hill.

9 Q. The timing, that would
10 make sense. And so, did you have any followup
11 discussions about this e-mail?

12 A. I don't recall any
13 followup.

14 Q. Would you have registered
15 these friction numbers after reading the e-mail or
16 registered any reaction to them?

17 A. Yeah, but I'm not a
18 pavement engineer, so basically what I can say is
19 whenever we see in the collision statistics a
20 large proportion of collisions during wet
21 condition, non-dry condition, oftentimes we
22 suggest that a pavement review or friction test is
23 required and also review of the pavement. But
24 what friction, a satisfactory friction test say,
25 that's not part of my expertise.

1 Q. Fair enough. And so,
2 after the 2015 CIMA LINC and RHVP reports go to
3 city council, there was some controversy
4 surrounding the speed data, in particular, of the
5 statistic that over 500 vehicles were travelling
6 in excess of 140 kilometres per hour on the LINC
7 and the RHVP. Do you recall this controversy?

8 A. So, yes, I do, because I
9 remember Mr. Malone called us up that the City has
10 problem with our data, go back and look at the
11 data and see if we made any mistake or no, it's
12 accurate. That, I totally recall.

13 And then I believe our guys
14 went back, looked at their analysis and concluded
15 that they are correct.

16 Q. And what would your
17 involvement be in resolving the controversy?

18 A. I don't believe that I
19 had any involvement. It was just remember
20 whenever the client asked, did you do this
21 calculation correctly, it registers with me
22 because we tried to do everything very
23 meticulously and that kind of error is not good,
24 so that's why I remember it.

25 Q. Okay. Fair enough. And

1 did you look into the data at all to determine
2 whether or not your analysis or the data was
3 flawed?

4 A. I don't think it was my
5 analysis, so they were my staff and they looked at
6 it, yeah.

7 Q. So, they looked at it and
8 did you review their analysis or...

9 A. I don't recall.

10 Q. Okay. Do you think
11 that's something --

12 A. I wasn't involved in the
13 project. Pardon me?

14 Q. Do you think that's
15 something you would have done, reviewed their
16 analysis after this was brought to your attention?

17 A. I think we had qualified
18 people on the team to review their work and see if
19 there was any problem.

20 Q. And do you remember who
21 collected the data?

22 A. I don't know. We didn't
23 collect the data. The data was provided to us by
24 the City.

25 Q. Okay. And if I said to

1 you that Pyramid collected the data, would that
2 accord with your recollection?

3 A. Yeah. I'm not surprised
4 because they do a lot of data collection in
5 Niagara Region and Hamilton, so that's...

6 Q. And so, now I'm going to
7 take you into the speed limit reduction study,
8 which you were involved in prior to your departure
9 at CIMA. And just to situate you, the speed limit
10 reduction study, it appears to have first been
11 discussed in October 2017.

12 Registrar, if you could call
13 up CIM16041, image 5. Could we go to image 4.
14 Yeah, perfect.

15 So, if you look at that
16 e-mail, that's the e-mail from October 24, 2017
17 and it's from Brian to -- or from Stephen Cooper
18 at the City to Brian Malone. And from these
19 e-mails, if you go up or if you look even at the
20 top e-mail, it looks like you were copied on the
21 initial involvement in the proposal?

22 A. Yes.

23 Q. And then if you go up,
24 Registrar, one image. Sorry, maybe down. Could
25 we have images 1 and 2, please. Okay.

1 So, if you look at image 1,
2 it's, in the top e-mail, December 7, 2017. It's
3 Mr. Cooper e-mailing one of your colleagues,
4 Mr. Barnet, and I believe you're also on the
5 e-mail. And it's the City informing you, it
6 appears to be the City informing you, that they
7 can't provide any speed data for the RHVP or the
8 LINC.

9 And then, Registrar, if you
10 could please call up HAM46497 and image 5.
11 Image 6, please. Okay.

12 So, on December -- if you
13 could actually remove the call up. Thanks.

14 So, on December 14, 2017, you
15 e-mailed Mr. Cooper a proposal for the speed study
16 and the ITS strategic plan. Do you remember being
17 involved in the proposal?

18 A. Yes. I think I reviewed
19 the proposal.

20 Q. Okay. And so, if we go
21 to HAM46497.

22 So, this was the proposal
23 which was just on our screen a minute ago. It's
24 the March 2018 proposal and you're listed as the
25 signatory on this. So, can you describe what the

1 purpose of this project was?

2 A. Yeah. So, in late 2017,
3 early 2018, after those safety reviews were done
4 for both the LINC and the Red Hill, the City
5 wanted to implement some of the countermeasures
6 proposed as part of those, you know, on top of
7 other things that they want to implement to
8 improve safety on both of these highways.

9 So, one was the review of the
10 speed because there was a clear, particularly on
11 the Red Hill, speeding problem was identified.
12 And also, the LINC had other issues of a lot of
13 rear-ends because of the speed differentials
14 between the travelled lanes. That's why they
15 wanted to review speed and see what would be the
16 appropriate, if any, speed limit changes for these
17 highways. So, that was the speed component.

18 Also, I believe an
19 illumination study was started and then they
20 wanted to implement queue-end warning systems on
21 the LINC and the Red Hill. Our position, I think
22 in conversation with Mr. Barnet, who is a very
23 experienced person in ITS, he said, look, a lot of
24 things are happening without any strategy, so
25 that's to improve efficiency, making sure that we

1 consider all of the initiatives that are happening
2 at the same time, we need ITS strategic plan for
3 these highways. If you're bringing power for one
4 purpose, we got to make sure that other
5 initiatives are considered so we do not --
6 otherwise, it will increase the cost of
7 implementation of all of these countermeasures for
8 the City.

9 So, once you have a study that
10 looks at all of the initiatives that are going to
11 take place and implement on these highways, it
12 would be more efficient. That's why the ITS
13 strategic plan was drafted, the proposal, so it
14 consider all of the sensors that the City has
15 deployed, any queue-end warning systems, any
16 powerful lighting or anything of that nature, any
17 fibre optic cables are brought to the highways for
18 the sensors, they're all considered and we do it,
19 they do it, probably once for all.

20 Q. I understand that the
21 specific project, it was part of the a broader
22 plan, it sounds like, but with respect to this
23 specific project, there were two phrases and one
24 of them was the ITS strategic plan, which was
25 phase 1, and the second was the speed study, which

1 was phase 2.

2 What was your involvement in
3 the ITS strategic plan?

4 A. So, I was the project
5 director, so I was responsible as the corporate
6 responsible for the project.

7 Q. So, I take that to mean
8 that you were involved in both the ITS strategic
9 plan and the speed study?

10 A. Yes, as the project
11 director.

12 Q. As the project director.
13 And so, as the project director, were you involved
14 in the decision to retain Pyramid to undertake the
15 data collection?

16 A. No, but that's usually in
17 this area Pyramid is our first choice to go for
18 most projects, not for City of Hamilton, for any
19 project in Niagara or in Halton Region. They're
20 local. That's why usually their prices are better
21 than the others. That's why that's usually our
22 first referral. We go to them and ask for a
23 quotation.

24 Q. So, you didn't have
25 concerns using Pyramid for this protect?

1 A. No.

2 Q. And then as the project
3 director, were you involved in selecting the
4 locations for speed data collection?

5 So, Registrar, if you could
6 pull up images 5 and 6 and put them side by side,
7 please.

8 And so, if you look at page 6,
9 you'll see it looks like there's six locations
10 which are identified on the map and then there's
11 the justification for why those locations were
12 identified. Were you involved in selecting any of
13 these locations?

14 A. I don't recall, but I
15 might have been. Right? I don't recall.

16 Q. And what kind of
17 considerations would you take into account when
18 selecting these locations? I think if you look at
19 the justifications, you can see some of them, but
20 if you could explain that.

21 A. Yes. So, we don't want
22 to be in the interchange influence area because
23 there are lots of weaving. Speed is not a speed
24 of the highway, so that's a correct decision. We
25 want long enough a stretch of highway that

1 represent a typical speed of the highway, not
2 influenced by other geometric constraints, like
3 the interchange.

4 And the other one that I see
5 is the high frequency collision, so that's
6 reasonable, too, because we want to know what's
7 happening in that area with respect to speed,
8 especially we know, we knew, that Red Hill had
9 speed-related crashes. That's why that location
10 is selected as well, so they make sense to me.

11 Q. When you say we know that
12 Red Hill had speed-related crashes, how did you
13 come to know that?

14 A. Well, based upon the
15 analysis in the previous reports, the collision
16 analysis is clear that there were speed-related
17 crashes and wet -- crashes that happened during
18 wet condition.

19 Q. And we'll touch on that a
20 bit later when we come to your collision memo.
21 But just to, kind of, round this out, I understand
22 that you left CIMA in July of 2018. Do you
23 remember at what point you left the project, what
24 stage it was in?

25 A. I really don't recall,

1 but it was not far advanced, neither of the
2 phases, so there were preliminary stages when I
3 left, I believe.

4 Q. I think we can go to
5 something that might assist your memory.
6 Images 10 and 11, if you could call up images 10
7 and 11, please.

8 And so, these are the
9 schedules assuming a start date of March 20, 2018.
10 I understand that the project was authorized on
11 March 29, 2018, so it would have been a little bit
12 behind schedule or behind these timelines. Based
13 on these schedules and your recollection, do you
14 have a better sense of at what point the project
15 would have been at when you left?

16 A. Yeah. So, for phase 1,
17 it was not moving because we were not getting the
18 information from city staff. I believe I was part
19 of that stakeholder workshop. I think that was
20 the end of my involvement.

21 Q. Okay. That's --

22 A. Phase 2, I have no
23 recollection.

24 Q. Okay. And so, now we're
25 going to get into some of those collisions

1 statistics you talked about.

2 Registrar, if you could call
3 up HAM1095, please.

4 So, this is the January 2018
5 memo, the Lincoln Alexander Parkway, Red Hill
6 Valley Parkway collision rates. And how did this
7 memo come about?

8 A. So, based on what I
9 reviewed in the document provided by the inquiry,
10 it was early January in 2018 and Mr. Ferguson
11 asked us some questions. It appears that the City
12 Commissioner, if I'm not mistaken, is going to
13 make a presentation, ask some questions about how
14 the LINC and the Red Hill compared to similar
15 highways in Ontario. So, he asked the question
16 and he said that it's a sort of urgent task
17 because we need the information for the
18 presentation and that's what we did, I think,
19 within the timeframe. I tried to answer those
20 questions --

21 Q. So, you were hearing
22 the -- sorry, I didn't mean to cut you off. I'll
23 let you finish.

24 A. Not at all. Please.

25 Q. So, you were comparing

1 the collision rates on the LINC and the RHVP to
2 other comparator highways or similar roadways?

3 A. That's right.

4 Q. And where did you get the
5 data from which you were analyzing in the memo?

6 A. So, the data for the Red
7 Hill and the LINC were those that we had used in
8 the past, in the previous studies, and the data
9 for the MTO were from the MTO Ontario road safety
10 annual reports and the MTO safety analyst
11 software.

12 Q. And so, that wasn't data
13 you collected yourself?

14 A. Oh, no.

15 Q. It would have been
16 provided to you either by the City or through a
17 consultant?

18 A. The City. No consultant.

19 Q. Okay. And who -- so,
20 you're listed as the author. Did you perform the
21 data analysis in the memo?

22 A. I reviewed it. The work
23 was done by Mr. Bottesini.

24 Q. And if we go to image 2,
25 Registrar, if you could please call out the bottom

1 two paragraphs.

2 So, these appear to be your
3 conclusions, which show that the average weighted
4 collision rates on the LINC and the RHVP are lower
5 in comparison with Highway 406, Highway 7 and 8
6 and Highway 8. Does that accord with your
7 recollection?

8 A. Yeah. That's what I can
9 see here, yes.

10 Q. And did that surprise
11 you?

12 A. So, you can see in the --
13 my communications with Mr. Ferguson, I thought
14 really hard on these numbers, even after we
15 submitted the report, because in the data we
16 observed some proportions that are high. Although
17 this was the conclusion of this report, but fatal
18 injury collision proportions were very high.

19 Q. So, I think we'll get to
20 that. Registrar, if you could please call up
21 HAM46235, and if you could call up image 1 and 2.

22 And so, if you look at
23 image 2, it looks like you submit the memo to Dave
24 Ferguson, it's the bottom e-mail, on January 12,
25 2018. And then if you look at image 1, on

1 January -- so, that's -- I took a look at the
2 dates and that's a Friday. And then on
3 January 14, 2018, it's a Sunday and you send an
4 e-mail to Mr. Ferguson saying:

5 "I was thinking about
6 your questions today and
7 thought it would be
8 useful for you to know
9 the proportion of fatal
10 injury collisions (severe
11 collisions) and total
12 number of collisions for
13 LINC/RHVP and the
14 comparison highways, so I
15 just did the analysis and
16 results could be
17 interesting for your
18 tomorrow's meeting."

19 And then you include a table
20 with those results. So, what prompted you to do
21 this extra analysis on the weekend?

22 A. Working weekend is part
23 of my life, so it's not unusual. So, when I see
24 it, I'm proud that we did that because that was
25 not a question they asked.

1 Q. Okay.

2 A. And it was on my mind,
3 what is different about these two highways
4 compared to others? So, I did or we did, I don't
5 recall if Giovanni did the analysis or I did the
6 analysis, looked at the proportion of fatal and
7 injury collisions compared to the total that we
8 had and we saw this observation. So, we wanted to
9 tell him, look, there is another story. You
10 didn't ask the question, but this is what we have
11 seen. Maybe it is useful to communicate, useful
12 for you to know.

13 Q. So, you didn't have any
14 prior discussions with Mr. Ferguson about
15 undertaking this extra analysis; it was, kind of,
16 self-initiated?

17 A. Yeah, but sort of
18 commitment to the projects.

19 Q. Right. And so, just help
20 me understand had this analysis been done when you
21 were undertaking the project or did something
22 prompt you to do this further analysis and share
23 it with Mr. Ferguson?

24 A. Basically, if I recall, I
25 thought about what it -- so, they asked some

1 questions. What is missing from those questions?
2 And because you might have a highway with a lot of
3 fender-bender-type collisions. That's one thing.
4 But you have a highway with a lot of fatal injury
5 collisions. That's another story. So, that
6 question was missing from the client. That's to
7 have a better understanding of what's happening on
8 the highway. That's why I think we did in this
9 case.

10 Q. Okay. So, it wasn't --
11 you didn't have any inclination which way the
12 stats were going to turn out. You just thought
13 generally this is a missing question which is
14 useful in evaluating roadways: What's the
15 severity of these collisions? They haven't asked
16 that question, we should undertake that analysis.
17 Is that what I understand?

18 A. Absolutely. We never
19 have any inclination where the stats should go.
20 We have the data, we analyze the data and we tell
21 the story as it is. There's no bias here
22 whatsoever.

23 Q. Sorry. I didn't mean to
24 suggest bias, but I think sometimes, you know,
25 based on our understandings of certain things, we

1 might have ideas about if something is missing
2 from the data.

3 And so, then, Registrar, if
4 you could please call up HAM1105.

5 So, this is just you and
6 Mr. Ferguson engaging in a back and forth.

7 And, Registrar, if you could
8 please call up image 2 as well. And then,
9 Registrar, if you could -- or no.

10 If you look at the bottom of
11 image 2, Mr. Ferguson's February 1, 2018 e-mail,
12 and it says:

13 "My comment based upon
14 what I recall from the
15 report was that there's
16 evidence of speeding on
17 both."

18 So, this is, to situate you,
19 after you've submitted the extra analysis you've
20 done and this is Mr. Ferguson's response. And so,
21 he says:

22 "My comment based on what
23 I recall from the reports
24 was that there is
25 evidence of speeding on

1 both facilities, LINC dry
2 conditions, RHVP wet
3 conditions. Police have
4 reported that 95 percent
5 of the violations they
6 issue on these facilities
7 is related to speeding.
8 I also suggested that the
9 Highway 7 and 8
10 facilities might have
11 longer hours of heavy
12 volume and therefore
13 motorists aren't able to
14 speed as often. Highway
15 406 I suspect is lower
16 simply because the
17 vehicle speeds are simply
18 lower because you simply
19 can't really speed
20 through the section in
21 St. Kitts just simply
22 because of roadway
23 geometries."

24 So, Mr. Ferguson seems to be
25 suggesting to you that speeding might be a cause

1 of the higher proportion of fatal injury
2 collisions on the LINC and RHVP compared to the
3 other comparator roadways. And what was your
4 response to this suggestion?

5 A. We didn't have data to
6 support, suggest, whether there is speeding in
7 others or -- in other highways or not, and so we
8 didn't have data, so we didn't comment on that.
9 But speed is always -- when you have a high
10 proportion of fatal and injury crashes, speed is a
11 factor. We got to look at the speed because it's
12 just physics. The energy is proportionately
13 related to speed, so the speed is higher, the
14 energy is higher and the result would be more
15 catastrophic, so that's understandable. It's
16 physics. That's what I'm saying, is that the
17 speed could be a major cause of injury and
18 fatality.

19 Q. Right. And I think
20 that's what you're saying in your response above.
21 Then you also make the comment:

22 "Another question is
23 whether the comparison
24 highways have a more
25 forgiving environment."

1 Did you come to any kind of
2 conclusions on why some roads might be more
3 forgiving than others?

4 A. Yeah. I think we spoke
5 about this a little bit at the beginning of this
6 meeting, that MTO highways have a higher standard
7 that is known compared to the LINC in particular.
8 That's why the higher standard generally mean a
9 more forgiving environment. It's designed for
10 higher speed.

11 Q. And then if we look at
12 image 1, Mr. Ferguson again appears to be
13 questioning the stats and he says:

14 "Are you comfortable with
15 the numbers?"

16 And then he mentions that Gary
17 Moore went off in the meeting. Had you met Gary
18 Moore at this point?

19 A. No, never.

20 Q. So, did you have any
21 dealings with him?

22 A. Never.

23 Q. Then I'm going to take
24 you to HAM28108.

25 And so, this is an update of

1 your collision memo in January of 2019 and I
2 understand at this point you were no longer at
3 CIMA, so it's authored by Mr. Malone. Just to
4 confirm, you had no involvement in this memo?

5 A. Correct, I had no
6 involvement.

7 Q. And, Registrar, can we
8 please call up images 4 and 5.

9 And so, if we look at the
10 bottom, so in 2019 they update this memo and they
11 say:

12 "We note that the
13 collision rates reported
14 in the 2018 memo were
15 considerably lower. Our
16 understanding is that the
17 data provided for the
18 previous analysis did not
19 include self-reported
20 collisions, while the
21 data provided for the
22 current analysis includes
23 these collisions."

24 And then they go on to
25 conclude that if they remove self-reported

1 collisions, the collision rates are consistent
2 between the two memos. So, were you aware before
3 this inquiry that the data you were provided for
4 the 2018 collision memo excluded self-reported
5 collisions?

6 A. No. When I saw this
7 memo, I realized that.

8 Q. Okay. And you wouldn't
9 have seen this memo before the inquiry?

10 A. No.

11 Q. And would knowing that
12 self-reported collisions were excluded from the
13 data you analyzed have impacted the number of
14 severe collisions you would observed on the RHVP?

15 A. No, it wouldn't change
16 the severe collisions, because the self-reported
17 collisions are often fender bender, property
18 damage only collisions. Any injury collisions,
19 the police needs to attend the scene of the crash.
20 That's why they're reported by the police. So,
21 fatal injury collisions are not on --

22 Q. Perhaps I misspoke.
23 Would it have impacted the rate or the percentage
24 of severe collisions, like in the analysis you did
25 for Mr. Ferguson where it was reported, I think it

1 was 50 percent --

2 A. That's right. It would
3 affect that one, yes.

4 Q. So, now moving on, after
5 you left CIMA, you went to work at TES?

6 A. That's right.

7 Q. And, Registrar, if you
8 could please call up OD 9, images 78 and 79. And
9 if we look at paragraphs 193 and 193, we see on
10 September 27, 2018, it's not an e-mail you're
11 copied on but it's about you, and Mr. Ferguson is
12 writing to his colleague, Rod Aitchison, saying
13 that he talked to you that morning and you agreed
14 to assist the City in running the collision data
15 for that RHVP/LINC ramps through the TES safety
16 module in the collision countermeasure program.

17 And then, Registrar, if you
18 could go to image 80, please.

19 If we look at paragraph 196,
20 it indicates that Mr. Aitchison or Jeff, he's
21 reporting that Jeff has provided the tenured
22 database to you.

23 And then, Registrar, if you
24 could please call up HAM11374.

25 And so, that's an e-mail from

1 you on October 11, 2018 and you're e-mailing
2 Mr. Ferguson stating that you've reviewed the
3 subject ramps and he can download a summary of
4 your observations and recommendations from the
5 following location, and there's a link to
6 SharePoint. Unfortunately that link no longer
7 works, so we weren't able to identify what
8 document that linked to.

9 But if we pull up HAM35505,
10 would this be the document referred to in the
11 link?

12 A. Exactly.

13 Q. So, can you describe this
14 project?

15 A. Yeah. It wasn't -- so,
16 the project or the request was to look at some of
17 the ramps. So, let me go back a little bit here.

18 In 2017, the City acquired
19 test software for managing their data,
20 particularly the collision data, so before I go to
21 TES. Now, I went from CIMA to TES and still we
22 were in the process of configuring the software
23 fully. The collision data were there and there
24 were much -- in a much better shape than the
25 previous system they had. It's a more modern

1 environment. And he wanted to see some of the
2 capabilities of the software, how the software can
3 assist them in their day-to-day activity.

4 So, that was the purpose of
5 this study, to look at the capabilities of the
6 application and show them how they can do their
7 work more efficiently and more accurately using
8 the test software.

9 Q. And so, looking
10 specifically at this project, it looks like you're
11 analyzing the RHVP ramps for collisions. Do you
12 remember what time period you were looking at?

13 A. I think that all the
14 collisions that we had in the software. So, this
15 was done in 2018, so I believe it was 2017. And
16 oftentimes we'll look at five years of collisions.

17 Q. So, if I said 2013 to
18 2017, would that sound about right?

19 A. Yeah. It makes sense.

20 Q. And if we're just looking
21 at the one which is up on the screen, is that the
22 number 6418, are those the number of collisions or
23 is that a rate?

24 A. Those are collisions.
25 These are frequency.

1 Q. Okay. So, if we go to
2 HAM11374, and so that confirms that the analysis
3 period was 2013 to 2017. And then you also write
4 a few points and one of the points you write is:

5 "Please note that the wet
6 condition and SMV
7 collisions are the
8 predominant patterns. I
9 hope the resurfacing will
10 address most issues."

11 Why did you think that
12 resurfacing would address these issues?

13 A. At that time it was known
14 that the City is going to resurface the highways.
15 That was a fact. It was in the media, I believe.
16 And also, both of these issues, so they're
17 related. If we don't have -- if the pavement
18 surface would not provide enough friction when the
19 condition is wet, vehicles are going to go off the
20 road, so it's a single motor vehicle collision.
21 So, they're both sort of related to pavement.

22 Q. So, the wet condition and
23 single motor vehicle collisions would suggest to
24 you a friction issue. Is that your understanding?

25 A. Yes.

1 Q. And then I think we
2 talked about this a bit earlier when you gave the
3 overview of the project and how you came to be
4 involved.

5 Registrar, if you could please
6 call up HAM60652 and if you could call up image 2.
7 Image 1 and 2, please.

8 And so, these are your e-mails
9 with Mr. Ferguson in February of 2019. In here
10 you're talking about the TES collision module and
11 the TES safety module. Is that the module you
12 discussed earlier?

13 A. That's right.

14 Q. And then, Registrar, if
15 you could please call up HAM26850.

16 THE REGISTRAR: Sorry,
17 counsel. Do you mind repeating the document ID
18 for me?

19 MS. RAINSFORD: Yes. 28650.

20 THE REGISTRAR: Thank you.

21 MS. RAINSFORD: And could you
22 call up images 1 and 2.

23 BY MS. RAINSFORD:

24 Q. These are again some
25 e-mails between you and Mr. Ferguson in February

1 of 2019 and he's asking how the training went.
2 So, did you provide training on the module to city
3 staff?

4 A. Yes. So, it was the time
5 when the software was ready and we needed to do
6 training on the software for staff, and our
7 training generally constitute a little bit of the
8 theory behind how the software works and then how
9 to do the actual analysis with the software.

10 Q. Thank you. Commissioner,
11 those are, subject to any questions from you,
12 those are my questions.

13 JUSTICE WILTON-SIEGEL: I have
14 no questions.

15 MS. RAINSFORD: And as a
16 matter of housekeeping, I need to mark two
17 exhibits. Can we mark HAM35505 as Exhibit 151?

18 THE REGISTRAR: Noted,
19 counsel. Thank you.

20 EXHIBIT NO. 151: TES
21 report, HAM35505.

22 MS. RAINSFORD: And HAM60652
23 as Exhibit 152.

24 THE REGISTRAR: Noted,
25 counsel. Thank you.

1 EXHIBIT NO. 152: E-mail
2 from Dave Ferguson to
3 Pedram Izadpanah dated
4 February 6, 2019,
5 HAM60652.

6 MS. RAINSFORD: And HAM28650
7 as Exhibit 153.

8 THE REGISTRAR: HAM28650?

9 MS. RAINSFORD: Yes.

10 THE REGISTRAR: Okay. Thank
11 you. Noted.

12 EXHIBIT NO. 153: E-mail
13 from Dave Ferguson to
14 Pedram Izadpanah dated
15 February 12, 2019,
16 HAM28650.

17 JUSTICE WILTON-SIEGEL: I just
18 want to make sure I get the first one. What was
19 the number?

20 MS. RAINSFORD: HAM35505.

21 JUSTICE WILTON-SIEGEL: Okay,
22 and that's Exhibit 151?

23 MS. RAINSFORD: Yes.

24 JUSTICE WILTON-SIEGEL: Okay.

25 And then I should ask, going around participants'

1 counsel, whether any counsel have questions. I'll
2 start with Ms. Roberts for Golder.

3 MS. JENNIFER ROBERTS: Thank
4 you. I have no questions.

5 JUSTICE WILTON-SIEGEL: Okay.
6 Ms. McIvor for the Ministry?

7 MS. MCIVOR: Thank you,
8 Mr. Commissioner. We also have no questions.

9 JUSTICE WILTON-SIEGEL: Okay.
10 And who is here for the City? Ms. Contractor for
11 the City?

12 MS. CONTRACTOR: Thank you,
13 Mr. Commissioner. I just have a handful of
14 questions.

15 JUSTICE WILTON-SIEGEL: Please
16 proceed.

17 MS. CONTRACTOR: Thank you.

18 EXAMINATION BY MS. CONTRACTOR:

19 Q. Mr. Izadpanah, am I
20 saying your name correctly?

21 A. Yes.

22 Q. Thank you. You provided
23 us with a helpful distinction between road design
24 engineers and traffic engineers. And, as I
25 understand it, as a traffic engineer, your role is

1 to look at traffic data, consider the geometry and
2 traffic conditions and environmental conditions
3 and identify any issues that might exist with the
4 road. Do I have that right?

5 A. Yes.

6 Q. Okay. And I believe you
7 also told us earlier today that you don't have any
8 expertise in interpreting friction testing
9 results. Is that correct?

10 A. Yes.

11 Q. So, fair to say that,
12 then, friction measurement and evaluation and
13 performance was not part of the standard work that
14 you did as a traffic safety engineer?

15 A. Can you repeat that
16 question, please?

17 Q. Sure. Fair to say, then,
18 that friction measurement and evaluation was not
19 part of the standard work that you did as a
20 traffic safety engineer?

21 A. So, if we identify any
22 trend in the data that suggests there is any issue
23 related to friction, we may ask for a friction --
24 we may suggest the client to do a friction test to
25 see, to make sure, that the friction is acceptable

1 or not. But we don't deal with that, yes.

2 Q. Right. So, you don't
3 have the experience or expertise in evaluating the
4 friction data. Is that right?

5 A. So, to look at the
6 friction numbers -- can you qualify what
7 evaluation mean here?

8 Q. Okay. To interpret
9 friction testing results.

10 A. Yes. I don't have that
11 expertise.

12 Q. Okay. And am I correct
13 that when assessing collision rates, the general
14 practice is to use police-reported collisions and
15 not just self-reported collisions. Is that right?

16 A. No, that's not --

17 Q. That's not correct?

18 A. So, it depends on what
19 type of collision rate we are calculating.
20 Collision rate can be calculated for different
21 types of collisions. It could be we might
22 calculate a collision rate for total collisions,
23 for fatal and injury collisions, for angle
24 collisions at intersections, depending on what we
25 are trying to calculate.

1 Q. Understood. And is it
2 fair to say that self-reported collisions are not
3 as reliable as police-reported collision?

4 A. That is a correct
5 statement, yes.

6 Q. And so, therefore, the
7 police-reported collisions are generally more
8 accurate?

9 A. Yes.

10 Q. Okay. And,
11 Mr. Registrar, could we please go to HAM1095 on
12 images 4 and 5.

13 So, we look at this,
14 Mr. Izadpanah. It's the 2018 collision memo that
15 you worked on and reviewed.

16 And if we could please,
17 Registrar, call out section 5 which is on both
18 pages. I'm not concerned about the table, but
19 just the writing at the end there. Okay.

20 And this section, sir, looks
21 at the collision rate information provided in the
22 Ontario road safety annual reports between 2009
23 and 2013, which it states falls between 1.39 and
24 1.72. And I can take you to it if you would like
25 earlier in the memo, but generally that's higher

1 than the collision rates that are stated for the
2 Red Hill and LINC in this memo. Is that right?

3 A. That's correct.

4 Q. Okay. But the memo also
5 includes a disclaimer here about using the ORSAR
6 data as a comparison for the Red Hill. Right? It
7 states:

8 "However, these rates are
9 calculated for all roads
10 within the province,
11 including two-lane rural
12 highways, urban arterial
13 and collector roads,
14 including collisions at
15 intersections.
16 Therefore, it is not
17 advised to use these
18 collision rates to
19 compare with those of
20 specific facilities. The
21 ORSARs do not report on
22 the collision rates for
23 different classifications
24 of the road in the
25 province."

1 Mr. Izadpanah, are you
2 familiar with the Ontario road safety annual
3 reports?

4 A. Yes.

5 Q. So, as I understand it,
6 essentially these reports provide collision
7 information for all collisions that take place in
8 Ontario. Is that right?

9 A. That's right, for
10 provincial highways or municipal roads, regional
11 roads, everywhere.

12 Q. Right. So, what this
13 disclaimer tells us is that you cannot look at the
14 general collision data that's provided in these
15 Ontario reports as a comparator to the Red Hill
16 because the general data is based upon all
17 different kinds of roads, as you said, and not the
18 specific facilities that are comparable to the Red
19 Hill. Do I have that right?

20 A. Yeah. And the reason we
21 included this section, it was a request by the
22 client. They wanted to see if there's any
23 threshold beyond which they would consider highway
24 not -- I put it in air quotations -- not safe or
25 it's basically a threshold that you should flag

1 the highway if the collision rate is beyond this,
2 then we have a problem. We wanted to say
3 basically to answer that question from the client
4 that these numbers are not -- we can't rely on
5 these numbers to compare one highway with the
6 entire province.

7 Q. Right. Because that
8 would be kind of comparing apples to oranges?

9 A. Correct.

10 Q. You want to compare to a
11 facility that has similar characteristics?

12 A. Exactly.

13 Q. Okay. Thank you,
14 Mr. Izadpanah. Those are all my questions.

15 A. Thank you.

16 JUSTICE WILTON-SIEGEL: Okay.

17 I think that completes Mr. Izadpanah's
18 examination. Would that be correct,
19 Ms. Rainsford?

20 MS. RAINSFORD: Yes. I have
21 no further questions and I propose now might be a
22 good time to take our morning break early so we
23 can do a switchover of witnesses.

24 JUSTICE WILTON-SIEGEL: Okay.

25 So, Mr. Izadpanah, thank you very much for

1 attending. You're excused and we'll take a short
2 break.

3 How long do we think we need?

4 We've now run to the time when the next witness
5 was going to be available. Is that correct?

6 MS. RAINSFORD: A ten-minute
7 break would be sufficient.

8 JUSTICE WILTON-SIEGEL: Why
9 don't we take this as our morning break and then
10 we'll return at 11:00?

11 MS. RAINSFORD: Perfect.

12 JUSTICE WILTON-SIEGEL: Thank
13 you.

14 --- Recess taken at 10:47 a.m.

15 --- Upon resuming at 11:00 a.m.

16 MS. LECLAIR: Good morning,
17 Commissioner. May I proceed?

18 JUSTICE WILTON-SIEGEL: Yes,
19 please proceed.

20 MS. LECLAIR: Hello,
21 Mr. Petzold. Before I begin to ask you some
22 questions, I'm just going to ask the court
23 reporter to affirm your evidence.

24 AFFIRMED: GEOFFREY PETZOLD

25 EXAMINATION BY MS. LECLAIR:

1 Q. Mr. Petzold, I would like
2 to ask you some questions first about your
3 professional background.

4 A. Sure.

5 Q. You worked at CIMA's
6 Edmonton office beginning in 2016. Is that
7 correct?

8 A. Yes.

9 Q. And are you currently
10 with CIMA?

11 A. No.

12 Q. And when did you depart
13 CIMA?

14 A. My last day with CIMA was
15 September 2 of this year.

16 Q. Of this year, okay. And
17 while you were at CIMA, so your most recently held
18 role, what was your role?

19 A. I was a senior project
20 manager in the transportation division.

21 Q. Okay. And when did you
22 start that role?

23 A. I was hired on as a
24 project manager.

25 Q. Okay. And just to

1 confirm, so did you keep the same role from 2016,
2 when you joined CIMA, until you departed or was
3 there a change in your role at CIMA?

4 A. There wasn't a material
5 change. I was hired on as an airport project
6 manager, but then transitioned into managing road
7 construction projects in 2019.

8 Q. Okay. So, is it right to
9 understand it was a similar role but broader in
10 terms of the industries?

11 A. Yeah.

12 Q. And while at CIMA, did
13 you always work at the Edmonton office or did you
14 work at other CIMA offices?

15 A. No. I was always at the
16 Edmonton office.

17 Q. Okay. And after
18 departing CIMA, so relatively recently, what role
19 do you currently hold?

20 A. I'm a director of
21 aviation with SNC-Lavalin.

22 Q. And prior to when you
23 joined CIMA in 2016, what prior professional roles
24 did you hold?

25 A. I was project manager for

1 various companies. I had started with Associated
2 Engineering in 2006 as an EIT and eventually grew
3 into a project manager. Following that, sorry, I
4 don't remember the exact dates, but approximately
5 five or six years later I left Associated and went
6 to work for another engineering company. I had
7 worked for Golder for a little bit, for a year or
8 so, as a project manager. I had worked for
9 Morrison Hershfield for a short period of time as
10 a project manager. I had worked for SNC-Lavalin
11 as a project manager for two years in their
12 airports group. Then I worked at Tetra Tech for
13 two years as a project manager in their airports
14 group. And then I came to CIMA.

15 Q. And in those roles, were
16 they always based out of Alberta?

17 A. Yes. I had always lived
18 in Alberta. Sorry, Associated Engineering, I
19 started in British Columbia and then moved to
20 Alberta while employed with Associated.

21 Q. Okay. And did you have
22 any experience working with any offices in
23 Ontario?

24 A. Not that I can remember,
25 no.

1 Q. Thank you. And can you
2 please tell me about your educational background?

3 A. Sure. So, I'm a civil
4 engineer. I graduated from the University of
5 Alberta in 2006. I started a Master's program at
6 MSC shortly after that. I paused that due to work
7 commitments. I was just too busy to continue. I
8 restarted the Master's again. I believe it was in
9 2018 or 2017, something like that. Got all the
10 way through and, again, due to work commitments, I
11 had started a fairly substantial project in 2019,
12 so I had to pause the Master's again and I'm
13 currently pursuing, trying to finish, the Master's
14 at the University of Alberta.

15 Q. Okay. And was there any
16 particular specialization in your studies? I know
17 you said civil engineering, but was there any --

18 A. Yeah. It was in pavement
19 construction, asphalt rehabilitation.

20 Q. And as part of your
21 educational background or your professional
22 experience, do you have any expertise related to
23 friction testing or the analysis of friction
24 testing results?

25 A. I wouldn't say I have

1 expertise. I have working knowledge, but I
2 wouldn't call myself an expert.

3 Q. Okay. And if you could
4 just elaborate on what you mean by working
5 knowledge?

6 A. I know that friction
7 testing is carried out. I don't get involved in
8 doing analysis or in interpolating results or in,
9 you know, providing commentary on what those
10 results mean and what they turn into.

11 Q. Okay. Sorry, just so
12 that I understand clearly, you're not involved in
13 the actual conducting of friction testing and you
14 are not involved in the interpretation of those
15 results. Is that right?

16 A. Correct.

17 Q. Okay. And are you
18 familiar with friction testing standards or
19 equipment or methodology? Is that something you
20 have experience?

21 A. Again, I know that the
22 equipment exists, but I couldn't speak
23 intelligently about it.

24 Q. Okay. And if I
25 understand correctly, it doesn't form a principle

1 part of your work. Is that correct?

2 A. Correct.

3 Q. Okay. And I understand
4 you're a professional engineer. Is that correct?

5 A. Yes, correct. Yeah.

6 Q. Okay. And where are you
7 licensed?

8 A. Currently in Alberta and
9 British Columbia.

10 Q. Okay. So, turning back
11 to your role as, I believe, senior project
12 manager, transportation at CIMA. Do I have that
13 right?

14 A. Yeah.

15 Q. So, the majority of
16 questions that I'll have for you today are related
17 to your time in that role. Broadly, what did that
18 role entail?

19 A. I was managing
20 construction projects.

21 Q. Okay. And was there a
22 particular group you worked in at CIMA?

23 A. I was in the
24 transportation group and I led their construction
25 services group.

1 Q. Okay. And does that --

2 A. Based in Edmonton and
3 focusing in Alberta.

4 Q. And did your role in that
5 group focus specifically on roadways or did you
6 work in other areas as well?

7 A. Primarily roadways, a
8 little bit of bridge construction, but primarily
9 roadways for Alberta transportation and the City
10 of Edmonton.

11 Q. If I understand
12 correctly, prior to joining the transportation
13 group, you did some work in the airport industry.
14 Is that correct?

15 A. Correct.

16 Q. Okay. And did that work
17 involve friction or friction testing?

18 A. It does. And, again,
19 it's a side component of the project. But, you
20 know, again, I would never have been directly
21 involved in it.

22 Q. Okay. So it's something
23 that you were aware would have been happening, but
24 not that you were directly conducting or involved
25 in?

1 A. Correct.

2 Q. Okay. So, prior to
3 September 2018, when you were contacted related to
4 a request for assistance from Brian Malone, which
5 I will come to in a moment, do you recall ever
6 being contacted or conducting any work related to
7 the City of Hamilton and the Red Hill Valley
8 Parkway in particular?

9 A. No.

10 Q. Registrar, if we can go
11 to overview document 9A, images 71 and 72.

12 Mr. Petzold, we'll be calling
13 up the documents on screen. If the video feeds
14 are obscuring the documents in any way, please let
15 me know and we can adjust.

16 A. Yeah.

17 Q. So, I'm looking in
18 particular at paragraph 172.

19 Registrar, if you can just
20 call out 172. It finishes on page 172.

21 And, Mr. Petzold,
22 paragraph 172 excerpts an e-mail from September 4,
23 2018 that Mr. Malone sent to a series of
24 colleagues from CIMA. And before getting into the
25 substance of the e-mail, I would like to ask you

1 some questions more generally about how CIMA's
2 offices work together.

3 So, I understand that
4 Mr. Malone and Dr. Hadayeghi are from CIMA's
5 Burlington office. Had you previously worked with
6 either?

7 A. I believe I met
8 Mr. Malone just as a meet and greet kind of thing,
9 but I'd never worked with him, no.

10 Q. Okay. And had you worked
11 with anyone in the Burlington office prior to this
12 time?

13 A. Not that I can remember,
14 no.

15 Q. Okay. And then the
16 others listed on the e-mail, so Ms. Dagenais,
17 Mr. Lalach and Ms. Yuzdepski, are those
18 individuals that you were familiar with?

19 A. I had never met Chantal.
20 Patrick Lalach was, at the time, he was a senior
21 manager in the transportation group based out of
22 Saskatchewan. And Kelly Yuzdepski was the vice
23 president based in the Edmonton office.

24 Q. So, other than
25 Ms. Yuzdepski, the others did not --

1 A. Mister. Mr. Yuzdepski.

2 Q. Okay. No one else worked
3 in your office?

4 A. Out of those people, no.

5 Q. Okay. And had you worked
6 with them? I believe you said Ms. Dagenais, that
7 you had not --

8 A. No. I don't believe I've
9 ever even met Ms. Dagenais.

10 Q. Okay. And is it typical
11 for you to get requests or broadly speaking not
12 related necessarily to this e-mail in particular,
13 I know that you aren't copied on this e-mail, but
14 is it typical for you to get requests for
15 assistance on projects from other CIMA offices?

16 A. It is typical. If they
17 don't have resources internally, they may look to
18 other offices to get support.

19 Q. So, as mentioned, you
20 aren't copied on Mr. Malone's e-mail, but it was
21 forwarded to you later the same day by
22 Mr. Yuzdepski. So, in Mr. Malone's original
23 e-mail, he wrote:

24 "The City of Hamilton is
25 asking us for assistance

1 in interpreting pavement
2 friction testing results
3 they have received. The
4 issue may expand into
5 discussion of pavement
6 design as well. Does
7 CIMA have anyone with
8 expertise in this subject
9 area?"

10 And, Registrar, if we can take
11 that call out down and instead call up
12 paragraph 173, please.

13 So, in this e-mail Mr. Lalach
14 identified you as someone that Mr. Malone could
15 also -- as someone who could also assist. He
16 wrote:

17 "And you can include
18 Geoffrey Petzold from
19 Edmonton. He has
20 pavement background as
21 well."

22 What pavement background is he
23 referring to here?

24 A. I have background in
25 pavement structural design, pavement construction,

1 pavement rehabilitation.

2 Q. Okay. And, Registrar, if
3 we can go to paragraph 177. Sorry, I believe
4 that's on the next, image 74. Thank you.

5 And you responded to
6 Mr. Malone on September 10, 2018. Before turning
7 to the content of your e-mail, do you recall when
8 you first reviewed that underlying e-mail from
9 Mr. Malone that we just looked at?

10 A. I don't recall the
11 specific date, but it was probably on the same day
12 that I sent the e-mail.

13 Q. Okay. And Mr. Malone's
14 e-mail was originally sent on the 4th, so there's
15 a bit of a gap between his e-mail and your
16 response. Do you recall if you had any
17 conversations in that interim period with either
18 Mr. Malone or anyone else at CIMA?

19 A. I don't recall, no.
20 Sorry.

21 Q. Okay. And just to
22 confirm, when you say you don't recall, do you not
23 recall either way or do you recall that there was
24 not any discussions?

25 A. I don't recall if there

1 was a discussion or not.

2 Q. Thank you. And beyond
3 the information that was included in Mr. Malone's
4 e-mail, did you have any other information
5 regarding the request at the time you responded?

6 A. Not that I know of.

7 Q. So, I asked you earlier
8 in the context of Mr. Lalach's e-mail about your
9 experience with pavement. So, you wrote here:

10 "I have experience in
11 pavement design."

12 If you can just elaborate a
13 bit on what that experience was?

14 A. Yes. So, in my airport
15 experience and other road experience, I have been
16 involved in doing pavement design, so like
17 structural pavement design, determining
18 thicknesses and whatnot.

19 Q. And in that experience,
20 did you have any particular experience with SMA or
21 stone mastic asphalt?

22 A. No. I have used it on
23 projects, but when used it's based on City
24 standards that are implemented.

25 Q. Okay. So, you were

1 familiar with it?

2 A. I know the material, but
3 I've used it -- in my 16 or 17 years, I've
4 probably used it on one project.

5 Q. Okay. And you wrote in
6 the bottom paragraph that you are also familiar
7 with the friction testing you are likely looking
8 at. What testing were you referring to here?
9 What testing did you think he was likely looking
10 at?

11 A. Well, I had worked in the
12 university with one of my supervisors and I didn't
13 work but he was working on it and he uses a grip
14 tester machine, which is a -- I believe it's a
15 pull-behind machine that's behind a vehicle and
16 it's used to test friction characteristics on
17 existing pavements.

18 Q. Okay. So, you had some
19 familiarity with a grip tester?

20 A. Some familiarity, but
21 it's pretty much limited to the fact that it
22 exists. I wouldn't be able to speak intelligently
23 about how it works or what it does.

24 Q. Okay. And do you think
25 that that was the type of friction testing that

1 you were referring to in your e-mail?

2 A. I believe so, yes.

3 Q. Okay. And is there a
4 particular reason that you thought that might be
5 the type that Mr. Malone was looking at?

6 A. I can't recall currently
7 what I was thinking back then, but I would hazard
8 a guess that it was a common type of equipment
9 that would be used.

10 Q. Okay. But there wasn't
11 anything, any information you had, specifically
12 relating to the request that suggested that. Am I
13 understanding that right?

14 A. Not that I can remember
15 having seen.

16 Q. Okay. And what did you
17 understand Mr. Malone to be looking for at this
18 time?

19 A. I don't know what I was
20 thinking at the time. I mean, that was four years
21 ago. I would have to see what his request was,
22 yeah.

23 Q. Okay. So, beyond what
24 was in Mr. Malone's original e-mail --

25 A. Yeah.

1 Q. -- that would have been
2 the information you understood and you don't have
3 any specific recollection of other information.
4 Is that right?

5 A. Correct.

6 Q. Registrar, we can take
7 down that call out.

8 So, the inquiry has not
9 received a response to your e-mail from
10 Mr. Malone, but I can tell you that Mr. Malone's
11 notebooks include an entry for September 10, 2018,
12 which is the same day as your e-mail, which lists
13 your name. I'm happy to take you to that to the
14 extent that it's helpful, but do you recall if
15 after you sent your e-mail, if you had any
16 subsequent calls or discussions with Mr. Malone?

17 A. I imagine I would have.
18 I couldn't tell you what those discussions were,
19 though. I don't remember.

20 Q. Okay. So, you don't have
21 a specific recollection of --

22 A. No.

23 Q. -- one or more calls?

24 A. Aside from the fact that
25 they -- it's a very high probability that I had a

1 conversation with him, but I couldn't tell you
2 what the details of that conversation were. I
3 don't remember.

4 Q. Okay. Do you remember
5 anything about the calls in general?

6 A. No. I mean, they were
7 related to the request, but again, I don't
8 remember and I'm just -- frankly, I'm guessing at
9 this point.

10 Q. Okay. I don't mean to be
11 particular and I understand that you have limited
12 recollection of your discussions, but do you know
13 if it was one or more calls or do you not have a
14 sense of that?

15 A. Unfortunately, no. I
16 don't know. I don't remember.

17 Q. Okay. Do you recall if
18 he provided you with any data or documents to
19 review? I don't believe we've seen any documents
20 suggesting that, but --

21 A. Yeah. I've been asked
22 that question by Mr. Toban, but I don't -- I can't
23 remember if I've seen anything. I don't have
24 recollection of seeing anything.

25 Q. So you don't recall one

1 way or the other?

2 A. No.

3 Q. So, from the documents
4 that the inquiry has received, I understand that
5 Mr. Malone had received an e-mail containing a
6 summary of some friction data from the City.
7 Again, I want to be clear that we don't have a
8 record to indicate that you received this, but I
9 would like to just show you the e-mail to the
10 extent that it might refresh your memory as to
11 whether you've seen it before.

12 Registrar, if we can go to
13 CIM16163. Okay.

14 Does this e-mail seem familiar
15 to you at all?

16 A. Sorry, it's just a
17 little -- just the way you've got it, it's a
18 little small on my screen, so forgive me for
19 sticking my face in this screen.

20 Q. It's okay. Registrar, if
21 we can scroll down to the e-mail at the bottom and
22 whether you've seen --

23 A. Yeah. I can't recall. I
24 cannot say one way or another that I've seen that
25 or haven't seen that, but it doesn't look

1 familiar.

2 Q. Okay. We can close that
3 down. Thank you.

4 And I understand from other
5 CIMA witnesses that have testified before this
6 inquiry that CIMA has a central repository or a
7 filing system for e-mails and documents relating
8 to projects and that these -- what?

9 A. Sorry. I was just going
10 to say I believe so, but I couldn't tell you if it
11 does or doesn't.

12 Q. So, these documents, I
13 understand, were filed under a project that we
14 refer to as the RHVP lighting study. That's B920,
15 I believe is the project code. At the time, so in
16 September 2018, would you have had access to
17 documents relating to that project as a CIMA
18 employee?

19 A. No.

20 Q. And perhaps a bit more
21 generally about CIMA's practices, typically would
22 you only have access to projects that you were
23 working on or is there just a central kind of
24 CIMA --

25 A. I would have projects --

1 I would have access to projects on the server that
2 I was a part of, so the Edmonton server.

3 Q. Okay.

4 A. I also, I think, had
5 access to the Calgary server, but I didn't have
6 access to anything outside of those two locations.

7 Q. Okay. So, what I'm
8 trying to understand is whether it was possible
9 for you to have obtained the e-mail without
10 actually having the need to receive it via -- as
11 an attachment or being forwarded it from
12 millimetre, but I understand from what you've said
13 that you wouldn't have independently been able to
14 obtain that document?

15 A. No.

16 Q. Is that right?

17 A. That's correct.

18 Q. Okay. And, Registrar, if
19 we can call up that document once more, CIM16163.

20 So, I recognize that it's your
21 evidence that you don't recall whether or not you
22 received this e-mail in September 2018, but I
23 would like to ask you some questions more
24 generally about this e-mail, about your general
25 understanding at the time.

1 So, the e-mail was sent -- and
2 when I say the e-mail, I mean the January 24, 2014
3 e-mail -- by Dr. Uzarowski at Golder. I
4 understand from my earlier questions regarding
5 your professional background that you worked
6 previously at Golder --

7 A. Yeah.

8 Q. -- so I'm assuming you
9 were familiar with Golder at the time?

10 A. Yeah.

11 Q. Okay. And did you have
12 any familiarity with Dr. Uzarowski in particular?

13 A. Yes. I worked with him
14 while I was at Golder and then he has worked in
15 the airport industry, so I'm familiar with him
16 through that as well.

17 Q. Okay. And just to
18 confirm, you did not have any familiarity with him
19 with projects relating to Hamilton or the Red
20 Hill?

21 A. No, absolutely not.

22 Q. Okay. And the e-mail
23 also includes a reference. I know that it's
24 small, but perhaps, Registrar, if you can call out
25 the text under the table. There's a reference to

1 Tradewind Scientific. Were you familiar with
2 Tradewind at the time?

3 A. I know of the company,
4 yes.

5 Q. And what was your
6 familiarity with Tradewind at this time?

7 A. They do various friction
8 testing projects for airports across the country.
9 They're usually hired by airport authorities.

10 Q. Right. And do you recall
11 if, in September 2018, Mr. Malone mentioned the
12 names Tradewind or Golder to you?

13 A. It's -- again, I'm kind
14 of stretching my memory here, but it's possible
15 that he mentioned Golder during a conversation and
16 it's possible that he mentioned Tradewind, but I
17 can't recall specifics.

18 Q. And, to confirm, you
19 don't have a specific recollection of that. You
20 just don't recall either way?

21 A. Yeah. No, I don't. I
22 can't say yes, he did, or no, he didn't, but it's
23 possible.

24 Q. Okay. Thank you. That's
25 helpful.

1 Okay, Registrar, you can take
2 this call out and the document down.

3 So, in a moment I'll ask you
4 some more specific questions relating to the
5 January/February 2019 period, but staying
6 specifically in September of 2018 for the time
7 being, do you recall receiving a copy of the
8 Tradewind report? I'm happy to take you to that
9 document if that's helpful.

10 A. I can't recall if I
11 received it. At that time I was pretty busy on
12 multiple other projects, so I don't remember, to
13 be honest.

14 Q. Okay. Thank you. And
15 from your discussions in September 2018 did
16 Mr. Malone ask you to prepare a report, a memo or
17 any work product following your discussion?

18 A. I was not asked to
19 prepare any work product, no.

20 Q. Okay. And did you
21 provide him with any analysis or comments, whether
22 via e-mail or verbally --

23 A. I don't know if it was at
24 September 2018 or if it was in 2019, but I know
25 that I provided an e-mail to somebody, and I can't

1 remember who specifically that was, that was
2 saying I don't feel comfortable providing any
3 analysis on this.

4 Q. Okay. I think I know the
5 e-mails you're referring to and I think that those
6 are later in time.

7 A. Okay.

8 Q. But once we get there,
9 I'll ask you to confirm if those are the e-mails
10 that you were referring to.

11 A. Yeah.

12 Q. So, again, in
13 September 2018, did you understand there to be any
14 sort of assignment or tasks on your plate
15 resulting from your contact with Mr. Malone?

16 A. I don't believe so, no.

17 Q. And were you expecting
18 any followup or was this off your radar, so to
19 speak?

20 A. It was off my radar.

21 Q. Thank you. We're going
22 to move forward a bit in time. From the documents
23 we've received, we see that you were next
24 contacted by Mr. Malone regarding the RHVP in late
25 January 2019. Do you recall any contact with

1 Mr. Malone between September 10, 2018 but prior to
2 January 30, 2019, other than the discussion that
3 we have spoke about?

4 A. No, I don't. I don't
5 recall any contact.

6 Q. Okay. Registrar, if we
7 can go to CIM17209. Registrar, if we can just
8 close that for a moment and we'll actually pull it
9 from the overview document. Just give me one
10 moment. If we can go to overview document 9A,
11 image 377. Okay. Thank you. Actually, if can we
12 also call up 378, there is just one additional
13 line that carries over, just so that we have the
14 complete document. And if we can call out the
15 indented text at 872, please, Registrar.

16 And, Mr. Petzold, just for
17 your background, this is the same e-mail, just
18 excerpted in the overview document.

19 A. Mm-hmm.

20 Q. Okay. And I will give
21 you a moment to review the e-mail and let me know
22 when you're ready.

23 A. Okay.

24 Q. So, this is an e-mail you
25 received from Mr. Malone along with two of his

1 colleagues, Dr. Hadayeghi and Dr. Salek, and this
2 e-mail attached the Tradewind report as well as a
3 draft letter report from Golder dated December 17,
4 2018. And, just for your context, I'll briefly
5 call up both documents.

6 Registrar, if we can do a side
7 by side of CIM17209.0001 and .0002.

8 Mr. Petzold, I'm happy to flip
9 through either document if that's helpful, but do
10 you recall receiving this e-mail?

11 A. I don't recall, but if
12 the records show that I received it, then I
13 received it, yeah.

14 Q. Okay. And, Registrar, if
15 we can call up -- I just want to make sure I have
16 my reference correctly. Just bear with me for one
17 moment. If we can go to overview document 9A
18 again at image 377, and I think actually if we can
19 do 376 as well. Perfect. I think that gives both
20 e-mails that I wanted to ask you about.

21 So, on the left at
22 paragraph 870, this is a few hours before the
23 e-mail that we were just discussing. Mr. Malone
24 sent an e-mail to a few of his colleagues and, to
25 be clear, you aren't copied on this e-mail but you

1 are referred to in the e-mail.

2 Registrar, if we can call out
3 the fourth full paragraph beginning with, for the
4 pavement friction. Thank you.

5 And so, he wrote in this
6 paragraph:

7 "For the pavement
8 friction expertise, I
9 have contacted Geoffrey
10 Petzold in Edmonton. He
11 will assist in reviewing
12 the content. Hamilton is
13 seeking a written
14 response by early next
15 week that will confirm
16 our position."

17 So, I read this e-mail as
18 suggesting that prior to Mr. Malone's e-mail to
19 you, that you might have had a discussion with
20 him. Do you recall if you spoke to Mr. Malone
21 before receiving the e-mail attaching those two
22 documents?

23 A. No, I don't recall if I
24 spoke to him or not.

25 Q. Okay. And prior to

1 receiving the e-mail from Mr. Malone, did you
2 expect to receive it or is it something that came
3 out of the blue?

4 A. Again, I can't remember
5 if I was expecting it or not.

6 Q. Okay. Do you recall
7 telling Mr. Malone that you would assist in
8 reviewing the content, as he noted in his e-mail?

9 A. I don't recall. I mean,
10 I vaguely recall giving, you know, telling them at
11 some point. I don't remember when I told them,
12 but I remember telling them that I could have a
13 look at some documents. But, again, I don't
14 remember when. I don't remember when that
15 conversation happened.

16 Q. Okay. And recognizing
17 that your recollection of these events is limited,
18 do you recall if you anticipated assisting in a
19 written response, as Mr. Malone indicated in his
20 e-mail?

21 A. Sorry. I don't believe I
22 ever indicated that I would provide a written
23 response to anything.

24 Q. Okay. And, Registrar, if
25 we can close that call out and if we can just call

1 up the indented text at 872.

2 To your recollection,
3 Mr. Petzold, was this is the first time that you
4 received both reports that I opened or do you not
5 have a recollection of that?

6 A. I don't have a
7 recollection of that, but I imagine it was the
8 first time.

9 Q. Do you recall having any
10 prior conversations with Mr. Malone about friction
11 testing standards?

12 A. I don't recall, no.

13 Q. So, Mr. Malone wrote in
14 his e-mail, and this is towards the bottom, it's
15 actually the text that's underlined, the second
16 underlined sentence includes:

17 "Is that something we can
18 offer an opinion on?"

19 Did you understand him to be
20 asking you if you could provide an opinion on
21 behalf of CIMA on this?

22 A. I don't believe I
23 understood him to be asking me for an opinion on
24 that, no.

25 Q. Okay. What did you

1 understand your role to be or why this was sent to
2 you?

3 A. I imagine he wanted me to
4 just take a look at it and to possibly provide him
5 some advice.

6 Q. Okay. And, Registrar, if
7 we can close that and go to CIM17198. We can also
8 call up image 2, please.

9 So, this is a continuation of
10 the same chain, so you responded to Mr. Malone.
11 Your e-mail starts at the bottom of the page on
12 the left and then continues at the top. I can
13 give you a moment to review. That text, are you
14 able to review that or is it helpful to recall --

15 A. No. I can read it, if
16 you don't mind me looking down at the screen.
17 That's fine.

18 Q. Okay.

19 A. Okay.

20 Q. So, we spoke a bit
21 earlier about your familiarity with grip tester
22 machines. You wrote in your e-mail:

23 "Doing a quick search for
24 that piece of equipment
25 yields very little in

1 terms of results
2 analysis."

3 At this time, so this is a few
4 months later, what was your familiarity with a
5 grip tester or had it changed from what we
6 discussed earlier?

7 A. No. Like I said, I knew
8 that they existed I that was about it. I had
9 heard the name of the piece of equipment but I had
10 never used one.

11 Q. And I think in the next
12 paragraph you referenced that you had a professor
13 from university who used the devices?

14 A. Yeah.

15 Q. Is that what you were
16 referring to when we spoke about this earlier?

17 A. Yes.

18 Q. And, Registrar, if we can
19 call out -- I'm just looking for which paragraph
20 it is here. It's the, I think, fifth paragraph,
21 "Having said all of this." If you can call out
22 that and the paragraphs below. Thank you. That's
23 a little easier to look at.

24 You wrote:

25 "Having said all of this,

1 without knowing more
2 about what the road used
3 to be like from a
4 friction perspective
5 versus what it is doing
6 now and how rapidly it
7 has deteriorated, we/I
8 cannot say much that
9 hasn't already been said
10 in the report."

11 At this time, were you aware
12 that friction testing had been done by the MTO in
13 2007, prior to RHVP's opening?

14 A. I can't say if I was
15 aware or not.

16 Q. And, Registrar, if you
17 can close that for a moment and actually just call
18 out all of the e-mail on image 2.

19 And a little bit further above
20 in the paragraph, it's the second paragraph:

21 "I'm afraid that I don't
22 know of any
23 municipalities that have
24 standards for friction
25 characteristics. The

1 most that I know of would
2 just take measurements as
3 a baseline and then
4 perform regular checks to
5 see when it drops and how
6 quickly."

7 In your experience, is that
8 baseline and regular checks, is that something
9 that's commonly done by municipalities?

10 A. I can't say if it's
11 commonly done, but I've seen it. I've seen it
12 done or I'm aware that it's been done.

13 Q. Okay. And then four
14 paragraphs down from that, you wrote:

15 "It's a little strange
16 that they had to send the
17 samples to UK for
18 testing. There are
19 numerous others tests
20 that can be done on the
21 aggregates within the
22 samples that will give an
23 indicates of their
24 durability that are
25 readily done in Canada."

1 What tests are you referring
2 to?

3 A. They're specific lab
4 testing that any materials lab in Canada does on a
5 regular basis. I wouldn't know what specifically
6 they are, but I know that on every project that I
7 work on that involves asphalt, we do lab testing
8 or the quality assurance company does lab testing
9 locally and also the mix designs that are prepared
10 by the contractors are performed in labs locally.

11 Q. Okay. So, at least at
12 this time, you don't recall if you were referring
13 to any particular tests that could be done in
14 Canada?

15 A. No.

16 Q. And then further down,
17 you wrote:

18 "The question around
19 whether the road should
20 be closed might be a bit
21 overkill, but I would say
22 that rehabilitation needs
23 to be expedited. Can't
24 do much in the winter
25 other than sand/salt, but

1 if they could do an
2 interim chip seal or
3 something, maybe even
4 mill the pavement so it
5 has a texture to it."

6 Why did you write that the
7 rehabilitation needed to be expedited?

8 A. Well, from a safety
9 perspective, I mean, as an engineer one of my
10 primary obligations is safety, and if somebody
11 feels that the road was unsafe or the road was in
12 a condition that, you know, was causing incidents,
13 if there's a concern that needs to be dealt with.

14 Q. Okay. And did you feel
15 that the road was unsafe based on your view of the
16 materials sent to you?

17 A. Again, I don't know if I
18 felt it was unsafe or not. I wasn't in a position
19 to comment on that, but I believe, you know, and
20 I'm trying to remember here, but I believe the
21 whole purpose was that there was accidents or
22 something that's why they were looking at the
23 friction characteristics.

24 Q. Do you have a
25 recollection of any discussions with Mr. Malone or

1 anyone at CIMA where he told you that there was a
2 safety issue or concerns around the safety as a
3 result of the friction values?

4 A. I can't remember
5 specifically, no.

6 Q. Okay. Why did you
7 suggest chip seal or milling in particular?

8 A. Just as a way to roughen
9 the surface.

10 Q. Okay. And, again, a bit
11 further down, you wrote:

12 "From a risk perspective,
13 something should be done,
14 something should likely
15 be done sooner rather
16 than later."

17 When you say "risk
18 perspective," what did you mean by that?

19 A. I probably meant that,
20 you know, reflecting to your earlier question
21 about had somebody mentioned something about
22 safety, reading that, it is quite possible that
23 somebody mentioned something about safety and I
24 said that, you know, to respond to that and say
25 that if there is a concern, then you need to deal

1 with it.

2 Q. Okay. And, again, just
3 so that I understand clearly, you don't have a
4 specific recollection of anyone telling you that?

5 A. No.

6 Q. That's what's you're
7 inferring from your response?

8 A. Yeah.

9 Q. Do you recall if you
10 discussed the need for interim safety measures
11 with Mr. Malone other than what's reflected in
12 this e-mail?

13 A. I don't believe that I
14 did and I don't remember if I did or not.

15 Q. Okay. And, Registrar, if
16 we can close out that call out and call out the
17 beginning part of that e-mail on image 1.

18 So, you reference in your
19 e-mail to a drop at station 10,000. Why did you
20 consider the drop significant?

21 A. I don't know if it was
22 significant, but it's just different than the
23 other friction values.

24 Q. Okay. So, you noticed a
25 difference and that's what's you were

1 highlighting?

2 A. Yeah.

3 Q. Registrar, if we can
4 close that call out and if we can call out
5 Mr. Malone's response. Thank you.

6 And Mr. Malone replied to you,
7 writing:

8 "First you should know
9 that the values have been
10 relatively stable since
11 the road has been opened.
12 The RHVP section was
13 built separately and is a
14 different pavement mix."

15 Did you understand from this
16 that station 10,000 reflected the delineation
17 between the RHVP and LINC?

18 A. I can't say whether I
19 knew that or not. I'm not familiar with the
20 stations at this time as to where one ends and one
21 starts.

22 Q. Okay. Did you know
23 before receiving this e-mail that the Tradewind
24 report reflected friction values for two different
25 roadways with different pavement types?

1 A. I can't say that I knew
2 or didn't know. I don't know.

3 Q. Okay. And I can tell you
4 that the Tradewind report does include friction
5 values for both the RHVP and LINC, which are
6 adjoining roads. Are there any safety concerns to
7 your knowledge or given your experience where
8 there is a difference in friction levels between
9 two adjoining roads?

10 A. Depending on the
11 differential between them, there's potential for
12 there to be a safety concern, yeah.

13 Q. Okay. In what
14 circumstances would there be a safety concern?

15 A. In wet conditions, you
16 know, conditions of the vehicle. If the tires are
17 old and you got a rough pavement and then you
18 transition into a smoother pavement, there could
19 be potential for loss of control of the vehicle.

20 Q. Okay. And is there a
21 reason that's -- you said depending on the
22 differential, there's potential for a safety
23 concern. What --

24 A. The --

25 Q. Sorry, go ahead.

1 A. No, sorry. Finish your
2 question.

3 Q. What would be the
4 potential for a safety concern from the
5 differential in particular?

6 A. Well, if it's a large
7 difference in the friction values, you go from a
8 rough surface to a smooth surface, that would be
9 an issue, I imagine. If you go from a rough
10 surface to a surface that's still rough but
11 differently rough, it may not be as big of a
12 concern. I don't know what the threshold would
13 be, but --

14 Q. Okay.

15 A. -- logic would state that
16 there is a threshold of some kind.

17 Q. Okay. So, in the third
18 paragraph, Mr. Malone references TAC friction
19 values used in stopping distance calculations.
20 What does this refer to, to your knowledge?

21 A. I'm not intimately
22 familiar with the TAC stuff, the guidelines, but I
23 would assume that in the TAC manuals there is some
24 indication on how friction, road friction, plays a
25 part in the ability of a vehicle to stop and its

1 subsequent stopping distance.

2 Q. Okay. And, to confirm,
3 so you were not familiar with the TAC friction
4 values or not?

5 A. If I were looking at
6 them, I would need to go and find them and look
7 them up. I don't -- you know, I would know where
8 to look for them, but I don't work with them.

9 Q. Okay. That's helpful.
10 To your knowledge, are TAC friction values used as
11 a threshold for friction values collected in the
12 field?

13 A. That, I don't know.

14 Q. Registrar, if we can go
15 ahead CIM17192 at image 2, please.

16 So, Mr. Malone sent you two
17 additional responses on the same topic on January
18 31. I'll just give you a moment to review.

19 And, Registrar, if we can just
20 call out the first half of the page.

21 A. Okay.

22 Q. Then, Registrar, if we
23 can close that and go to image 1 and then if we
24 can call out what looks like the bottom third of
25 the page, beginning with on January 31, 2019.

1 Thank you.

2 So, you answered Mr. Malone's
3 second e-mail and this is your response. I'll
4 also give you a moment to review.

5 A. Okay.

6 Q. And what was your
7 understanding of how, if at all, TAC friction
8 numbers could be compared to the grip tester
9 numbers?

10 A. I don't know that I knew.
11 I certainly don't know now how to compare the two.

12 Q. And you don't know if you
13 had that knowledge at the time?

14 A. No.

15 Q. Is that something that
16 you would do as part of your work or --

17 A. No. No.

18 Q. And I think I understand
19 from your earlier answer, but to confirm, is it
20 your evidence that you do not know whether TAC
21 friction numbers for design can be compared to
22 friction numbers collected in the field?

23 A. Yeah. I don't know if
24 they're directly related or if there's some
25 manipulation that needs to happen.

1 Q. Okay. And you wrote:
2 "I can look into this
3 further if you want."

4 Do you recall if you did look
5 into this further at this time?

6 A. I don't. I don't recall
7 but I don't believe I did.

8 Q. And do you recall if
9 Mr. Malone asked you to?

10 A. No, I don't recall if he
11 did or not.

12 Q. Okay. Other than the
13 e-mails we've just looked at, did you have any
14 discussions with Mr. Malone or anyone else at CIMA
15 regarding the RHVP and friction testing?

16 A. Not that I can recall,
17 no.

18 Q. And did you discuss chip
19 sealing, milling or any other pavement
20 rehabilitation with Mr. Malone or anyone else at
21 CIMA, specifically with regard to the RHVP, after
22 your e-mail?

23 A. Aside from the e-mail
24 that you showed previously, no, I don't believe
25 so.

1 Q. Okay. Did Mr. Malone
2 ever tell you whether or not he agreed with your
3 views on chip sealing or milling or treating the
4 pavement in some way?

5 A. I don't recall that he
6 did, no.

7 Q. Did you ever come to
8 learn whether or not it was suggested to the City?

9 A. No.

10 Q. And at this time, did you
11 understand Mr. Malone to be requesting any work
12 product from you, any report, any written work?

13 A. No.

14 Q. Mr. Malone went on to
15 prepare a memorandum which was ultimately provided
16 to the mayor and city council and made public on
17 February 6, 2019. A draft of this memorandum was
18 provided to you by Dr. Salek further in time, so
19 February 20, 2019, in context of another
20 friction-related assignment CIMA was working on,
21 and I'll ask you about that time period and that
22 assignment in a few moments.

23 Registrar, if we can go to
24 CIM17116 and also do a side by side with the
25 attachment, so 17116.0001.

1 Did you have any involvement
2 in preparing what I'll refer to as the CIMA
3 February 4 memoranda? I note that the draft here
4 has a date of February 3, but the final is dated
5 February 4.

6 A. Was I involved in the
7 preparation of that? Is that what your question
8 is?

9 Q. Correct.

10 A. Not that I can remember.
11 I don't believe I was.

12 Q. And had you received it
13 or reviewed it prior to receiving it from
14 Dr. Salek on February 20, 2019?

15 A. Not that I can remember,
16 but again, I don't believe so.

17 Q. Were you aware that it
18 was made public on February 6, 2019 at the time?

19 A. No.

20 Q. Okay. And when you
21 received the memo from Dr. Salek, did you review
22 it?

23 A. When I received it in the
24 e-mail on, whatever the date this one is, it looks
25 like --

1 Q. February 20.

2 A. February 20. I would
3 have looked at the attachment.

4 Q. Okay. You don't have a
5 specific recollection of reviewing it, but based
6 on your practice you think you would have. Is
7 that right?

8 A. Reviewing it just to read
9 it, but not reviewing it from a quality or content
10 or engineering. It wouldn't have been that kind
11 of review. It would have been just reading it.

12 Q. Okay. Did you feel that
13 the information presented in the memorandum was
14 consistent with your discussions with Mr. Malone
15 or consistent with your experience?

16 A. I can't recall what I
17 felt about the memo at this time.

18 Q. Do you recall having any
19 concerns when you read it?

20 A. None that I can recall.
21 I don't know.

22 Q. Okay. Do you know if you
23 ever received a finalized version of the memo or
24 if you ever received another version other than
25 what we have on screen right now?

1 A. I can't recall but I
2 don't believe so. I don't know if I did or not.

3 Q. I can tell you we don't
4 have any documents indicating that to my
5 knowledge, but to your recollection --

6 A. Yeah. No. I believe I
7 only received this one and if that -- I don't
8 believe I received anything else.

9 Q. Okay. Now, Registrar, if
10 we can go to overview document 10A, images 114 and
11 115. And I'm looking specifically at
12 paragraph 289. Registrar, if you can start by
13 calling out the indented text just on 114.

14 So, on February 19, the day
15 prior to the e-mail we were just looking at, you
16 received an e-mail from Dr. Salek forwarding an
17 e-mail received from Mr. Soldo from the City of
18 Hamilton.

19 A. Mm-hmm.

20 Q. I'll give you a moment to
21 just review Dr. Salek's e-mail and then I'll go
22 into the document itself so we can look at
23 Mr. Soldo's e-mail.

24 A. Yeah.

25 Q. Okay. Registrar, if we

1 can go to CIM17114. And, actually, images 4 and
2 5, please. Can we actually do 5 and 6. Okay.

3 So, you can see at the bottom
4 of the image on the left the e-mail that was
5 forwarded. And then the bulk of the e-mail is on
6 the right, so I'll give you a moment to review
7 that.

8 A. Okay.

9 Q. Prior to receiving this
10 e-mail, had you been contacted by Mr. Malone or
11 Dr. Salek?

12 A. Well, I mean, this e-mail
13 was in February. I was contacted by Mr. Malone in
14 January on that other thing that we were just
15 looking at, but --

16 Q. Sorry. To be more clear,
17 between the e-mails we were looking at, so after
18 January 31 but before this e-mail, did you have
19 any ongoing discussions or were these two
20 separate?

21 A. No. I seem to recall
22 that there were quite a few gaps in the
23 communication. I was speaking with him in January
24 and then February and I think in February that was
25 the last time I was involved in this and spoke to

1 anybody about it.

2 Q. Okay. Registrar, if we
3 can go -- so, there were some attachments included
4 in the e-mail sent to you. I'm just going to pull
5 up a few of the attachments for your reference.
6 So, that's CIM17124.0002.

7 Do you recall receiving an
8 e-mail or do you recall receiving attachments that
9 looked like this?

10 A. I can't say whether I
11 received them or not, but I don't remember, to be
12 honest.

13 Q. Okay. I can tell you
14 that the e-mail -- you received the e-mail
15 attaching these but you don't have a specific
16 recollection of that. Is that correct?

17 A. No. Yeah.

18 Q. And, Registrar, before I
19 move too far ahead, I believe CIM17114 needs to be
20 marked as an exhibit, which I think is 154 but I
21 might be mistaken on that.

22 THE REGISTRAR: Thank you,
23 counsel. It is Exhibit 154. Sorry, CIM1714?

24 MS. LECLAIR: CIM17114.

25 THE REGISTRAR: 114, okay.

1 Thank you.

2 EXHIBIT NO. 154: E-mail
3 from Geoff Petzold to
4 Brian Malone dated
5 February 21, 2019,
6 CIM17114.

7 BY MS. LECLAIR:

8 Q. So, this is an example of
9 one of the attachments included and it's some MTO
10 friction data. Prior to receiving the e-mail, do
11 you recall being aware of the friction testing
12 data?

13 A. No. I don't recall.

14 Q. Okay. Registrar, if we
15 can go back into the overview document 10A at 114
16 and 115 and if can we call out the indented text
17 on 114 again.

18 Mr. Petzold, you responded to
19 Dr. Salek writing:

20 "Last I heard from Brian,
21 he was going to be
22 throwing some words
23 together from our
24 discussions. Not sure
25 where that is at. I can

1 possibly help out
2 further. What is your
3 timeline?"

4 Were the discussions that
5 you're referring to in your response to the
6 e-mails that we looked at a few moments ago from
7 late January?

8 A. I believe so.

9 Q. You're not aware of any
10 other discussions that you had --

11 A. No. Like I said, there
12 was a lot of gaps in when I was talking with him.

13 Q. And do you recall what
14 Mr. Malone told you about the words that he was
15 throwing together, to use your words?

16 A. No, I don't recall what
17 he was doing. You know, possibly that was a memo,
18 possibly something else. I don't recall.

19 Q. Okay. So, Dr. Salek
20 responded to you writing:

21 "We have to provide the
22 City with a quote in the
23 next couple of days. The
24 project should be done
25 quickly as the

1 resurfacing tender being
2 prepared by CIMA will be
3 issued by the end of this
4 month and the City wants
5 to know the friction
6 numbers before then."

7 Registrar, if we can close
8 this and then call out the indented text on 115
9 for the rest of the chain.

10 I'll just give you a moment to
11 review.

12 A. Mm-hmm. Yeah.

13 Q. So, Dr. Salek advised you
14 that the City wanted to extrapolate the friction
15 values from 2008 to 2014 to estimate a 2019 value,
16 and you reply that you would suggest a field
17 measurement would be needed and that you would not
18 be comfortable extrapolating the numbers?

19 A. Yeah.

20 Q. And then in a subsequent
21 e-mail the following day, on February 21, you
22 wrote:

23 "I got your voicemail
24 today. Sorry, my day
25 kind of ran away on me.

1 Unfortunately I'm not
2 able nor comfortable
3 performing extrapolation
4 on the friction values
5 for two reasons."

6 And then you identified two
7 reasons. So, one of the reasons you noted related
8 to traffic volumes being higher than design.
9 Could you expand on the impact of this on an
10 extrapolated value?

11 A. Well, yeah. So, if
12 you're basing it on a particular traffic volume,
13 the friction will quite possibly, you know, reduce
14 or be impacted over its life span on one
15 trajectory, but if the traffic volumes increase or
16 are different, the friction will deteriorate or
17 change or increase or whatever it does more
18 rapidly or more slowly if the traffic volumes are
19 different than what the design was.

20 Q. Okay. And what did you
21 mean by extrapolation out five years would not be
22 prudent?

23 A. Based on those two points
24 or, sorry, that one point, I think that, you know,
25 it might be one thing to infer results, you know,

1 six months or a month or two months, whatever,
2 down the road from existing data, but multiple
3 years, five years, there's a lot that can change
4 in five years and I didn't possess the skill set
5 or the knowledge to be able to do that
6 extrapolation.

7 Q. Okay. And your e-mail
8 also made reference to a voicemail from Dr. Salek,
9 who had indicated in an earlier e-mail that he
10 would call you. And then a bit further down,
11 Mr. Malone replies to you, to your e-mail:

12 "Isn't the City just
13 asking for an analysis of
14 the MTO data for the 2007
15 to 2014 to see the data
16 trend in those numbers?
17 I suspect they are
18 looking to see if there
19 is a trend in the data
20 and why the City was not
21 told."

22 You responded:

23 "Not sure. Soroush's
24 voicemail seemed to
25 indicate otherwise."

1 Do you recall that voicemail?

2 A. No, I don't

3 unfortunately.

4 Q. Do you recall anything
5 about what seemed to indicate otherwise?

6 A. No. I don't remember
7 what he said in the voicemail.

8 Q. And did you ultimately
9 speak with him on the phone?

10 A. I don't remember if I did
11 or not.

12 Q. And do you recall any
13 contact regarding this? Other than these e-mails
14 here, do you recall any discussions with Dr. Salek
15 or Mr. Malone or anything beyond --

16 A. No, I don't recall any
17 discussion beyond these e-mails.

18 Q. Okay. From your
19 perspective, were you expecting any followup on
20 this?

21 A. I believe I was
22 considering this over and finished as far as I was
23 concerned.

24 Q. And, Registrar, if we can
25 go to HAM36336.

1 So, a report was provided to
2 the City on February 26, 2019, which included an
3 extrapolation of the friction values. Were you
4 involved in preparing this memo?

5 A. No.

6 Q. Did you have any further
7 discussion with Mr. Malone, Dr. Salek or anyone
8 else regarding the assignment or the memo?

9 A. I don't believe so, no.

10 Q. Going back to a question
11 that I had asked you earlier regarding your e-mail
12 where you had noted that it wouldn't be prudent to
13 perform the extrapolation, by that, did you mean
14 it wouldn't be prudent for you to perform the
15 extrapolation or for the extrapolation to be done
16 at all?

17 A. That's a good question.
18 Reading the e-mail and just knowing how I speak
19 and how I write, I believe I was envisioning it
20 wouldn't be prudent for me to do it. I think I
21 did indicate further down in that e-mail or in a
22 separate e-mail or a subsequent e-mail that if
23 it's data analysis or trend forecasting or
24 whatever, that surely somebody in CIMA is capable
25 of doing that.

1 Q. And did you ever receive
2 or review this memo prior to your preparation as
3 part of these proceedings?

4 A. As part of these
5 proceedings, I --

6 Q. Sorry, just to confirm.
7 So, in your time as a CIMA employee and in the
8 course of your work as a CIMA employee, did you
9 receive this?

10 A. No.

11 Q. Did Dr. Salek, Mr. Malone
12 or Dr. Hadayeghi ever discuss with you whether an
13 extrapolated number could be compared to field
14 testing or design values, aside from the e-mails?

15 A. Not that I recall. I
16 don't believe so.

17 Q. Okay. If they had, what
18 would your views have been?

19 A. They would have been the
20 same as what I wrote in my e-mail, that, you know,
21 it wasn't something that I was comfortable doing.
22 If they wanted to investigate doing that, they
23 would need to speak with somebody who was
24 comfortable doing that, who was qualified and
25 capable.

1 Q. Okay. Following the
2 contact you had in February 2019, did you ever
3 have any additional discussions with anyone at
4 CIMA regarding the RHVP?

5 A. No.

6 Q. Okay. And did you ever
7 have any discussions with anyone at the City of
8 Hamilton?

9 A. No.

10 Q. Commissioner, subject to
11 any questions you may have, those are my
12 questions.

13 JUSTICE WILTON-SIEGEL: Okay.
14 I have no questions. Perhaps the registrar can
15 take that document down. Thank you. We'll go
16 around the participants to ask whether they have
17 any questions, starting with Ms. Roberts.

18 MS. JENNIFER ROBERTS: Thank
19 you, Commissioner.

20 EXAMINATION BY MS. JENNIFER ROBERTS:

21 Q. Mr. Petzold, I'm
22 Jennifer Roberts. I'm counsel for Golder. Hello.

23 A. Hey.

24 Q. I just have a couple of
25 questions arising from some of your testimony

1 earlier. You mentioned wet weather stopping
2 distance?

3 A. Mm-hmm.

4 Q. And by that, I mean let
5 me ask the question: Is it an established
6 proposition that stopping in wet weather
7 conditions takes a far greater distance than in
8 dry conditions?

9 A. I wouldn't say far
10 greater, but I believe that it's established that
11 it takes longer to stop in wet conditions than in
12 dry conditions, yes.

13 Q. Thank you. Registrar,
14 could you please pull up CIM17209. I want to go
15 back to a document that you were taken to this
16 morning. That's great.

17 This document has two
18 attachments to it. That is the Tradewind friction
19 testing report as well as a Golder report that's
20 December 2017. Were you told that the Tradewind
21 report was enclosed within a Golder report of
22 2014?

23 A. I don't recall if I was
24 told that or not.

25 Q. Were you provided with

1 the Golder report of 2014?

2 A. I believe I was but I
3 don't remember. I don't remember if I was or not.

4 Q. You don't remember. So,
5 the attachment to this one is a 2017 report.

6 A. Okay.

7 Q. Perhaps, Registrar, are
8 you able to go to it from this document?

9 THE REGISTRAR: Sorry,
10 counsel. If you have a doc ID for me, I can go to
11 it.

12 MS. JENNIFER ROBERTS: I don't
13 know that I do. Let me see if I can. It's all
14 right. Okay.

15 BY MS. JENNIFER ROBERTS:

16 Q. Do you have -- were you
17 told that Golder provided analysis of the
18 Tradewind friction testing?

19 A. I don't know if I was
20 told that Golder did an analysis. I was told that
21 there was a Golder report when I was given it.

22 Q. And are you talking about
23 the Golder report of 2017 or are you talking about
24 the Golder report of 2014?

25 A. The Golder report that's

1 attached to this e-mail. I believe that's the
2 2017 version that you're speaking of.

3 Q. Right. Okay. Are you
4 aware of a technique in pavement rehabilitation
5 called microsurfacing?

6 A. I'm aware of it. I
7 wouldn't say I have a lot of experience with it.

8 Q. When you were provided
9 with the Tradewind report, were you told that
10 Golder had recommended microsurfacing of the Red
11 Hill?

12 A. I don't -- I can't recall
13 if it was told that or not.

14 Q. Are you aware that
15 microsurfacing is a treatment that improves
16 surface friction?

17 A. Yes.

18 Q. Thank you. Those are my
19 questions.

20 JUSTICE WILTON-SIEGEL: Okay.
21 Thank you. Ms. McIvor?

22 MS. MCIVOR: Thank you,
23 Commissioner.

24 EXAMINATION BY MS. MCIVOR:

25 Q. Hi, Mr. Petzold. I'm

1 Heather McIvor. I'm counsel for MTO. I just have
2 a very brief question for you about your evidence
3 this morning.

4 Registrar, if you could pull
5 up CIM17198.2, please. Okay. Registrar, I
6 believe it's the next page over, so -- yeah,
7 that's right.

8 Mr. Petzold, we looked at this
9 earlier and you note here, I believe it's in the
10 second paragraph, that you're unaware of
11 municipalities applying specific standards for
12 friction, but you confirmed today you're aware
13 that some take baseline measurements and then
14 perform regular checks to see whether they drop
15 and how quickly.

16 I'm just interested in your
17 view. What's the significance of knowing whether
18 friction drops quickly versus more gradually?

19 A. I'm sorry, could you
20 maybe just rephrase that? I'm not entirely sure
21 what you're asking.

22 Q. Of course. So, you
23 mention here that, in your view, municipalities
24 may monitor friction and whether it drops quickly
25 or not, so I'm just, sort of, interested in why an

1 entity would want to know the rate at which
2 friction is dropping. What did you mean by
3 quickly?

4 A. Well, I believe that, you
5 know, municipalities are concerned with the safety
6 of their roads and if they're seeing that the, you
7 know, road is becoming more slippery or has less
8 friction, they would want to attempt to identify
9 that and then do some form of rehabilitation to
10 improve the friction.

11 Q. Okay. And would I be
12 correct to say that this is has to do with driver
13 expectations when we were talking about quick
14 friction changes versus declining friction over
15 the long-term?

16 A. Again, what do you mean
17 by driver expectations?

18 Q. I guess I mean in terms
19 of adapting to decreasing friction. So, you've
20 specifically said here:

21 "Many check to see first
22 of all if friction is
23 dropping, second of all,
24 how quickly."

25 So, I'm really just trying to

1 understand what the importance is of monitoring
2 the quickness of the dropping?

3 A. Yeah. I don't imagine
4 you would, from a driver expectation perspective,
5 I don't imagine you're going to see one day the
6 road will be -- have, you know, good friction
7 characteristics and then the next day or the next
8 week the road is going to have poor friction
9 characteristics. This is something that I believe
10 would take place over a course of seasons or years
11 or whatever, again, depending on traffic volume.

12 But, yeah, I mean, if a driver
13 is driving on one road surface, you know,
14 hypothetically a major highway and it's very
15 grippy and very, you know, good friction
16 characteristics and then they come off, and take
17 an exit and go on to on off-ramp or something and
18 it's got lower friction characteristics, that
19 would be a very quick change that a driver
20 wouldn't be anticipating and could lead to some
21 safety concerns.

22 Q. Okay. And here, if
23 you're testing the same section of a road, whether
24 that's a municipal roadway or not, what is the
25 benefit of knowing whether there are significant

1 changes, let's say, year to year or more gradual
2 changes? Is that something you're comfortable
3 speaking about or --

4 A. I mean, I don't work in a
5 City planning office, but, you know, if the City
6 or the municipality or the infrastructure owner
7 sees that their infrastructure, their road, is
8 getting progressively slipperier or has less
9 friction, you know, they would use that in
10 planning their rehabilitation programs. And if
11 they see that it's progressed along a certain
12 trend over the course of the last couple years and
13 then all of a sudden it changes or something to
14 that effect, then maybe that might tweak them to
15 think, oh, we need to look at this. But it would
16 be used for planning purposes for their
17 maintenance presentations.

18 Q. Okay. Thank you,
19 Mr. Petzold. Those are my questions for you.

20 JUSTICE WILTON-SIEGEL: Okay.
21 Mr. Mishra, do you have any questions for the
22 City?

23 MR. MISHRA: Yes,
24 Mr. Commissioner. I have a couple questions for
25 Mr. Petzold.

1 JUSTICE WILTON-SIEGEL: Go
2 ahead.

3 EXAMINATION BY MR. MISHRA:

4 Q. Registrar, can you pull
5 up CIM16181, please, and if you could call out
6 just the bottom e-mail from Mr. Malone, please.

7 Mr. Petzold, I just want to
8 confirm one point with respect to this e-mail. As
9 I understand it, in September 2018, the City
10 requested that CIMA assist in interpreting
11 pavement friction testing results. Is that right?

12 A. I can infer that from the
13 e-mail that was written there, yeah.

14 Q. Understood. And you
15 don't have any other recollection of that request?

16 A. No.

17 Q. Understood. Thank you,
18 Mr. Registrar. Can you now pull up CIM17111,
19 please.

20 A. Sorry, I'm just plugging
21 in my laptop.

22 Q. No problem at all, sir.

23 A. Okay.

24 Q. I would ask you pull up
25 images 1 and 2, please. Perfect. Thank you.

1 So, looking at your e-mail to
2 Dr. Salek dated February 21, 2019, you would agree
3 that you were of the view that MTO friction data
4 dated 2014 and earlier would not have much
5 relevance because the data was five years old. Is
6 that fair to say?

7 A. That would be my opinion,
8 but again I wouldn't call myself an expert on
9 this. Somebody else who is more qualified to
10 speak on friction analysis may have a different
11 opinion, but that's my opinion.

12 Q. Okay. And in your view,
13 friction data that's five years old is too old to
14 extrapolate. Do I have that right?

15 A. In my opinion, like I
16 said, I wouldn't feel comfortable doing that.

17 Q. Okay. Mr. Commissioner,
18 can you just give me one second to look at my
19 notes.

20 JUSTICE WILTON-SIEGEL:
21 Mm-hmm.

22 MR. MISHRA: Thank you,
23 Mr. Commissioner. Thank you, Mr. Petzold. Those
24 are all my questions today.

25 JUSTICE WILTON-SIEGEL: Okay.

1 Thank you very much. Mr. Petzold, thank you for
2 attending the inquiry. You're excused. We
3 appreciate your appearance.

4 THE WITNESS: Should I just
5 leave?

6 JUSTICE WILTON-SIEGEL: You
7 can just sign off.

8 THE WITNESS: Okay. Thank
9 you, everybody.

10 JUSTICE WILTON-SIEGEL:
11 Ms. Leclair, we have one more witness today?

12 MS. LECLAIR: We do, and I'm
13 in your hands as to whether it's best to take an
14 early lunch now and resume with --

15 JUSTICE WILTON-SIEGEL: How
16 long do we anticipate we will be with Dr. Salek?

17 MS. LECLAIR: I'm anticipating
18 around an hour and a half.

19 JUSTICE WILTON-SIEGEL: All
20 right. Then let's take our break and we'll return
21 at a quarter to 2:00.

22 --- Luncheon recess taken at 12:30 p.m.

23 --- Upon resuming at 1:45 p.m.

24 MS. LECLAIR: Good afternoon,
25 Commissioner. May I proceed?

1 JUSTICE WILTON-SIEGEL: Yes,
2 please do, Ms. Leclair.

3 MS. LECLAIR: Thank you. Good
4 afternoon, Dr. Salek. Before I start asking you
5 some questions, I will ask the court reporter to
6 affirm your evidence.

7 AFFIRMED: SOROUSH SALEK

8 EXAMINATION BY MS. LECLAIR:

9 Q. Before we begin, am I
10 pronouncing your last name correctly?

11 A. Correct.

12 Q. Okay. I would like to
13 ask you some questions about your professional
14 background. You've worked at CIMA's Burlington
15 office since 2014. Is that correct?

16 A. That's correct.

17 Q. Okay. And what's your
18 current role at CIMA?

19 A. I'm the director of
20 traffic engineering at CIMA Burlington.

21 Q. And when did you start
22 that role?

23 A. A couple of years ago.

24 Q. Okay. And did you have
25 any prior roles at CIMA before the role you

1 currently hold?

2 A. I joined CIMA in 2014 as
3 a traffic engineer and then I acted as a project
4 manager and senior project manager before my
5 current role.

6 Q. Okay. And prior to 2014
7 at CIMA, what prior professional roles did you
8 hold?

9 A. I was working in
10 consultant environment, engineering consultant, as
11 a traffic engineer and a project manager. And
12 after that I did my Ph.D. in traffic engineering
13 at University of Waterloo.

14 Q. Okay. And prior to
15 completing your Ph.D., can you tell me a bit more
16 about your educational background?

17 A. I did my Bachelor and
18 Master's outside of Canada and I was involved in
19 traffic and transportation consulting after my
20 graduation from a Master's degree outside of
21 Canada. And then in 2009 I arrived in Canada,
22 starting my Ph.D.

23 Q. And did you have any
24 specialization in your studies?

25 A. Yes. My main

1 specialization is working on traffic data, pattern
2 recognition, machine learning and basically acting
3 as a data scientist.

4 Q. Okay. And as part of
5 your educational background and work experience,
6 did you have any expertise related to friction
7 testing or to the analysis of friction testing
8 results?

9 A. I do have expertise in
10 analyzing different kind of data related to
11 traffic, including friction, but it's only data
12 analysis, not expertise in measuring friction.

13 Q. Okay. Specifically with
14 friction testing, am I correct in understanding
15 that you do not yourself -- you're not involved in
16 conducting or collecting the friction data?

17 A. Yes. I'm not a pavement
18 engineer. I do not collect friction data, but I
19 do analyze friction data and interpret the
20 results.

21 Q. Okay. And for what
22 purpose would you analyze the data and interpret
23 the results, in what context?

24 A. In projects that I was
25 involved with involving friction analysis, we were

1 mainly looking at the trend of friction data and
2 model the friction data, trying to correlate it
3 with other factors in order to have some
4 estimates. Then we want to use -- we want to come
5 up with decisions. I worked for MTO basically as
6 one of my clients to do friction modelling in
7 previous years, and for this and for the City of
8 Hamilton also I had a minor role in friction
9 analysis.

10 Q. And that friction
11 analysis that you're referring to for the City, is
12 that in February of 2019 or is that --

13 A. Correct.

14 Q. So, I will have some more
15 questions relating to that later into your
16 examination.

17 Did you have any expertise or
18 knowledge regarding friction testing standards or
19 thresholds or the equipment used?

20 A. No.

21 Q. And I understand you're a
22 professional engineer. Is that correct?

23 A. Correct.

24 Q. Okay. And where are you
25 licensed?

1 A. Ontario.

2 Q. And are you licensed in
3 any other jurisdictions?

4 A. No, just in Ontario.

5 Q. And just so I understand
6 clearly, I believe your current title was a
7 director role. Do you recall what year you became
8 the director?

9 A. I think it was May of
10 2020.

11 Q. Okay. So, in late 2018,
12 early 2019, am I correct in understanding that you
13 would have been in your role as senior project
14 manager?

15 A. Correct.

16 Q. Okay. So, most of the
17 questions that I'll ask you today are focused on
18 your time in that role. So, if you could tell me
19 generally what your role as senior project manager
20 at CIMA entailed?

21 A. As the title says, I was
22 involved in different projects, managing the
23 projects, managing the technical components of the
24 projects for some studies and for some studies
25 acting as the project director to take care of the

1 project management, cost and schedule management,
2 and also managing staff.

3 Q. Okay. And did you work
4 in a particular group at CIMA?

5 A. We have a traffic
6 engineering group, CIMA Ontario, that's for the
7 whole -- for my tenure at CIMA, I worked in the
8 same group.

9 Q. Okay. And does that
10 group work specifically with roadways or are there
11 other industries that --

12 A. It's mostly roadways. We
13 work with Ministry of Transportation Ontario and
14 other municipalities and usually it's related to
15 roadways and traffic operations and safety.

16 Q. So, in a few moments I'll
17 ask you some questions regarding some work CIMA
18 conducted for the City of Hamilton beginning in
19 2018, but before 2018, had you worked on any
20 projects for the City of Hamilton regarding the
21 Red Hill Valley Parkway?

22 A. I don't think -- I can't
23 recall, but I don't think so.

24 Q. Registrar, if we can go
25 to overview document 9A, images 92 and 93, please.

1 And, Dr. Salek, we've called
2 up some documents on the screen here. I will
3 direct you to some particular paragraphs, but if
4 you need, we're happy to zoom in or call anything
5 out and please let us know if the videos are
6 obscuring any of the text that I'm asking you to
7 look at.

8 Registrar, if we can call out
9 paragraph 235.

10 So, on October 5, 2018 you
11 were copied on an e-mail from Dr. Hadayeghi to
12 Mr. Ferguson at the City regarding a project that
13 we refer to as the RHVP roadside safety
14 assessment. And just to give you a bit more
15 context, I'll walk you through the original
16 request that came from the City.

17 And for clarity, you were not
18 copied on the original e-mail from Mr. Ferguson,
19 but I understand that you were later forwarded the
20 e-mail from one of your colleagues.

21 Registrar, if we can call out
22 paragraph 232. So, that's Mr. Ferguson's e-mail,
23 which continues in the paragraph below. If you
24 can call out 233, Registrar.

25 So, this is the e-mail that

1 Mr. Ferguson forwarded, which was later forwarded
2 to you. I'll give you a moment to review.

3 A. Yeah.

4 Q. Okay. Do you recall
5 receiving this e-mail?

6 A. Yes, I do.

7 Q. Okay. And was this the
8 first time that you became involved in the project
9 related to the RHVP, to your knowledge?

10 A. To the best of my
11 knowledge, yes.

12 Q. Okay. And, Registrar, we
13 can take those call outs down.

14 What was your involvement with
15 the proposal?

16 A. I was aware of the
17 proposal. I helped in the preparation of the
18 proposal, mostly on the section for collision
19 analysis and also on the section for the budgeting
20 and scheduling.

21 Q. Okay. And when you say
22 you assisted with the preparation, did you draft
23 part of the proposal or did you review it? If you
24 can just expand on that?

25 A. Yeah. Mr. Bottesini

1 drafted the proposal. I reviewed the proposal and
2 provided comments.

3 Q. Registrar, if we can go
4 to images 93 and 94.

5 So, on October 16, 2018,
6 Dr. Hadayeghi sent the City a revised proposal to
7 include a request from the Hamilton Police Service
8 for potential design of HPS access points on the
9 RHVP and LINC. Was your involvement with the
10 revised proposal the same, that you would have
11 reviewed it, provided comments?

12 A. Correct.

13 Q. So, for efficiency, I'll
14 take you to the later proposal from October 16,
15 but if you would like to review the first
16 proposal, please let me know and I'm happy to flip
17 through that as well.

18 Registrar, it's CIM19777.0001.

19 And what was the purpose of
20 the proposed work?

21 A. Based on my recollection,
22 the City wanted to do resurfacing of Red Hill
23 Valley Parkway and subsequently the Lincoln
24 Alexander Parkway, so they wanted us to review the
25 collision data as well as the roadside elements to

1 come up with recommendations that can be included
2 in the tender for the resurfacing.

3 Q. And did you understand
4 the work to involve any assessment of the current
5 surface of the RHVP?

6 A. No.

7 Q. Would a roadside -- go
8 ahead.

9 A. A review of collision
10 data was involved, was included, but there was no
11 assessment of the pavement within the scope.

12 Q. And would a roadside
13 safety assessment typically include an assessment
14 of the surface itself?

15 A. It's an assessment of the
16 shoulders, rumble strips, guide rails, signage and
17 pavement marking.

18 Q. Okay. So, at this time,
19 early to mid-October 2018, had you been involved
20 in any discussions with anyone at CIMA or anyone
21 at the City regarding friction or friction testing
22 on the RHVP?

23 A. No.

24 Q. And were you aware of any
25 concerns regarding the pavement surface of the

1 RHVP at this time?

2 A. No.

3 Q. Did you have any
4 understanding of why the City was repaving at this
5 time?

6 A. At this time, my
7 understanding was that regular resurfacing, this
8 is quite normal with highways. After their
9 lifetime or close to their life, they go through
10 resurfacing.

11 Q. Okay. And at this time,
12 had Mr. Malone advised you that he had received
13 some summary numbers regarding friction testing on
14 the RHVP conducted in 2007 and 2013?

15 A. I was not aware of
16 anything.

17 Q. Okay. Registrar, if we
18 can go to CIM19786. Okay.

19 So, on October 12, 2018, so
20 this is a few days before the final proposal that
21 we were just looking at, you were forwarded an
22 e-mail from Dr. Hadayeghi that he received from
23 Mr. Ferguson at the City, who had, in turn,
24 received it from Mr. Izadpanah at TES who was
25 formerly at CIMA.

1 Registrar, if we can just call
2 up image 2 as well.

3 Do you recall receiving this
4 e-mail?

5 A. Preparing for this
6 hearing, I reviewed this e-mail, yes, but from
7 that time I can't recall. It is four years ago.

8 Q. So, you don't have a
9 particular recollection beyond --

10 A. No.

11 Q. -- the e-mail itself?
12 Okay.

13 So, Mr. Izadpanah's e-mail
14 included a link to a report with a summary of
15 TES's observations and recommendations from
16 certain ramps on the RHVP. The document was
17 provided by link, but we've received a document
18 that I understand to be a copy of that report.

19 Registrar, if we can go to
20 HAM35505.

21 Do you recall receiving or
22 reviewing this report?

23 A. I recall having some data
24 from TES while doing the project for the roadside
25 safety review, and I think this is the one, if I'm

1 not mistaken.

2 Q. Okay. And would you have
3 reviewed it in the context of the roadside safety
4 assessment?

5 A. I looked into it not to
6 review and provide comments or observations. I
7 just went through it because we were doing the
8 same type of analysis in more details as part of
9 the roadside safety review.

10 Q. So, the report includes
11 observations regarding collisions on the ramps,
12 including severity, collision type, road surface
13 condition and light. Do you know if this work was
14 incorporated into CIMA's roadside safety
15 assessment?

16 A. As I said, we were aware
17 of the analysis, we looked into it, but we did the
18 complete analysis again using the data provided by
19 the City, so my understanding is that we came up
20 with very similar observations in more details.

21 Q. Okay. So, in a few
22 places the report highlights that SMV or I believe
23 that's single motor vehicle collisions and
24 collisions occurring under wet surface conditions
25 are the most prevalent type of collisions and, for

1 a few ramps, resurfacing is identified as a
2 potential countermeasure.

3 Was this information
4 consistent with your understanding of the RHVP
5 collision analysis at the time, in October 2018,
6 or was this new or different information?

7 A. It's very similar to our
8 findings which we documented in our report.

9 Q. So, prior to CIMA
10 undertaking the report and preparing the report,
11 this is around the same time as the proposal, did
12 you, at the time of the proposal, have an
13 understanding of the RHVP collision analysis that
14 had been done in the prior CIMA reports?

15 A. I was aware of it, yes.

16 Q. Registrar, if we can go
17 to HAM6019 and if we can also call up image 2,
18 please.

19 So, you're listed as having
20 attended a kickoff meeting for the RHVP roadside
21 safety assessment on November 1, 2018. Do you
22 recall this meeting?

23 A. Yes, I do.

24 Q. What do you recall about
25 the meeting?

1 A. This was the kickoff
2 meeting for the project. I remember that the City
3 wanted to have this study started as soon as
4 possible because of the time limitations that they
5 had for the resurfacing, preparation of the
6 resurfacing tender, and they wanted our
7 recommendations as soon as possible. And we
8 attended this meeting, we reviewed our work plan
9 and proposal with the City and we -- usually our
10 practice is to have an agenda item to go through
11 the client expectations and to make sure that we
12 are answering the questions that the client has,
13 and also provide them with some thoughts. If
14 there is a question that the client didn't ask but
15 we are able to answer or we think that are
16 important to answer, we usually highlight during
17 our kickoff meetings, including this one.

18 Q. And do you recall any
19 discussion of friction or friction testing at this
20 meeting?

21 A. I can't recall any
22 discussion on friction testing.

23 Q. And when you say you
24 can't recall, do you mean you are sure that it did
25 not happen or that you can't recall either way?

1 A. It's four years ago. I
2 can't say that there was no, 100 percent no
3 discussion, but even if there was a discussion, it
4 didn't come to my radar that this is something
5 that we need to consider in this study. The focus
6 of the study was clear and I can't really recall.
7 I can't say 100 percent I'm sure, but I can say
8 that it didn't occur to me that friction is
9 something that we have to look into.

10 Q. And at image 2, I think
11 it's the fifth and sixth bullet beginning with
12 "CIMA has previously reviewed the study corridor,"
13 Registrar, if you can call that out. Perfect.
14 Thank you.

15 So, that bullet and the one
16 below:

17 "CIMA has previously
18 reviewed the study
19 corridor and provided the
20 City with mainly -- "

21 I don't know if that's
22 supposed to be "many":

23 " -- long-term
24 recommendations to
25 install median guide

1 rails along the RHVP and
2 LINC and CIMA will review
3 the findings of the noted
4 study and include its key
5 short-term and
6 medium-term
7 recommendations in the
8 current study as needed."

9 A. Yeah.

10 Q. Had you reviewed at this
11 time the 2013 or 2015 CIMA reports?

12 A. No. It was part of the
13 scope of the study to review that. So, this was
14 the kickoff meeting, so we were aware of previous
15 studies that we had done for the City, so that's
16 one of the items that we discussed with the City
17 that we're going to look into those studies and
18 findings and try to see if our recommendations are
19 going to change and, if yes, we're going to
20 include it in our current report.

21 Q. Okay. But you yourself
22 had not read those reports at this time. Is that
23 correct?

24 A. Yes. At this time, I
25 hadn't read those reports yet.

1 Q. Okay. And did you later
2 come to read those reports at some point during
3 this project?

4 A. I can't recall exactly,
5 but my understanding is I have looked at them.
6 Based on the way that I work, usually I look at
7 them, but I can't recall clearly --

8 Q. Okay.

9 A. Sorry. But my
10 involvement in this project was mostly for the
11 collision analysis. Mr. Bottesini, who did
12 roadside safety investigation and authored the
13 report, the subsequent report, definitely reviewed
14 the reports and there is a section in our report
15 that summarizes some of the findings of those
16 studies.

17 Q. And I'll take you to -- I
18 think I'll take you to those sections in a moment.
19 Okay.

20 Registrar, if we can go to
21 overview document 9A, image 124 and 125. Okay.

22 And at paragraph 309, so that
23 begins at the bottom of 124 and then continues to
24 125 -- I'll just wait for that to be pulled up --
25 so you received an e-mail from Mr. Malone on

1 November 7, 2018 regarding the lighting study?

2 A. Mm-hmm.

3 Q. And then you received a
4 second e-mail.

5 Registrar, if we can take
6 those call outs down. It's at paragraph 310.

7 And, Dr. Salek, is that, as it
8 is presently up on the screen, is that clear
9 enough or would you like the registrar to pull it
10 out?

11 A. Yeah. I can read it.

12 Q. Perfect. Let me know
13 once you've had a chance to review.

14 A. Yeah.

15 Q. Okay. Before getting
16 into the substance of the latter e-mail, what was
17 your involvement in the RHVP lighting study, if
18 any?

19 A. I had no involvement.

20 Q. And what was your
21 understanding of why you received this e-mail?

22 A. It's a normal practice at
23 CIMA that we CC people who may have involvement in
24 relevant projects so they have the information,
25 the latest information, regarding the project that

1 they're doing. If there's any project that the
2 outcomes are going to affect our subject project,
3 we can get a good handle of it through these CC,
4 by being copied is on these e-mails.

5 Q. Okay. So, this was more
6 just for your general information, not because you
7 were particularly involved in the project. Is
8 that correct?

9 A. Correct. And the other
10 reason for copying is just for back up. People go
11 on vacation or may not be available at times, so
12 it's good to have the information sometimes, if
13 relevant.

14 Q. Okay. So, in the last
15 paragraph, Registrar, if you can call that out,
16 and Mr. Malone included:

17 "The recommendation will
18 recognize that they need
19 to do close monitoring of
20 changes being made so
21 that future actions are
22 adjusted to optimize the
23 original infrastructure,
24 the improvements that are
25 being completed and the

1 improvements already
2 planned. Bluntly, this
3 is code for seeing if the
4 collision issues on the
5 RHVP are resolved with a
6 new pavement."

7 What did you understand
8 Mr. Malone to mean by that last sentence?

9 A. I can't recall from that
10 time. I just read this through the preparation
11 for this hearing. My understanding was there was
12 some collision issues and they wanted to know if
13 the improvements that they have implemented
14 resulted in any enhancement in the collision
15 trends.

16 Q. Okay. And did you have
17 an understanding of what collision issues there
18 were more specifically?

19 A. Not at the time, but
20 through the analysis that we did as part of the
21 roadside safety review, we came to understanding
22 of the type of collisions, but I can't recall
23 clearly if at the time that I read this e-mail,
24 what was my understanding because, as I said
25 earlier, I can't even recall this e-mail. I just

1 read it recently.

2 Q. Okay. Did you discuss
3 this e-mail with Mr. Malone or others, to your
4 recollection?

5 A. No, I didn't, because it
6 was not relevant to -- I was not involved in the
7 project.

8 Q. Okay. Registrar, we can
9 take that down and if we can go to image 129.

10 So, on November 7, 2018,
11 Mr. Bottesini e-mailed you and others at CIMA
12 writing:

13 "Do we know if we should
14 provide detailed
15 recommendations for the
16 median guide rails given
17 our previous
18 recommendation for
19 high-tension cabled guide
20 rail?"

21 And then you responded the
22 same day writing:

23 "As discussed in the
24 meeting, we have to
25 review our previous

1 findings and adopt the
2 short-term to medium-term
3 recommendations for areas
4 with serious safety
5 issues."

6 What meeting are you referring
7 to? Was it the November 1 kickoff meeting or
8 something else?

9 A. It's the kickoff meeting.

10 Q. Okay. And what serious
11 safety issues were you referring to?

12 A. So, usually when we look
13 into collisions, we are dealing with fatal and
14 injury collisions as well as PDO, property damage
15 only, collisions. So, based on the normal
16 practice, fatal and injury collisions are of more
17 importance and we look into them in more details.
18 And if we can identify some of the contributory
19 factors resulting in those collisions, then we
20 identify safety issues and serious safety issues.

21 Q. Okay. And at this time,
22 so early November 2018, did you have an
23 understanding of whether there were areas with
24 serious safety issues?

25 A. I don't think that at

1 this time we had our preliminary results ready. I
2 can't recall. But we didn't know, so it was based
3 on, if you look into the minutes of the kickoff
4 meeting, there is a section that talks about the
5 same thing, about adopting short and medium-term
6 recommendations of previous studies into the
7 roadside safety study. So, based on that
8 conversation that we had during the kickoff
9 meeting, I asked Mr. Bottesini to proceed with
10 that direction.

11 Q. Okay. And I just want to
12 make sure that I'm clear on your evidence on this
13 point. Was your inclusion of "for areas with
14 serious safety issues" reflecting prior knowledge
15 that CIMA already knew or that you already knew
16 that there were areas with serious safety issues
17 or --

18 A. No.

19 Q. -- was it that the
20 designations would be applied should they be
21 discovered through the analysis?

22 A. Yeah. The latter. At
23 the point, at that point in time, I couldn't
24 speculate. We were doing a full review of the
25 collision data and doing site investigation, and

1 those two pieces could help us to come up with
2 potential locations with safety issues.

3 Q. Okay. And did you
4 discuss any serious safety issues with the City at
5 this time?

6 A. No, because at this time
7 we didn't know where the serious safety issues
8 are, so my message to Mr. Bottesini was more
9 focused on short-term and medium-term
10 recommendations and we had to review the highway
11 in order to identify the locations with safety
12 issues. So, at this point, I didn't have
13 information on the exact locations, if any.

14 Q. Okay. If I'm
15 understanding correctly, did anyone tell you that
16 there were such areas?

17 A. No. As I said, we were
18 at the beginning of our study and our study would
19 result in the identification of the collision hot
20 spots.

21 Q. Thank you. And,
22 Registrar, if we can go to image 161 and 162 of
23 this overview document.

24 Going forward a few weeks in
25 time, on November 23, 2018 you sent a draft of the

1 roadside safety assessment report to Mr. Ferguson.

2 What was your involvement in the preparation of

3 the report? Did you draft it? Did you review?

4 A. I reviewed the report.

5 Q. Okay. And your e-mail,

6 it's excerpted at paragraph 386, included:

7 "CIMA could not determine

8 the reason for the abrupt

9 increase in collisions

10 from 2013 to 2014 to 2015

11 to 2017. Both

12 self-reported and other

13 collisions have similar

14 increase in 2015. Would

15 the City have an

16 explanation?"

17 What did you mean by this?

18 A. There's a graph in the

19 roadside safety report that shows the evolution of

20 collision data in the past five years of the

21 study, of the police-reported collisions that we

22 reviewed, and there was an abrupt change in

23 collisions. If I'm not mistaken, it was after --

24 from year three of the analysis. And usually when

25 these type of changes happen, may be the result of

1 some physical change in the highway, so we wanted
2 to understand if the City has done anything or
3 there was any explanation for that trend. Because
4 if you look at the collision data, there is a
5 quite pattern in that change. It's an abrupt
6 change. So, we raised that question and asked
7 City.

8 Q. And did you ever come to
9 learn from the City whether there was some
10 physical change in the highway that corresponded
11 to that increase?

12 A. No. To the best of my
13 recollection, we never received any input on that
14 question.

15 Q. And at this time, did you
16 have any concerns regarding the increase?

17 A. Our concern was mostly
18 for the proportion of wet collisions. The
19 important thing was to capture the increase and
20 also to dig more to see what are the prevailing
21 collision impact types and collision types, which
22 we did. So, we wanted that extra information to
23 have an explanation, but it wouldn't change any of
24 our recommendation, the knowledge of that.

25 Q. Okay. And turning to the

1 draft itself, Registrar, if we can go to HAM35556
2 and image 8. Okay.

3 So, this section includes a
4 summary of the main recommendations CIMA had made
5 in the 2013 and 2015 reports, and I think you
6 alluded to this earlier. This included, somewhat
7 in the middle of the bullets, conduct pavement
8 friction testing. Did you draft any of this
9 section or was that Mr. Bottesini?

10 A. It was Mr. Bottesini.

11 Q. Were you aware prior to
12 your review of this draft that friction testing
13 had been recommended?

14 A. This is the summary of
15 the recommendations from the previous study, so I
16 reviewed this section but this is not the
17 recommendation from the study that I was involved
18 with.

19 Q. Okay. And before
20 reviewing it, did you know that pavement friction
21 testing had previously been recommended or would
22 this have been new information to you?

23 A. It was new information to
24 me.

25 Q. Okay. And did you know

1 at this time whether or not any friction testing
2 had been done in response to the recommendation?

3 A. We didn't know if any of
4 these recommendations have been implemented or
5 not.

6 Q. And, Registrar, if we
7 could go to images 12 and 13. Okay.

8 So, section 3 included the
9 collision history review. Did you draft this
10 section or conduct the analysis?

11 A. No. I just reviewed.

12 Q. Registrar, if we can go
13 to image 14. If we can actually have 13 and 14.
14 Okay. If you can call out the top of image 13
15 before 3.1.2.

16 I believe this section is what
17 you referred to in your e-mail regarding the
18 increase in number of collisions. Is that right?

19 A. Correct.

20 Q. I think I understood your
21 evidence to be that you did not receive an answer
22 from the City regarding that question?

23 A. I recall we asked the
24 question during the progress meeting, but I don't
25 have any recollection if we received an answer.

1 Chances are that they didn't know themselves, but
2 that's just my intuitive understanding. I can't
3 recall.

4 Q. Okay. So, you don't have
5 a specific recollection of whether you received an
6 answer?

7 A. No.

8 Q. Had CIMA received an
9 answer, is that something that would have been
10 included in the report?

11 A. The progress meeting was
12 after that draft report, but if we have received
13 an answer, we would, based on our practice, we
14 would document it in the report. But by saying
15 that I can't recall doesn't mean that we have
16 received it. I can't recall --

17 Q. Either way?

18 A. Either way, yeah.

19 Q. And, Registrar, if we can
20 go to image 15. If you could actually do 14 and
21 15 just so that we can get the heading. You can
22 close out image 14, then, just to make it a little
23 larger. Sorry about that.

24 So, CIMA included in the draft
25 report that 64 percent of mainline collisions and

1 73 percent of ramp collisions respectively
2 occurred on a wet surface and that that was
3 noticeably higher than what was found in the 2015
4 review, which, on that study, had already been
5 found to be significantly higher than the
6 provincial and City averages of 17.6 and
7 22 percent respectively.

8 Do you recall any discussions
9 at this time regarding this?

10 A. Yeah. We had an
11 observation. We documented in the report. I
12 can't recall any additional discussion.

13 Q. Okay. And, Registrar, if
14 we can go to image 23:

15 "A summary of the
16 collision history review
17 included. These findings
18 suggest that inadequate
19 skid resistance, surface
20 polishing, bleeding,
21 contamination and
22 excessive speeds may be
23 contributing factors to
24 collisions."

25 Was this consistent with your

1 understanding at the time of the contributing
2 factors relating to the increase?

3 A. Correct.

4 Q. Okay. And did you
5 understand those factors to be equal contributors?

6 A. Can you clarify on those
7 factors?

8 Q. So, the two factors that
9 are listed are inadequate skid resistance and
10 excessive speeds, and I'm just wondering whether
11 you understood those to be equal or if you had an
12 understanding of how those might individually
13 contribute?

14 A. We were not comparing
15 those two factors and we didn't come up with the
16 contribution of each. We came up with the
17 possibility of contribution of these two factors
18 based on the review of collision data. So, our
19 statement here is not to say that each of those
20 factors were contributing equally. Based on the
21 review of the data that we documented in the
22 report, they came up with different percentages,
23 but collision analysis, because we are dealing
24 with a sample, we can not come up with such
25 detailed factors to evaluate, you know,

1 quantitatively evaluate the contribution of the
2 factors with certainty.

3 Q. Okay. And at this time,
4 did you or anyone at CIMA express to you concerns
5 regarding the pavement surface?

6 A. No. The results that we
7 had was self-explanatory. It was suggesting that
8 the highway is not performing well at certain
9 locations in terms of wet surface during the --
10 when the surface is wet.

11 Q. Okay. And did anyone
12 reference friction or friction testing at this
13 time? Friction testing results, rather.

14 A. No.

15 Q. Okay.

16 A. The other thing is for
17 this study we knew that the resurfacing is
18 happening soon and we knew that resurfacing can
19 improve the friction, so that if you take a look
20 at our recommendations, the first recommendation
21 is discussing this, but other recommendations are
22 some other complementary safety measures.

23 Q. Okay. Registrar, if we
24 can go to OD 9A, image 65 and 66.

25 On November 27, 2018, a few

1 days after you sent the draft, Mr. Malone copied
2 you on an e-mail he sent to Mr. McGuire at the
3 City in response to an e-mail he had received the
4 same day. And Mr. Malone's e-mail referred to
5 both the RHVP lighting study and the RHVP roadside
6 safety assessment. And I believe I understand
7 your evidence to be that you were not involved in
8 the lighting study. Is that right?

9 A. Correct.

10 Q. And regarding the
11 roadside safety assessment, Mr. Malone wrote:

12 "You are also correct
13 that the roadside safety
14 report for the RHVP is
15 close to being completed.
16 A draft has already been
17 provided to Dave
18 Ferguson. There were
19 just a few questions that
20 needed to be answered by
21 the City and then it will
22 be finalized."

23 And am I right in interpreting
24 Mr. Malone's reference to a few questions to the
25 questions you raised in your e-mail to

1 Mr. Ferguson on November 23?

2 A. Can you please call out
3 the section that talks about those questions?

4 Q. Sure. Just to confirm,
5 are you asking me to call out here or the
6 earlier --

7 A. Just the section that has
8 the questions.

9 Q. Is this --

10 A. At the end, that
11 Mr. Malone said that we just need to address some
12 of the questions.

13 Q. Sure. Registrar, if you
14 can close that and if you can go to -- oh, I see
15 the issue. It's 165 and 166. Thank you. Okay.
16 And if you can call out the indented text at 396.

17 Apologies. I think this is
18 what you were looking for. And it's the middle
19 paragraph.

20 A. Yeah. Yes, that's
21 correct. And we had another question at the time.
22 I think it was included in the questions that I
23 sent with the draft report, I can't recall but you
24 can check, that we also wanted to know the design
25 speed of the highway for the geometric analysis

1 that we did prior to the collision analysis.

2 Q. I believe that's correct
3 and I understand you ultimately receive a response
4 on that, which we'll come to in a moment.

5 Registrar, if you can go to
6 CIM19405 and if we can call out both. And if we
7 can actually call out 2 and 3. Okay.

8 So, the e-mail at the bottom
9 is the November 23 e-mail that we looked at a
10 little earlier. And then on November 30, 2018,
11 just to give you the context, I think this is the
12 middle e-mail on the image on the left, you
13 received a response from Mr. Ferguson regarding
14 your November 23, 2018 e-mail. For additional
15 context, between your e-mail on the 23rd and this
16 e-mail, there had been a bit of back and forth
17 because it seems that there might have been some
18 difficulty or some delay based on the size of the
19 attachments.

20 Mr. Ferguson had e-mailed you
21 on November 28 indicating that he would try to
22 review the draft that week. And then on
23 November 30, he wrote:

24 "Would you be available
25 for a meeting next week

1 on the 6th to go over the
2 report and to finalize?
3 One thing I didn't notice
4 in the report was a
5 recommendation related to
6 using side reflective
7 markers rather than the
8 in road markers. I know
9 Eng would prefer the side
10 markers rather than
11 needing to mill the road
12 to install markers."

13 Prior to December 7, 2018 when
14 there was a progress meeting, did you receive any
15 responses to the questions that you raised in your
16 e-mail?

17 A. I can't recall.

18 Q. Okay. And, Registrar, if
19 you can go to HAM60465 and if we can call up
20 image 2 as well. Thank you.

21 And you're listed in the
22 minutes as having attended a progress meeting on
23 December 7, 2018. At the top it says meeting
24 number 2, progress meeting. Am I correct in
25 understanding that this was the second overall

1 meeting, so following the kickoff meeting, not the
2 second progress meeting?

3 A. Correct.

4 Q. What do you recall about
5 the meeting?

6 A. At this time, we had the
7 draft report ready and submitted to the client.
8 They have reviewed it and we did this meeting to
9 share the findings. We prepared a presentation.
10 Mr. Bottesini presented the findings, as he was
11 the main investigator. And I remember that
12 myself, Mr. Bottesini and Brian as well as
13 Dr. Hadayeghi were involved in the meeting. And
14 the City received the presentation very well and I
15 guess they had some questions that they raised and
16 we documented in the minutes of the meeting, and
17 that's the overall recollection, my overall
18 recollection from that meeting.

19 Q. Thank you. Registrar, if
20 we can go to CIM17524.

21 I understand that these are
22 slides prepared and presented at the meeting. Did
23 you prepare these?

24 A. No. Mr. Bottesini
25 prepared. I reviewed.

1 Q. Okay. And if we can go
2 to image 9, Registrar.

3 So, like in the draft report,
4 the presentation included a summary of the
5 collision analysis, including some that we had
6 discussed earlier regarding the wet surface
7 collisions.

8 Registrar, if we can go to
9 image 16.

10 So, also like the report, this
11 slide included:

12 "Findings suggest that
13 inadequate skid
14 resistance, surface
15 polishing, bleeding,
16 contamination and
17 excessive speeds may be
18 contributing factors to
19 collisions."

20 Do you recall any discussion
21 at the meeting relating to that statement?

22 A. I can't recall, but this
23 was not a surprise. At this point, I personally
24 was aware of the summary of the previous reports.
25 This is a repeat observation, although the

1 percentages compared to the previous studies went
2 up, and we presented it to the City. I can't
3 recall any specific discussion. I don't think
4 that they were surprised because that was the very
5 similar observation compared to the previous
6 studies.

7 Q. Okay. So, from your
8 perception, the City representatives at the
9 meeting were not surprised. Am I understanding
10 that right?

11 A. Maybe I correct my
12 wording. Surprise, maybe it's not the best word.
13 I didn't hear any objection to this observation.

14 Q. Okay. And did anyone
15 raise friction or friction testing in response to
16 this?

17 A. No. But, again, because
18 we knew that the roadway is going to go through
19 the resurfacing, my personal observation was that
20 this is going to be resolved in the near future.

21 Q. Do you recall anyone
22 mentioning Golder or Tradewind?

23 A. No.

24 Q. Registrar, if we can go
25 to overview document 9A, 161 and 162.

1 So, this is going back to your
2 November 23 e-mail and just so that you have it in
3 front of you.

4 If you can call out,
5 Registrar, on 162 the paragraph beginning with,
6 "During the progress meeting, we would like to
7 have your feedback."

8 Do you recall any discussion
9 about section 3.1.1 at the progress meeting or
10 whether you were given any additional information?

11 A. I can't recall.

12 Q. Okay. And, Registrar, if
13 we can go to image 242 of the overview document.

14 And you'll see at
15 paragraph 569, on December 12, 2018 Mr. Vala from
16 the City provided you with some information
17 regarding the RHVP design speed, advising that it
18 was 100 kilometres per hour. Was this consistent
19 with CIMA's prior understanding, to your
20 knowledge?

21 A. This was one of the
22 questions that we had from the City because we
23 came up with compatible design speed by doing
24 reverse engineering, but we wanted to know the
25 exact design speed of the facility, along the

1 facility, so that was the reason we posed the
2 question and, through this e-mail, we received the
3 input for our question.

4 Q. Okay. Registrar, if we
5 can go to image 251. This is at paragraph 597. I
6 don't think you need to pull it out, Registrar.

7 But, Dr. Salek, if need be,
8 please let me know. So, a few days later, on
9 December 14, 2018, you provided Mr. Ferguson with
10 an advanced draft of the roadside safety
11 assessment. What was the purpose of the advanced
12 draft?

13 A. I can't recall exactly,
14 but usually if there are new information available
15 or there are sections of the report that are not
16 complete, we take it and apply some changes and
17 send it again to the client.

18 I think for this one, if I'm
19 not mistaken, at the end the summary was not
20 available and there was some request to do -- to
21 review some police accesses, which we considered
22 and included in the report. But at these stages,
23 we don't issue the final report because there
24 might be additional comments. That's why we call
25 it advanced draft report and I think that was the

1 case for this one.

2 Q. Okay. And, Registrar, if
3 we can go to image 297.

4 So, on January 11, 2019, so
5 this is again moving forward a bit in time,
6 Mr. Ferguson e-mailed Mr. Malone and Dr. Hadayeghi
7 asking for an update to the 2018 CIMA collision
8 memo.

9 And, Registrar, if we can call
10 up also 298.

11 So, Mr. Malone e-mailed you
12 later the same day advising that Mr. Soldo wanted
13 the updated report by January 15.

14 And then moving forward,
15 Registrar, if we can go to image 311.

16 Then on January 15, 2019, you
17 e-mailed Mr. Ferguson the updated collision memo.
18 What was your involvement in the memo? Did you
19 prepare a draft or --

20 A. I had no involvement in
21 the memo, but if I'm not mistaken, at the time
22 Mr. Malone was on vacation so I just acted as the
23 person who is sending the report to the City.

24 Q. Okay. So, the assignment
25 itself you weren't involved in; you were just

1 assisting by sending the completed work. Is that
2 right?

3 A. Correct.

4 Q. Okay. And, Registrar, if
5 we can go to 315.

6 So, on January 17, 2019, you
7 e-mailed Mr. Ferguson, attaching the final version
8 of the RHVP roadside safety assessment report.
9 And as I understand the sections regarding wet
10 surface collisions and CIMA's summary of the
11 collision aspects -- of the collisions in this
12 respect remain consistent with the draft that we
13 looked at earlier. Is that correct?

14 A. Yeah. They're about the
15 same observations.

16 Q. Okay. And so, by this
17 time, mid-January 2019, had you had any
18 discussions with anyone at the CIMA or at the City
19 about friction, friction testing or concerns
20 regarding friction?

21 A. No. January 29, no.

22 Q. Sorry, it's January 17,
23 but generally in mid-January you don't recall
24 that?

25 A. No.

1 Q. Okay. So, your e-mail
2 also attached a log of comments from the City
3 along with CIMA's responses. I think it might be
4 easier to look at that document itself.

5 Registrar, if we can go to
6 CIM17564. Thank you.

7 So, did you draft -- before we
8 get into the comments themselves, did you draft
9 the response to the City's comments?

10 A. No. Mr. Bottesini
11 as the main investigator did it. I reviewed.

12 Q. Okay. And on image 2,
13 one of the comments relates to skid resistance, so
14 this is the second full row on image 2. I'll just
15 give you a moment to review that.

16 A. Can you --

17 Q. Sure. Thank you,
18 Registrar.

19 A. Mm-hmm.

20 Q. Okay. So, had CIMA had
21 information prior to finalization of the roadside
22 safety assessment relating to friction testing,
23 would that information have been incorporated in
24 the report, in your view?

25 A. Definitely.

1 Q. Okay. And why would that
2 be?

3 A. This is the normal
4 practice. If you have information that affects
5 our recommendations and is relevant to the
6 project, we include it in our observations. But
7 your question is not referring to these comments.
8 Right? That's a general question that you had?

9 Q. I will have some more
10 specific questions relating to the comment.

11 A. Okay.

12 Q. But when you say that
13 CIMA would have included information that would
14 have been relevant or that would affect
15 recommendations, would information regarding
16 friction testing have affected CIMA's
17 recommendations in the roadside safety assessment?

18 A. Depends which
19 observations that we are talking about. It may or
20 may not affect. I don't know which information
21 you're talking about.

22 Q. I'm not talking about any
23 particular information in this question, but just
24 generally friction testing information, whether
25 that would have been the type of information that

1 CIMA would have considered given the scope of this
2 project.

3 A. The scope of this project
4 was the review of collision data, as I mentioned
5 earlier, and review of the roadside safety
6 facilities. We, during our collision analysis,
7 came up with some observations that were
8 suggesting that under wet conditions the
9 collisions are more frequent. So, if we had some
10 observation relevant to friction, at least we
11 could review, and if those information would
12 result in any change in our recommendations, we
13 would include it. But as the person who was
14 closely involved in this project during the course
15 of the project, myself, didn't have any access to
16 such information.

17 Q. Okay. And would
18 information have been helpful in providing this
19 response here, additional information, if any,
20 regarding friction?

21 A. I think this comment is
22 based on a recommendation that we had that because
23 we suggested to put slippery when wet signs as one
24 of the safety measures, but our recommendation was
25 to remove this sign after the resurfacing and

1 after some time monitoring the collisions. If we
2 observe a reduction in collisions, the City can
3 remove the signs. And the City was asking, do you
4 have any threshold or any -- how should we know
5 that the resurfacing has an impact, how to measure
6 that? And then our response was that that should
7 be included for something, some specifications,
8 that the contractor provides and that you only
9 need to do monitoring of the collisions and make
10 sure that the contractor does the resurfacing
11 according to the standards. So, that's my
12 understanding from this comment and our response.

13 Q. And did you have an
14 understanding of what standards there should be?

15 A. No. Again, I'm not a
16 pavement engineer. I don't know.

17 Q. Okay. Registrar, you can
18 take this down and go to overview document 9A,
19 image 376.

20 And so, on January 30, 2019,
21 you received an e-mail from Mr. Malone regarding a
22 call he participated in earlier that day.

23 And, Registrar, if you can
24 just call out the indented text and I'll give
25 Dr. Salek a moment to review.

1 A. Okay.

2 Q. So, in the second
3 paragraph, Mr. Malone refers to the results of
4 pavement friction studies that have been
5 undertaken. Before receiving this e-mail, were
6 you aware of any friction testing results?

7 A. No.

8 Q. Did you have any
9 discussions with Mr. Malone regarding this call,
10 apart from the e-mail?

11 A. No.

12 Q. Okay. And Mr. Malone's
13 e-mail also included:

14 "For the pavement
15 friction expertise, I
16 have contacted Geoffrey
17 Petzold in Edmonton who
18 will assist in reviewing
19 the content. Hamilton is
20 seeking a written
21 response by early next
22 week that will confirm
23 our position. I should
24 be able to complete the
25 written response on

1 Friday."

2 Were you familiar with

3 Mr. Petzold prior to this e-mail?

4 A. No.

5 Q. Okay. And had Mr. Malone

6 advised you that he had previously contacted

7 Mr. Petzold in September 2018?

8 A. No.

9 Q. Were you anticipating
10 having a role in the written response Mr. Malone
11 referred to?

12 A. No. At that point, no.

13 Q. Okay. And, Registrar, if
14 we can go to images 377 and 378.

15 This is, again, January 30,
16 2019, a few hours later. You were copied on an
17 e-mail from Mr. Malone to Mr. Petzold which
18 attached the Tradewind report and a draft letter
19 report from Golder dated December 17, 2018. And
20 just for context, I'll call up those reports
21 briefly.

22 Registrar, if we can do a side
23 by side of CIM17209.0001 and .0002. Sorry, it's
24 17209.0001. And then if we can have .0002. Thank
25 you.

1 Do you recall receiving the
2 e-mail and these attachments?

3 A. I recall receiving the
4 e-mail, but I didn't open the attachments right
5 away.

6 Q. Okay. Do you recall
7 approximately when you did review the attachments?

8 A. I think it was along --
9 it was around the time that I felt that I'm going
10 to have involvement in analyzing the friction
11 data. At that time I opened them. But, again,
12 until recently, I didn't pay attention to the
13 naming of the companies who were involved, so
14 Golder and Tradewind.

15 Q. When you say some time
16 later, was that -- to give you some context,
17 ultimately Mr. Malone prepares a memo dated
18 February 4, 2019, which was subsequently made
19 public on February 6. Do you recall if it was
20 before or after?

21 A. I think it was after,
22 because for the February 4 report I didn't have
23 any role. It was after that time that the City
24 asked us to do a simple analysis on the friction
25 data, and at that time I got engaged and I looked

1 into the data.

2 Q. Okay. And recognizing
3 that you might not have opened the attachments
4 until some time in February, to your knowledge,
5 did you ever receive the Tradewind or Golder
6 report prior to it being attached to the
7 January 30 e-mail? I can tell you that we don't
8 have an e-mail indicating that, but is --

9 A. No.

10 Q. -- your recollection --
11 okay. And before you received this e-mail, so
12 between the first e-mail that we looked at and the
13 second e-mail attaching these two documents, did
14 you have any discussion with Mr. Malone?

15 A. No.

16 Q. Okay. And did you ever
17 have any discussions with Mr. Malone about
18 friction, friction testing on the RHVP or friction
19 standards in Ontario or Canada prior to your later
20 involvement in mid to late February?

21 A. No.

22 Q. And am I correct in
23 understanding your evidence that you did not have
24 any role in the anticipated written response
25 Mr. Malone referred to?

1 A. Yes. I think Mr. Malone,
2 recently when I was preparing for this hearing, if
3 my understanding is right, that the reference of
4 Mr. Malone is to February 4 memo and I didn't have
5 any conversation with Mr. Malone regarding the
6 February 4 memo. 4th or 5th, I can't recall.

7 Q. Registrar, if we can go
8 to CIM17169. Okay.

9 And so, this is a few days
10 ahead, so on February 3, 2019 Mr. Malone sent you
11 a draft of that February 4 memo and asked for any
12 comments you might have before sending.

13 And, Registrar, if we can do a
14 side by side with overview document 9A at
15 image 417.

16 And at paragraph 957, we see
17 that Dr. Hadayeghi responded providing Mr. Malone
18 and you a revised draft that included some minor
19 edits and comments. I'm happy to take you to the
20 draft report if you think it would be helpful, but
21 do you recall if you reviewed either the draft
22 sent by Mr. Malone or the draft with
23 Dr. Hadayeghi's edits?

24 A. I remember the original
25 e-mail from Mr. Malone asking for review. And

1 then at the time Dr. Hadayeghi took the lead to
2 review the report, so I didn't. But I was CC'd on
3 the e-mails and until the submission of the report
4 I didn't open the report because I knew that a
5 partner from CIMA other than Brian is reviewing
6 the report.

7 Q. Okay. So, prior to it
8 being completed, you did not review it. Is that
9 correct?

10 A. Yes. I didn't.

11 Q. Okay. And, Registrar, if
12 we can go to HAM12863.

13 Before I ask you a few
14 questions on this, Registrar, I just wanted to
15 note that I believe this needs to be marked as an
16 exhibit. I think that's 155.

17 THE REGISTRAR: Noted,
18 counsel. Thank you.

19 EXHIBIT NO. 155: E-mail
20 from Chris Olszewski to
21 Alireza Hadayeghi dated
22 February 7, 2019,
23 HAM12863.

24 MS. LECLAIR: Thank you.

25 BY MS. LECLAIR:

1 Q. So, you were copied on an
2 e-mail on February 7, 2019 from Mr. Olszewski from
3 the City, who is asking CIMA for a signed copy of
4 the RHVP roadside safety assessment.

5 Then, Registrar, if we can do
6 a side by side with CIM19269.

7 So, a few minutes later you
8 sent an e-mail to Mr. Soldo with various CIMA
9 colleagues, attaching the signed version of the
10 report. So, first, did you send the signed
11 version in response to the e-mail from
12 Mr. Olszewski?

13 A. Yes.

14 Q. Okay. And is there a
15 reason that you sent it to Mr. Soldo rather than
16 responding directly to the e-mail you received?

17 A. I can't recall exactly,
18 but I knew that this report is something that
19 Mr. Soldo needs to prepare for an internal meeting
20 that they had at the City, so that's why I sent it
21 to Mr. Soldo, but I can't recall the exact reason.

22 Q. Okay. And how did you
23 come to understand that Mr. Soldo needed it for a
24 meeting? Did you have a call with him?

25 A. I didn't have any direct

1 call, but it is possible that he had a
2 conversation with Dr. Hadayeghi asking him, and he
3 informed me we are in the same office. It is
4 possible. Again, I can't remember clearly, but it
5 is possible that I got that information that way.

6 Q. Okay. And, as I
7 understand it, the only difference in the report
8 you provided on February 7 and the one we looked
9 at earlier from January 17, it's just the
10 signatures. Am I correct in that understanding?

11 A. Correct.

12 Q. Okay. And why had CIMA
13 not previously sent an executed copy?

14 A. It's very common that we
15 don't sign our final reports. We only sign upon
16 request from our clients.

17 Q. Okay. Registrar, if we
18 can go to CIM19263 and if we can open both images.
19 And, again, Registrar, I believe this also needs
20 to be marked, so Exhibit 156.

21 THE REGISTRAR: Noted,
22 counsel. Thank you.

23 EXHIBIT NO. 156: E-mail
24 dated February 17 from
25 Dr. Hadayeghi forwarding

1 an e-mail to Dr. Salek,
2 CIM19263.

3 BY MS. LECLAIR:

4 Q. So, on February 17, you
5 were sent an e-mail from Dr. Hadayeghi, who
6 forwarded an e-mail he and Mr. Malone received
7 from Mr. Soldo earlier the same day. I'll just
8 give you a moment to look at Mr. Soldo's e-mail.

9 A. Yeah.

10 Q. So, before you received
11 this e-mail, had you had any discussions with
12 anyone at CIMA or the City regarding this
13 assignment or was this the first time you -- the
14 first you were learning about it?

15 A. I think it was the first
16 time it came into my radar that we need to do an
17 analysis for them.

18 Q. And did you discuss --
19 sorry, go ahead.

20 A. I'm positive that this is
21 the first time.

22 Q. Okay. And after
23 receiving the e-mail, did you discuss the
24 assignment with Dr. Hadayeghi?

25 A. I can't recall but it's

1 possible.

2 Q. Okay. And you later
3 forwarded the e-mail to Mr. Bottesini. Why did
4 you forward the e-mail to him?

5 A. Because Mr. Bottesini
6 at the time was reporting to me and he was one of
7 my team members who I was relying to do these sort
8 of analysis.

9 Q. Okay. And on this
10 assignment, what was his role as compared to yours
11 or Dr. Hadayeghi's?

12 A. I think at the end of the
13 day he didn't get any involvement in this project.
14 I did it myself.

15 Q. Okay. And Mr. Soldo
16 attached friction testing data from the MTO to the
17 e-mail. And, if it's helpful, I can call up the
18 attached documents for you to review if it would
19 assist in refreshing your memory.

20 A. No, I can picture those
21 documents.

22 Q. Okay. And prior to
23 February 7, 2019, were you aware of that MTO data?

24 A. As I said, I didn't open
25 the reports the first time that I received an

1 e-mail that those reports were attached to. At
2 this point, sometimes around this time, it was the
3 first time that I basically paid attention to the
4 friction data.

5 Q. Okay. Just to be clear,
6 the attachments to this e-mail are different than
7 the ones that I called up. These are data from
8 the MTO collected between 2008 and 2014, so I
9 believe from the documents we've received this is
10 the first time that you had received --

11 A. Okay.

12 Q. -- these attachments, but
13 I was wondering if you had any awareness of the
14 data prior to that?

15 A. No. No, I didn't.

16 Q. Okay. And Mr. Soldo's
17 e-mail included:

18 "The City would like to
19 review the data,
20 undertake an analysis if
21 possible to develop a
22 degradation curve based
23 upon the data point for
24 each lane and, based on
25 that work, develop a

1 min/max range that can
2 extrapolate a 2019
3 value."

4 At this time, what did you
5 understand the purpose of the request to be?

6 A. I'm sorry, can you repeat
7 your question?

8 Q. Sure. Based on the
9 information in Mr. Soldo's e-mail, I'm wondering
10 what did you understand the purpose of the City's
11 request to be?

12 A. At that time, my
13 understanding was that based on the data, the
14 historical data, friction data that they have,
15 they want to come up with an estimate for 2019
16 friction data.

17 Q. Okay. And did you know
18 why or did you have a sense of why the City wanted
19 an extrapolated 2019 value?

20 A. No, I didn't. At that
21 point I didn't, but I could understand some of the
22 reasons. One being that before the resurfacing,
23 maybe they want to have a baseline to compare with
24 later on when they do the resurfacing to see the
25 level of improvement. That was something that I

1 remember came to my mind.

2 Q. Okay. That the
3 extrapolated 2019 data could be used as a
4 baseline? Did I understand that correctly?

5 A. Yeah. That was my
6 understanding. But we had questions if we can do
7 this analysis at that point. At least I had
8 questions and I think that was the reason we
9 consulted with others later on.

10 Q. Okay. And I think we'll
11 come to those e-mails in a moment. But to the
12 extent that you're referring to consultation with
13 others not reflected in those e-mails, please let
14 me know.

15 A. Sure.

16 Q. Registrar, if we can go
17 to CIM19262. I'll note that this e-mail also
18 needs to be marked as an exhibit. I think it's
19 156 or 157. I have lost track. If you could
20 confirm, Registrar.

21 THE REGISTRAR: It is 157,
22 counsel.

23 EXHIBIT NO. 157: Draft
24 response to Mr. Soldo's
25 e-mail to Dr. Hadayeghi

1 dated February 19, 2019,
2 CIM19262.

3 MS. LECLAIR: Thank you.

4 THE REGISTRAR: You're
5 welcome.

6 BY MS. LECLAIR:

7 Q. So, you sent a draft
8 response to Mr. Soldo's e-mail to Dr. Hadayeghi.
9 At this time, what was your expected role on the
10 project?

11 A. Let me see. This is
12 February 19. I was assisting Ali to communicate
13 with the City in Brian's absence. I didn't
14 specifically anticipate any role for the upcoming
15 assignment, but since it was talking about data
16 analysis, I could imagine that I'm going to have a
17 potential role, but I didn't speculate more.

18 Q. Okay. And in your e-mail
19 you wrote:

20 "What is the City's
21 timeline for this
22 analysis? If undertaking
23 a friction test prior to
24 the resurfacing is
25 required, when is the

1 latest time that the
2 friction tests can be
3 completed?"

4 What did you mean by required?

5 A. Again, I thought that
6 they want to do this estimation and as an outcome
7 of the estimation we may consult them that the
8 estimates that we did is not enough and they
9 probably need to do a measurement in order to have
10 a better answer in terms of the friction level on
11 the highway before resurfacing, so that was just
12 an anticipation for such recommendation prior to
13 do the analysis.

14 Q. Commissioner, I see that
15 it is 3:15, the time of our usual afternoon break,
16 and I'm about to move to a different document.
17 Would now be a good time for a break?

18 JUSTICE WILTON-SIEGEL: Yes.
19 We want to make sure that we have completed today.
20 How much time do you anticipate you will require?

21 MS. LECLAIR: At this time,
22 I'm anticipating about 30 minutes and I can
23 suggest an all counsel breakout room to get a view
24 of --

25 JUSTICE WILTON-SIEGEL: Okay.

1 I'm going to suggest we take a slightly shortened
2 ten minute break and we'll return at 25 past. We
3 stand adjourned until that time. Thank you.

4 --- Recess taken at 3:16 p.m.

5 --- Upon resuming at 3:25 p.m.

6 MS. LECLAIR: Commissioner,
7 may I proceed?

8 JUSTICE WILTON-SIEGEL: Yes,
9 please do, Ms. Leclair.

10 BY MS. LECLAIR:

11 Q. Registrar, if we can go
12 to overview document 10A, images 114 and 115.

13 So, on February 19, 2019 you
14 e-mailed Mr. Petzold forwarding the e-mail we were
15 just looking at, and this is at paragraph 289.

16 Registrar, if we can just call
17 out the indented text.

18 Prior to sending this e-mail,
19 had you contacted Mr. Petzold before?

20 A. No.

21 Q. And why did you contact
22 Mr. Petzold?

23 A. I think I was asked by
24 Brian to do that.

25 Q. Okay. And was this via

1 e-mail or was this a phone call?

2 A. I can't recall but it
3 could be, could be, either of those. I can't
4 recall.

5 Q. Okay. So, I have some
6 questions relating to your back and forth e-mails
7 with Mr. Petzold, but I'll give you a moment to
8 review the exchange. I'm happy to close this call
9 out and you can review across the two pages or I
10 can call out the exchange in full. Let me know
11 what's easier.

12 A. I'm fine either ways.

13 Q. Registrar, if you want to
14 close the call out.

15 And if you can just let me
16 know once you've reviewed.

17 A. Yeah.

18 Q. Okay. So, you advised
19 Mr. Petzold that the City wanted to extrapolate
20 the friction values from 2008 to 2014 to estimate
21 a 2019 value, and Mr. Petzold replied that he
22 would suggest a field measurement would be needed
23 and that he would not be comfortable extrapolating
24 the numbers. You responded:

25 "Thanks for the input. I

1 will let the City know
2 about this."

3 Did you advise the City of
4 this?

5 A. I can't recall.

6 Q. And then in an e-mail the
7 following day, this is February 21, 2019,
8 Mr. Petzold provided two reasons. He wrote:

9 "Unfortunately, I'm not
10 able nor comfortable
11 performing extrapolation
12 on the friction values
13 for 2 reasons."

14 So, first, Mr. Petzold's
15 e-mail referenced a voicemail from you. Why did
16 you call Mr. Petzold?

17 A. Because we had to respond
18 to the City's request quickly and I was not sure
19 if he's going to respond to my e-mails as quick as
20 required, so that's why I called him, left him
21 a -- I couldn't get a hold of him, so I left him a
22 voice message.

23 Q. Okay. And do you recall
24 if you ultimately spoke with Mr. Petzold on the
25 phone?

1 A. I didn't talk to him.

2 Q. Okay. Turning back to
3 his e-mail on February 21, he noted that he was
4 not comfortable performing the extrapolation
5 because traffic volumes and the age of the
6 friction data. Did you agree with Mr. Petzold?

7 A. At the time I gave it
8 more thought, especially after receiving the
9 e-mail from Brian that he was saying that his
10 understanding is that the City is looking to come
11 up with a trend. And then later on, based on a
12 thought that I think I included in an e-mail to
13 Brian, I came to the conclusion that considering
14 the concern that Geoff had, we should still come
15 up with some reasonable trends that can help us to
16 come up with the best direction moving forward. I
17 can elaborate on that when the time comes.

18 Q. Sure. Registrar, if we
19 can go to 115 and 116.

20 So, I think the e-mail you're
21 referring to from Mr. Malone is towards the bottom
22 of 115 where he wrote:

23 "Isn't the City just
24 asking for an analysis of
25 the MTO data for the 2007

1 to 2014 to see the data
2 trend in those numbers?
3 I suspect they're looking
4 to see if there is a
5 trend in that data and
6 why the City was not
7 told."

8 Just one brief point of
9 clarification. Mr. Malone referenced 2007 to 2014
10 data. The e-mails that we looked at earlier did
11 not include 2007 data. Were you aware or had you
12 received any data for 2007 beyond what was
13 included in the e-mail forwarded from Mr. Soldo?

14 A. I can't recall from that
15 time, but reading the report I see that the data
16 starts from 2008, so that's the data that I
17 observed.

18 Q. Okay. And was
19 Mr. Malone's response consistent with your
20 understanding of what the City was looking for?

21 A. Generally, yes, but with
22 a slight difference that I was thinking that the
23 purpose of the City for this extrapolation is
24 mostly to come up with 2019 friction numbers, to
25 use it as a replacement to measurement, friction

1 measurement. But then based on the clarification
2 that Mr. Malone made, I realized that the focus is
3 mostly on coming up with a declining trend in
4 friction numbers within the historical data
5 provided to us.

6 Q. Would you have had
7 concern if the City was looking for -- to replace
8 friction testing data with an extrapolated value?

9 A. At that time I didn't
10 speculate. We did an analysis later and reported
11 on it and we made it clear that, we can talk about
12 it later, but we made it clear that measurement
13 needs to be done.

14 Q. So, that a field
15 measurement should be done in addition to the
16 trend in the extrapolation. Is that correct?

17 A. Exactly. In fact, we
18 used the analysis as a strong support for the
19 measurement. That was the reason that we
20 proceeded with the analysis, because it was
21 supporting our recommendation for friction
22 measurement before resurfacing.

23 Q. Okay. And so, you
24 responded to Mr. Malone's e-mail. It starts at
25 the bottom of 115 and goes to the top of 116. And

1 you wrote that you could easily conduct a
2 regression analysis and determine the degradation
3 rate and, from there, come up with an estimate for
4 the 2019 friction values:

5 "This would be an
6 overestimation since, in
7 2019, the pavement is
8 closer to the end of its
9 life cycle and also there
10 might be some growth in
11 the AADT resulting in
12 faster than normal
13 degradation of the
14 pavement."

15 You went on to say that the
16 upper level estimate could still provide you with
17 valuable information. What value did you see in
18 providing that information?

19 A. So, based on the comment
20 from Geoff that he was not comfortable using
21 historical data to estimate 2019 collision
22 frictions, I thought about it more and then I came
23 to the conclusion that he's right, but still by
24 modelling the trend within -- a trend of friction
25 data within 2008 to 2014, we can come up with

1 upper level degradation of the pavement and, if
2 that number is something that shows the true
3 performance of the friction, then it can easily
4 support the idea of doing the friction tests.

5 Because my understanding from
6 Geoff's feedback was he thought that because of
7 the increasing traffic volume, maybe friction
8 trends, friction goes down at higher rate compared
9 to the rate that we observed in historical data,
10 but still that was -- that would give us an upper
11 level estimate which we could use in order to
12 support our recommendation. So, that was the
13 reason we proceeded with the analysis.

14 Q. Okay. And did
15 Mr. Petzold's concerns give you any pause
16 regarding conducting the extrapolation?

17 A. It did, as I said, but at
18 the same time I realized that what I'm suggesting
19 is, in terms of this project, a conservative
20 approach and in engineering we usually consider
21 the conservative approach by providing caution to
22 our clients, which were multiple times in that
23 four page memo we provided caution. We have the
24 wording that these results must be reviewed with
25 caution. And we talked about the reasons that we

1 believe so and we also came up -- we also
2 documented the factors that may affect it and that
3 at some locations along the highway the friction
4 numbers can be even lower. So, with those
5 cautions, I was quite comfortable with the
6 analysis that we completed.

7 Q. And in the next
8 paragraph, you'll see that Dr. Hadayeghi responded
9 to Mr. Soldo about the friction analysis and it
10 includes some of the same language from your
11 e-mail to him. So, was providing this information
12 to the City intended to reflect some of the
13 concerns raised by Mr. Petzold regarding the
14 extrapolation?

15 A. Exactly. If you review
16 the response that Dr. Hadayeghi provided to the
17 City based on my e-mail, it's obvious that why we
18 are doing this degradation analysis and it
19 accounts for the two factors that Geoff
20 highlighted in his e-mail.

21 Q. Okay. And did you view
22 this as sufficient to capture Mr. Petzold's
23 concerns that he had relayed to you?

24 A. Considering the outcome
25 of our analysis, yes, I do and I did. Because if

1 our analysis was resulting in a statement that the
2 City does not require to do friction testing, then
3 that was another story, but our conservative
4 analysis supported our hypothesis that the
5 friction tests are required, so that's why we use
6 that conservative analysis to recommend the City
7 to do the friction tests prior to the resurfacing.

8 Q. And both your e-mail and
9 the e-mail Dr. Hadayeghi relayed to the City
10 included that the upper level estimate could be
11 compared with the friction thresholds referred in
12 the short tech memo submitted to the City. I
13 understand that or I anticipate that the tech memo
14 is the February 4 memo. Is that correct?

15 A. Can you highlight the
16 section that is referring to a tech memo in
17 Dr. Hadayeghi's e-mail? I can't recall.

18 Q. Sure. It's the middle
19 paragraph of 291, Registrar. It's the paragraph
20 beginning with, "However, this upper level
21 estimate."

22 A. Yes, that's correct.

23 Q. And did you have an
24 understanding how the extrapolated data could be
25 used to compare to the friction thresholds? Is

1 that something that you had an understanding of
2 how to do or whether it could be done?

3 A. Again, as I said, I'm not
4 a pavement engineer. I'm a data scientist working
5 with variety of data, including friction. The
6 comparison with the thresholds, in my opinion,
7 could be done because by knowing that these are
8 upper level estimates and if that comparison
9 results in poor performance, it means that in
10 reality the numbers are even lower. So, that was
11 the whole purpose of the e-mails that you see
12 here, to reflect that idea.

13 Q. Okay. So, this work
14 ultimately resulted in a second memorandum dated
15 February 26, 2019, which you've referred to, so
16 just for clarity, I'll refer to it as the
17 February 26 memo or the February 26 CIMA memo.

18 So, in a few moments I'll ask
19 you some questions about the content of the final
20 version, but before that I would just like to ask
21 you some questions about your involvement in the
22 drafting process.

23 So, did you conduct the
24 analysis in the extrapolation of the MTO data
25 yourself?

1 A. One of the team members
2 did the analysis, but with my involvement. He did
3 analysis based on the directions from me.

4 Q. And who was that? Who
5 conducted the analysis?

6 A. It was Mr. Deng, D-E-N-G.

7 Q. Okay. And did you draft
8 any part of the memo itself, the actual language
9 of the memo?

10 A. No. Mr. Malone drafted
11 that memo, but he shared it with me to make sure
12 that the numbers and the conclusions make sense
13 from a statistical point of view. I reviewed that
14 report and provided comments.

15 Q. Okay. And you said from
16 a statistical point of view. Were you reviewing
17 the memo in its entirety or were you reviewing a
18 specific --

19 A. I read the whole report,
20 but my expertise was relevant to the statistical
21 analysis and the conclusions made based on that.

22 Q. So, on February 25,
23 Mr. Malone sent you a draft of the memo.

24 Registrar, if we can go to
25 CIM17092 and a side by side with the attachment,

1 which is 17092.0001. Okay. And, Registrar, I
2 note that both these documents need to be marked
3 as exhibits, so that's 158 and 159.

4 THE REGISTRAR: Noted,
5 counsel. Thank you.

6 EXHIBIT NO. 158: E-mail
7 from Dr. Salek to Brain
8 Malone dated February 26,
9 2019, CIM0017092.

10 EXHIBIT NO. 159:
11 Attachment to e-mail from
12 Dr. Salek to Brain Malone
13 dated February 26, 2019,
14 CIM0017092.0001.

15 BY MS. LECLAIR:

16 Q. Okay. Just for complete
17 context, Dr. Salek, I note that Mr. Malone had
18 sent you a second version after sending you the
19 first version, but that you responded advising
20 that you had already worked on the first copy and
21 you provided your comments to that copy.

22 Registrar, if we can go to
23 images 4 and 5 of the attachment. And, actually,
24 Registrar, if we can go into the native version of
25 this document just so we can see the changes more

1 clearly. Registrar, let me know if you need that
2 doc ID again.

3 THE REGISTRAR: Sorry,
4 counsel. It might just take me a minute to find
5 the native here.

6 MS. LECLAIR: Perhaps we can
7 go back to the image and I can provide the
8 context.

9 Registrar, if we can just go
10 to the image. Okay.

11 BY MS. LECLAIR:

12 Q. So, Dr. Salek, the native
13 version of this document shows that the table on
14 the image on the left that's green and white, that
15 you inserted that table. Do you recall making
16 that change?

17 A. I can't recall, but if --
18 it is possible that I've done it.

19 Q. Okay. And do you know
20 why you included that table and --

21 Registrar, if we can actually
22 just call that out so it's clearer to see. Thank
23 you?

24 A. So, can you help to
25 remember? You're saying that in the first draft

1 or the first version this table was not included
2 and I did include it later on, or did I change the
3 format of the table? I think based on what I see
4 here, the table on the right was included and then
5 I changed it to the way that we are presenting to
6 the one that is highlighted in green.

7 Q. Okay. That's helpful.

8 We can see that you've made a change, but it's a
9 bit difficult in tracked change to see what
10 precise change you made to the table. So, you
11 don't recall what changes --

12 A. Based on this, I can say
13 that if you look, the table on the right only has
14 one column for frictions, which are the friction
15 measurements from 2008, 2014, except for 2013,
16 which data was not available. And then what I
17 added was the third column, which is labelled as
18 friction estimates, that has the friction
19 estimates from the model that we trained based on
20 2008 to 2014 data. And, that way, you see that we
21 were able to estimate friction numbers from our
22 model for each of the years, including the years
23 without any measurement, meaning 2013, 2015 and
24 all the way to 2019. So, that was the change that
25 I made to the table.

1 Q. Okay. Thank you. That's
2 helpful. And Mr. Malone subsequently provided you
3 with another draft for review and then you
4 provided -- you responded providing a few minor
5 revisions.

6 Registrar, I would like to go
7 to that document. It would be preferable to have
8 it in native form. It's CIM17088.0001. But we
9 can go to the image if it's not accessible.

10 THE REGISTRAR: Sorry,
11 counsel. Could you repeat the document ID for me
12 again?

13 MS. LECLAIR: CIM17088.0001.
14 If needed, we can just call up the image and,
15 again, I can provide the context to Dr. Salek.

16 THE REGISTRAR: Sorry, CIM17?

17 MS. LECLAIR: 088.0001. Okay.
18 Thank you.

19 BY MS. LECLAIR:

20 Q. And if you can just call
21 up both, the second image as well.

22 So, there are a few minor
23 revisions that you made in the document which
24 appear to me to be largely copy edits. Do you
25 recall if that's consistent with your recollection

1 of your second review of this memo?

2 A. Yeah, it's possible,
3 because probably I put my original comments on the
4 first version and then I copied to the second
5 version.

6 Q. Okay. And, Registrar, if
7 we can just go to the last image, please. Okay.
8 And if you can just call the first half of the
9 page so that it's a little bit easier to see.
10 Perfect. Thank you.

11 So, you also left a comment on
12 the signing line which says:

13 "If you need a partner in
14 crime, you can include my
15 name as well. For
16 reasons that you know,
17 I'm not insisting,
18 though."

19 This version and prior
20 versions only included Mr. Malone on the signing
21 line. Were you using partner in crime as an idiom
22 for being included as a signatory to the document?

23 A. Exactly. Mr. Malone, the
24 first two versions that he wrote, he left his
25 name. I just wanted to offer him, since I was

1 involved in doing the statistical analysis, I was
2 confident about the analysis that we did and the
3 reasonings, I suggested him to use my name as well
4 and I used that as an idiom to suggest him that he
5 can use my name.

6 Q. Okay.

7 A. And also at that time we
8 were aware of the sensitivity of the project. It
9 was February 20 something, I can't recall, 24th or
10 25th. It was a general knowledge and that's why I
11 added the last sentence, but overall this shows
12 that I was and am comfortable and confident on the
13 conducted statistical analysis.

14 Q. Okay. Registrar, if we
15 can go to the final version of this document. It
16 is HAM36327. And if we can go to images 2 and 3.
17 Apologies, it's 36336. Images 2 and 3, please.

18 Can you explain how you
19 conducted the analysis and extrapolation or how
20 you directed your colleague to conduct that?

21 A. Yeah, definitely. We
22 received the friction data for the Red Hill Valley
23 Parkway. The testing was done for different lanes
24 of the highway, different directions and at
25 different temperatures. So, the first model that

1 we tried was including the individual
2 observations, but then in order to come up with a
3 more conclusive result, we combined the data. And
4 on the graph shown on the page on the left of the
5 screen, you see on the Y axis, the friction
6 numbers. On the X axis, you see the years. The
7 triangle, the blue triangles, are the actual
8 friction measurements, and the red line with small
9 circles show the trend that we were able to fit
10 into the triangles. And this is done by
11 conducting a degradation analysis, which is
12 considered as a statistical modelling tool, and
13 the type of analysis that we did is a modelling
14 year regression analysis, because based on the
15 data that we observed for the friction
16 measurements, it was obvious that the trend is not
17 linear. So, that's why the best fit was coming
18 from non-linear. We tried linear, but non-linear
19 is ultimately a better fit. And -- yeah.

20 Q. Thank you. That's
21 helpful.

22 Registrar, if you can call out
23 on image 3 the text underneath beginning with, "We
24 extrapolated the values to 2019," so the second
25 paragraph, to, "Lastly, the results determined for

1 2019," those paragraphs there.

2 I'll give you a moment to
3 review.

4 A. Yeah.

5 Q. Okay. In your view, did
6 this language adequately provide context for the
7 information provided and how it could be used and
8 not be used by the City?

9 A. Exactly. If you see the
10 second line, the first sentence on the second
11 line, after talking about the extrapolation of the
12 data, we right away started with results must be
13 viewed with caution. And then we explained that
14 mathematically the 2019 values were the best fit,
15 but the actual 2019 field data can be different
16 compared to the estimate because of variety of
17 reasons. And these reasons are the ones that
18 Geoff provided us and we also, myself and Brian,
19 at the time had the same understanding, so we
20 highlighted here that the traffic volume is one of
21 the factors that can be -- that can affect. So,
22 if you are dealing with a highway that the traffic
23 volume has increased, the friction numbers can be
24 different. And we also noted that there should be
25 some non-linearity in the data. We tried to

1 capture some of them but not all of it.

2 And then we concluded that the
3 last sentence of the third paragraph, we concluded
4 that we note that our regression analysis does not
5 model, directly model, normal life cycle of the
6 pavement friction degradation. So, these are all
7 the cautions that we made, but at the end we came
8 up with the result and you can see it in the next
9 page of this memo, page 3, page 4, that we -- at
10 that point we compared it with some of the
11 thresholds and we concluded that we strongly
12 suggest to do field measurement of frictions.

13 Q. And you mentioned that
14 these paragraphs were intended to capture some of
15 the information provided to you by Mr. Petzold.
16 Did he have any involvement in the drafting or
17 review of the report?

18 A. As long as I know, no.

19 Q. Okay. And did you have
20 any additional contact with him regarding this
21 assignment?

22 A. Yeah. The e-mails that
23 we went through.

24 Q. Sorry. To be clear,
25 following the e-mails and the drafting of the

1 report?

2 A. No.

3 Q. Okay.

4 A. No.

5 Q. And did you have any
6 concerns regarding that values that were
7 extrapolated?

8 A. As I said, we used that
9 estimation. In engineering, we always doing
10 estimation as long as we be confident that it's
11 not going to -- it's going to support the truth.
12 So, we provided -- we used this extrapolation. We
13 provided all the cautions more than four or five
14 times in four pages and we identified, you see in
15 the last sentence, in the second last sentence of
16 the last paragraph called out here:

17 "We said that long-term
18 extrapolation of the data
19 will be less accurate
20 than estimates done over
21 a short-term."

22 But, as I said, even with
23 that, the results showed that the friction was
24 coming to the value of 29, which is equal to the
25 threshold for stopping, for the threshold for

1 stopping distance, and we also highlighted that
2 this is average value. At sections of the
3 highway, the numbers can be even lower. And at
4 that time, with all these cautions, I personally
5 was confident that our analysis is a sound
6 analysis.

7 Q. Okay. And, Registrar, if
8 you can close that and go to images 3 and 4.

9 Dr. Salek, you referenced the
10 comparison of the extrapolated values. So, the
11 memo includes -- this is towards the -- this is at
12 the bottom of image 3 and continuing to the top of
13 image 4. The paragraph starting with, "The
14 extrapolated 2019 average friction value is lower
15 than the results reported in the Golder report,"
16 did you draft any part of this or were you
17 responsible for the analysis outlined here?

18 A. No. This is one of the
19 parts that Brian had more expertise and he wrote
20 these.

21 Q. Did you have an
22 understanding of the types of friction testing
23 used by Tradewind or the MTO?

24 A. No. As I said, I don't
25 have expertise in measuring frictions. I have

1 expertise in estimating data, including friction.

2 Q. Okay. And I take that to
3 mean that you did not have any expertise on the
4 comparison of friction testing methodologies or
5 equipment. Is that correct?

6 A. No. I don't have any
7 expertise in comparing friction measurement
8 methodologies, but I have expertise in comparing
9 friction data.

10 Q. Okay. Registrar, if we
11 can close these and just leave image 4 open.

12 So, the memo goes on to
13 discuss the values in comparison to the assumed
14 design values. And, as you mentioned in an
15 earlier answer, the extrapolated value was equal
16 to the stopping distance design value used in a
17 100 kilometres per hour design speed. Did you
18 have any involvement in drafting this section?

19 A. No. As I said, the whole
20 report was drafted by Brian. I read the report,
21 provided comments, but I was in agreement with the
22 statements. And maybe just to clarify, after
23 completing the analysis, I had a conversation with
24 Brian and I briefed him on my opinion about the
25 data and, based on that conversation and his own

1 expertise, he drafted the memo.

2 Q. Okay. And when you say
3 your opinion on the data, is that regarding your
4 opinion regarding the trend?

5 A. Yes. So, for example,
6 many of the sentences that are about some of the
7 cautions that we made at the beginning and also
8 how we should look into these estimations are
9 coming from the conversation that I had with him,
10 but he drafted the memo.

11 Q. Do you have any knowledge
12 or expertise on how or if field values can be
13 compared to design values?

14 A. No, I don't.

15 Q. Did you have any concern
16 with the extrapolated value being used in this
17 way, in comparison to the design values?

18 A. No, I didn't. My only
19 understanding at the time was that our
20 recommendation here is important, that we are
21 saying you have to go and measure the frictions.

22 Q. Registrar, if we can go
23 to 4 and 5.

24 So, at the top of 5 there's
25 two paragraphs that relate to the recommendations

1 in CIMA's 2015 report. Did you have any
2 responsibility for considering whether CIMA needed
3 to revise any of its prior recommendations?

4 A. By prior recommendation,
5 you mean the recommendations under the roadside
6 safety review?

7 Q. It says here:
8 "We have reviewed the
9 recommendations in our
10 2015 report in light of
11 the MTO friction testing
12 data."

13 Were you --

14 A. No.

15 Q. -- involved in that --

16 A. No, I was not. I was not
17 involved in 2015 report.

18 Q. Okay. And you mentioned
19 a roadside safety assessment. Did you consider
20 whether CIMA needed to make any changes to its
21 recommendations in that report? Is that something
22 that you did or were asked to do?

23 A. I thought about it at the
24 time and, again, because we knew that our
25 recommendation is -- one of our recommendation

1 acknowledges that the City is going to resurface
2 the Red Hill Valley in a very short term, in a
3 very short timeline, then we knew that that
4 recommendation is going to happen as part of the
5 City's practice.

6 Q. Okay. And did you have
7 any discussions with anyone at the City regarding
8 the memo after it was provided?

9 A. No. That was my last
10 involvement in this project and I can't recall
11 having any conversation after this point.

12 Q. Okay. Thank you.
13 Commissioner, those are my questions for
14 Dr. Salek.

15 JUSTICE WILTON-SIEGEL: Okay.

16 MS. LECLAIR: I understand
17 that counsel for some of the participants have
18 indicated they have questions as well.

19 JUSTICE WILTON-SIEGEL: Okay.
20 Let's start with Ms. Roberts.

21 MS. JENNIFER ROBERTS: Thank
22 you.

23 EXAMINATION BY MS. JENNIFER ROBERTS:

24 Q. Dr. Salek, it's Jennifer
25 Roberts and I'm counsel for Golder. I do have a

1 few questions.

2 First of all, if we can start
3 with that extrapolation. Were you aware that in
4 May of 2019 that ARA in fact conducted friction
5 testing of the Red Hill?

6 A. No, I was not aware. But
7 preparing for this hearing, I reviewed some of the
8 documents and then, just a few days ago, I
9 understand, I understood, that measurement
10 happened, yeah.

11 Q. Did you provide yourself
12 an opportunity to compare the actual friction data
13 with your extrapolation?

14 A. No, but I remember there
15 was an assignment that I was not involved with and
16 it was dealing with the new friction data.

17 Q. So, you did not do a
18 comparison of your extrapolation with the ARA
19 friction data?

20 A. No, I didn't.

21 Q. Thank you. I want to go
22 back and go into a little more detail, if we
23 could, and understand a bit better than I do the
24 roadside safety assessment.

25 Registrar, can you please call

1 up HAM1642. There we go. Could you please go to
2 image 7, page 1.

3 So, first of all, Dr. Salek, I
4 understand that at this point you, in order to do
5 the analysis for the roadside safety assessment,
6 that you have information about the design speed
7 for the Red Hill. That's correct?

8 A. At the time that we did
9 the draft report, we didn't have, but when it was
10 at the final report stage, we did have.

11 Q. Okay. So, if we go down,
12 Registrar, can you please call out the last full
13 paragraph, just this last bullet at the very
14 bottom. Thank you.

15 You'll see here that you refer
16 to the design speed of the road being 100
17 kilometres per hour. So, at this point in this
18 version, which is January 2019, you have the
19 design speed for the Red Hill Valley Parkway.
20 That's correct?

21 A. That's correct.

22 Q. Okay. Registrar, you can
23 take down that call out. Can you please go to
24 footnote 3 and call that out, Registrar. Thank
25 you.

1 So, this is just a reference
2 in this footnote to the fact that in the prior
3 CIMA reports, and the one referred to here is
4 2015, you did not have or CIMA did not have the
5 design speed for the road. Do you see that?

6 A. Yeah.

7 Q. And, if I understand it
8 correctly, CIMA had deduced what it thought must
9 be the design speed based on the operating speeds.
10 Do I have that right?

11 A. That's correct. It's one
12 of the very common ways to estimate the design
13 speed that's based on the 85th percentile of
14 operating speeds, and that's the way that we did
15 it. Of course I was not involved in that study,
16 but I imagine the people who prepared 2015 report
17 followed the same methodology to come up with
18 assumed design speed.

19 Q. So, based upon the fact
20 that people actually operate, drive on this road
21 at 110 to 115 kilometres per hour, CIMA used that
22 as the basis for deducing what the design speed
23 should be. Do I understand you correctly?

24 A. Yeah. It's not just a
25 maximum speed happening there; it's the speed that

1 85th percentile of drivers travel below it.
2 That's the speed that, based on traffic
3 engineering, we consider as a surrogate for design
4 speed.

5 Q. I see. Okay. But at
6 this point you actually had the design speed, and
7 so your assumption in the prior reports is not
8 correct?

9 A. If you could go through
10 some of the comment log on this, this is something
11 that was suggested to be included in the report.
12 That's why we suddenly include it. But since 2015
13 study didn't have the design speed, this was the
14 way that they calculated it. But later on,
15 between the advanced draft report and final report
16 for this roadside safety review, we understood
17 that the actual design speed was 100 kilometres
18 per hour.

19 Q. Okay. So, the assumption
20 you made in the 2015 report that the design speed
21 was 110, you now know is not correct. I have that
22 correctly?

23 A. That's correct, except
24 that I was not involved in 2015 study.

25 Q. I'm not making that

1 accusation against you. I'm just trying to make
2 sure we have an understanding of the facts.

3 A. Exactly.

4 Q. Registrar, can you please
5 take that call out down and actually go back to
6 the paragraph, that last bullet points, the high
7 operating speeds. Thank you.

8 So, this is what we've just
9 been talking about. And can you just go through
10 that again? So, the operating speed, can you just
11 repeat how you get it that percentile? So,
12 85 percent of people driving on the Red Hill drive
13 below 110 or 115?

14 A. Exactly. The way that
15 they collect speed data is either using the loop
16 detectors that are embedded in the pavement or
17 putting some automatic traffic recorders. For
18 this case, it should be the former because of the
19 speed, because ATRs or automatic traffic recorders
20 cannot be installed on roadways with speed equal
21 or greater than 80 kilometres per hour.

22 So, I know that there is a
23 permanent station and loop detector along Red Hill
24 Valley Parkway and that records the speed of each
25 vehicle that travels in the northbound or

1 southbound direction and for different lanes. And
2 so, at the end of the day, we have the data for
3 all vehicles and we should be able to identify the
4 speed at which 85th percentile of vehicles
5 travelled below --

6 Q. Okay. Thank you. And I
7 note that there's quite a bit of analysis on speed
8 that I don't think you're involved in and I'm not
9 going to take you to it. That would certainly get
10 me in trouble with the time limits and other
11 people who want to ask questions of you.

12 Registrar, can you please turn
13 to page 3, that's image 9.

14 This is just a graph of the --
15 it's described as figure 1, being study area. I
16 just want to look at this briefly. As I
17 understand this assessment, you're not looking at
18 such issues such as the distance between the
19 interchanges and weaving distances or sight lines
20 on the exit and entrances to the ramps. That is
21 correct?

22 A. As part of this study, we
23 didn't have any scope to look into the weaving
24 maneuvers our safety along the highway. Our scope
25 was to look into the roadside elements. That's

1 correct.

2 Q. Thank you. Okay.

3 Registrar, can you please turn
4 to the next page, page 4, geometric design review.

5 So, the other thing that you
6 have at this point, at the end of 2018, is you
7 finally have the drawings and can verify the
8 geometry. That's correct?

9 A. That's correct.

10 Q. And I'll just note that I
11 think CIMA's been asking for the drawings since
12 2013, but you now have them in the end of 2018.

13 So, one of the things I want
14 to look at is just the issue of the radius of the
15 turns.

16 If we can pull out, please,
17 that table in the middle and, actually, the
18 paragraph below it as well. Yes, go down. There
19 we go. Thank you. Thank you, Registrar. Okay.

20 So, you've got an extract, I
21 think, from the TAC guide 2017. Is that what that
22 chart is, table is?

23 A. Correct.

24 Q. Okay. And at this point,
25 you know, from the drawings that you have got a

1 series of turns of quite tight radius, including a
2 radius turn on the mainline south of King Street
3 of 420 metres. That's correct?

4 A. Correct.

5 Q. All right. And that is
6 compatible under the 2017 guidance with a design
7 speed of 90 kilometres per hour. Do I have that
8 correct?

9 A. The last curve, yes, but
10 the first two are at 100.

11 Q. Got it. But I was asking
12 about the one that's 420, sir.

13 A. Yeah. Sorry. Yes,
14 correct.

15 Q. Thank you. Okay. And
16 that means that at least for a portion of the Red
17 Hill, you've got a design speed and a posted speed
18 which are both 90 kilometres per hour. Correct?

19 A. Correct.

20 Q. Okay. And, Registrar can
21 you take down that call out, please, and can we
22 please turn to the next page. Can you please call
23 out the last paragraph, "None of the ramps in the
24 study area," and the table. Okay.

25 So, I think you have from the

1 drawings some of the dimensions for the ramps, but
2 it looks as though you've also used Google Earth
3 to estimate some of the radius of the turns. Is
4 that right?

5 A. Correct.

6 Q. And when I look at this,
7 it appears that the advisory speeds -- and the
8 advisory speed, that's in fact the posted speeds
9 on those ramps?

10 A. For ramps, we never have
11 posted speed. We do advisory speed. That's
12 correct.

13 Q. Nonetheless, if I were
14 driving on the Red Hill, I would probably see a
15 sign saying 40 kilometres per hour on those ramps
16 or 30 as it were?

17 A. Those are all advisory
18 speeds.

19 Q. Thank you. And so, what
20 we've got is design speeds matching the advisory
21 speeds?

22 A. It says that the design
23 speed is equal to advisory speed.

24 Q. Sorry, I used the word
25 match, but equal to, yes. Okay. And when you

1 were doing this assessment, were you aware that
2 the pavement on the ramps was in fact different
3 from the mainline?

4 A. Can you elaborate? What
5 do you mean by different?

6 Q. So, there's SMA asphalt
7 on the mainline of the Red Hill and the ramps are
8 paved with an FC2. Is that something that you
9 knew?

10 A. I didn't. As I said
11 earlier, I'm not a pavement engineer. I didn't
12 know the difference at the time.

13 Q. Okay. Thank you for that
14 clarification. Okay.

15 And if we can go forward to
16 the collision history, I think it's image 39,
17 page 33. 9.25. There we go, okay.

18 So, this is a summary of your
19 overall findings and I believe commission counsel
20 took you to some of these in some of the
21 PowerPoints. I just want to go through some of
22 this. You've talked about some of the wet weather
23 collisions in those statistics. And, in overall
24 findings, the last bullet point said:

25 "These findings suggest

1 that inadequate skid
2 resistance, surface
3 polishing, bleeding,
4 contamination and
5 excessive speeds, may be
6 contributing factors."

7 Thank you, Registrar. In the
8 prior reports when Mr. Malone was questioned about
9 similar language that appears in some of the prior
10 reports, he said that the reference to bleeding
11 and contamination was just a textbook extract and
12 that wasn't something that was observed. When you
13 repeat it here, sir, are you saying that bleeding
14 and contamination is something that has been
15 observed on the Red Hill or are you doing as
16 Mr. Malone did, repeating an extract from a
17 textbook?

18 A. I can't speculate about
19 that, but again I was not the person who did the
20 site visits. I was involved in this project as a
21 reviewer and didn't observe this myself, so I
22 cannot comment on this.

23 Q. Okay. Thank you. I
24 think if we can please go to critical locations.

25 And, Registrar, if you can

1 highlight the mainline collisions involving wet
2 surface conditions. No, second bullet. Thank
3 you. Actually, it might be easier for all of us
4 if you can call that out. Thank you, Registrar.
5 Okay.

6 So, then you say:

7 "Mainline collisions
8 involving wet surface are
9 extremely high
10 proportions between
11 Greenhill and King
12 Street."

13 And you refer to the design
14 speed of the King Street interchange, but I'm
15 going to suggest to you that the turn between
16 Greenhill and King Street, that's the 420 radius
17 turn which has the design speed of 90?

18 A. Maybe I just elaborate on
19 this?

20 Q. Mm-hmm.

21 A. Design speed was 100
22 kilometres per hour. That's a parameter that the
23 designers at the time considered. That's not a
24 changeable parameter. That's the number that at
25 the time they designed the highway against.

1 But the 90 kilometres an hour
2 is the compatible design speed that, through
3 reverse engineering based upon the TAC tables, we
4 came up with, so these are two different
5 numbers --

6 Q. Okay. Fair enough.
7 Thank you. Thank you for the correction. You're
8 right. So, my point was that in fact that that
9 turn under the 2017 TAC guidance would be
10 compatible with a 90 kilometre design speed. Do I
11 have that accurately?

12 A. Correct.

13 Q. All right. And so, when
14 you identify wet weather conditions, the tight
15 radius turns and the high speeds all being
16 potential contributing causes to the numbers of
17 accidents, you're not here also including the
18 issue of the weaving and the sight lines on the
19 interchanges and the elevation changes?

20 A. Since the study was not a
21 scope to review those behaviour and those
22 parameters, we didn't comment on that.

23 Q. But I take it you'll
24 agree that all of those additional conditions
25 would potentially exacerbate the demand for

1 friction in those locations?

2 A. Generally there are many
3 factors that can affect the safety of highway,
4 including the ones that you mentioned. But,
5 again, since I haven't reviewed any of these in
6 the field, I cannot comment of that. I don't know
7 if the items that you are referring to are in the
8 field because I haven't reviewed them.

9 Q. Got it. Okay. But I'm
10 understanding your report that it's your opinion
11 that the -- and I'll speak more generally -- the
12 tight radius turns combined with the high
13 operating speeds, particularly in wet weather
14 conditions, are contributing to the high number of
15 accidents?

16 A. The statement that we
17 made here, because probably, you know, already
18 based on the previous hearings that at the time
19 that the highway was designed, the TAC numbers
20 were different and they were resulting in 100
21 kilometres per hour compatible speed, which was
22 consistent with what the designer considered. So,
23 the designer based on the standard at the time,
24 they didn't violate the standard, but the standard
25 got updated later on and now here what we're

1 saying is based on the newer standards, this
2 specific horizontal curve is not as par with the
3 standards and that can be a contributory factor to
4 the high number of collisions that we are
5 observing.

6 Q. Right, particularly with
7 high operating speeds?

8 A. And considering the
9 speed, the operating speed, as well as the wet
10 surface condition, that results in these
11 collisions.

12 Q. Thank you. Thank you,
13 sir, for your patience.

14 A. I just want to correct.
15 Potentially resulted in these collisions.

16 Q. Understood. Thank you.

17 JUSTICE WILTON-SIEGEL:

18 Ms. McIvor.

19 MS. MCIVOR: Thank you,
20 Commissioner.

21 EXAMINATION BY MS. MCIVOR:

22 Q. Hi, Dr. Salek. I'm
23 Heather McIvor. I'm counsel for the MTO and I
24 just have a few questions for you today.

25 My first question, I know that

1 your expertise is in data science, not
2 specifically pavement. Were you aware that SMA,
3 stone mastic asphalt, was the aggregate that was
4 used on the Red Hill Valley Parkway?

5 A. No.

6 Q. Okay. Registrar, could
7 you please pull up CIM19263. Thank you. And if
8 you could just pull out at the bottom e-mail, the
9 second paragraph, "The City." Okay.

10 And so, here, I appreciate
11 you're not copied on this e-mail, Dr. Salek, but
12 it would appear here that Mr. Soldo is initially
13 asking for the extrapolation to be done, he says,
14 based on the data point for each lane and then
15 develop a minimum and maximum range. We know that
16 you opted ultimately to use one average number per
17 year rather than the per lane structure. How did
18 you decide on that? Did you have any discussions
19 about the change in testing methodology?

20 A. For the estimation
21 methodology, yes. We did receive the data for
22 different lanes, but if you wanted to include
23 lanes as well as other factors, like surface
24 temperature, into the model based upon the sample
25 size that we had, it wouldn't give us a robust

1 statistical fit, so that's why we decided to pull
2 the data aggregate and do the modelling based on
3 the average. That was based on the limitation in
4 data.

5 Q. Okay. And so, just to
6 ensure I have that, based on the sample size, if
7 you were to sparse it out per lane, it, in your
8 view, wouldn't be as accurate as using one general
9 number per year?

10 A. Yeah. In statistics we
11 have the concept of degree of freedom that is
12 being affected by the number of samples you have
13 available, and that degree of freedom can be
14 reduced by the number of factors that you include
15 in your model. So, if you have, for example, 20
16 observations and then you try to include ten
17 factors into your model, your degree of freedom is
18 going to be reduced by 20 minus 10 minus one,
19 because the equation is the number of observations
20 minus the number of factors minus one. And the
21 lower the number the degree of freedom, the lower
22 the accuracy of the model, so that's why we
23 decided not to include those factors and just
24 comment on the average numbers.

25 Q. Okay. And so, further to

1 that, you mentioned the number of observations, so
2 that would be the number of data points that
3 you're working with in terms of the actual test
4 results. Is that right?

5 A. Correct.

6 Q. Okay. And so, I guess it
7 follows the more test results you have available,
8 the more accurate the model is?

9 A. Correct.

10 Q. Okay. And I believe you
11 said earlier that you were not aware that there
12 was also testing results for 2007 available, which
13 is why this is focused on 2008 to 2014. Is that
14 right?

15 A. That's correct. At the
16 time we were provided by 2008 to 2014 data and
17 that was the only data available to us.

18 Q. Okay. And then you also
19 mentioned, regarding Mr. Petzold's concerns in
20 performing the extrapolation, that they were
21 valid, that the longer out you provide an estimate
22 for, the less accurate it's likely to be. Is that
23 correct?

24 A. That's correct.

25 Q. Okay. And then you also

1 mentioned you attempted to address some of his
2 concerns by accounting for two factors that he
3 raised. What two factors were those?

4 A. He explained that
5 through -- maybe the traffic volume in 2019 is
6 significantly different than the traffic volume
7 within 2007 and 2014, that time window. And also
8 the fact that we are using data with a five-year
9 lag, and that can reduce the accuracy of the
10 model. And also the fact that overall the
11 degradation is in a non-linear phenomenon. So, by
12 choosing a non-linear function, we tried to
13 capture some of that impact.

14 But at the end of the day,
15 when we are doing engineering, it's all about
16 estimation, so we do use the data available to us
17 to come up with the best estimation possible, but
18 considering the limitations. If we haven't
19 considered the limitation, that would be something
20 else. And also the purpose at the end was to back
21 up our recommendation that the testing is
22 required, so -- and the analysis supported that
23 with the conservative approach that we took and we
24 included that analysis in the memo.

25 Q. Okay. And, again, just

1 so I'm sure I understand, in terms of, let's say,
2 the traffic volume issue, did your equation
3 account for that by assuming increasing traffic
4 volume into 2019?

5 A. No, because the traffic
6 volume data were not available to us at the
7 beginning and, again, traffic volume would be
8 another factor being included. Going back to that
9 degree of freedom discussion, it was not ideal for
10 the sample size that we had, so that's why we
11 didn't include it. But through the non-linearity,
12 that non-linear structure somehow considers it.

13 And the other thing is we knew
14 that in five years, something that is going to
15 change significantly is not traffic volume,
16 because usually these highways have 2 percent, 1
17 to 2 percent, growth in traffic volume per year
18 and just five years is not going to change the
19 traffic volume profile that significantly.

20 Q. Okay. That's fair. But,
21 again, that traffic volume data wasn't available,
22 so the specifics wouldn't have been integrated
23 into the model. It's based on those assumptions.
24 Correct?

25 A. Correct.

1 Q. Okay. So, one thing I'm
2 still a bit unclear on, and I appreciate that you
3 addressed it to some extent, I'm just wondering
4 what was your understanding about why the City
5 wanted an extrapolated number in 2019 rather than
6 just going out and getting the actual measurements
7 to begin with?

8 A. Honestly, I can't
9 speculate for the reason. But I think, again, in
10 engineering you always start with lower cost
11 actions, so estimation was the first thing that
12 comes to mind. And then if that warrants
13 measurement, then you go to the next step.

14 Q. Okay. I see. So, sort
15 of fair to say an estimate, an estimated value, is
16 better than nothing, but then the actual
17 measurement would be the more accurate data if
18 that was feasible?

19 A. Exactly. So, if our
20 study would include no recommendation in terms of
21 actual testing, then using that estimation should
22 have been treated with concern. But since we
23 recommended estimation in their measurement, that
24 there shouldn't be any concern.

25 Q. Right. So, that was sort

1 of a check on the outcome of your report?

2 A. Yes.

3 Q. Okay. Fair enough.

4 Registrar, could you please
5 pull up HAM36336, please, and page 5. Okay.

6 And so, there's a statement
7 here, and let me know if you can't see it, but it
8 says:

9 "MTO data provides
10 clarity on the issue of
11 friction being a
12 contributing factor in
13 collisions."

14 And do I have it right that
15 you didn't author that specific finding?

16 A. I didn't.

17 Q. Okay. Did you agree with
18 that conclusion?

19 A. I can't speculate because
20 I wasn't involved in that 2015 report. I think
21 it's referring back to that report. I can't
22 speculate.

23 Q. Okay. That's fair. I
24 just note that earlier today I believe you
25 mentioned that the FN29 as, you said, the

1 threshold for stopping distance, but I also know
2 that you have acknowledged that your expertise is
3 not in methodologies or thresholds or friction
4 standards.

5 So, I guess my final question
6 is: How did you conclude that FN29 was
7 appropriate in this case?

8 A. I was not involved in
9 making that conclusion. It was Mr. Malone. But
10 from what I read from his report, he's not saying
11 that 29 is the threshold that if you go lower or
12 any higher it reflects the safety of the roadway.
13 You can be -- there are multiple factors. It's
14 not just friction. You can have a highway that
15 has more than 29 friction values, 0.29 friction
16 values, but still they're unsafe or vice versa.
17 So, I think there is a statement that, again, I
18 didn't make that statement, Brian did, but it is
19 talking about the same thing that I'm discussing
20 here.

21 But the point when we compared
22 the estimated friction with 29 was only as one of
23 the indications to do friction testing. That was
24 the threshold that we used to support our
25 recommendation.

1 Q. Okay. Thank you very
2 much, Dr. Salek. Those are my questions.

3 A. Thank you.

4 JUSTICE WILTON-SIEGEL: Thank
5 you. Mr. Registrar, can you take that down,
6 please.

7 Mr. Mishra for the City, do
8 you have any questions?

9 MR. MISHRA: I do,
10 Mr. Commissioner.

11 EXAMINATION BY MR. MISHRA:

12 Q. Good afternoon,
13 Dr. Salek. I just have a couple questions for you
14 today.

15 First, I've got some questions
16 related to CIMA's reporting practices. Is it fair
17 to say that while working on a client project,
18 it's important to raise any safety issues that
19 CIMA may observe?

20 A. Definitely.

21 Q. And it would be important
22 to identify these concerns even if the safety
23 concerns were beyond the scope of the project. Is
24 that right?

25 A. That's correct. If you

1 have enough concern, observations to back up our
2 concerns, that's correct.

3 Q. Understood. And you
4 would raise these concerns clearly with the
5 client. Correct?

6 A. You're referring to which
7 report?

8 Q. If you had concerns, you
9 would make sure that you would raise these
10 concerns clearly with the client in the general
11 case. Correct?

12 A. Correct. We do means of
13 communications that we have, for example, our
14 reports, yes.

15 Q. Understood. And you also
16 clearly identify any immediate steps the client
17 needed to take to address those concerns at the
18 time?

19 A. Correct.

20 Q. And I understand you're
21 also a professional engineer. Correct?

22 A. Correct.

23 Q. And apart from CIMA's
24 obligations to provide accuracy and information
25 about safety concerns, you understand that as a

1 professional engineer, you have a duty to report
2 on any issues that endanger safety or public
3 welfare?

4 A. Correct.

5 Q. Mr. Registrar, can you
6 pull up CIM17524, please.

7 THE REGISTRAR: Do you mind
8 repeating that?

9 MR. MISHRA: Of course. It's
10 CIM17524, please.

11 THE REGISTRAR: Thank you.

12 BY MR. MISHRA:

13 Q. Dr. Salek, for your
14 reference, this is a slide deck that CIMA
15 presented at the December 7, 2018 meeting with the
16 City. I know we've already covered this to some
17 degree in your earlier examination. You attended
18 this meeting. Correct?

19 A. Correct.

20 Q. And, Mr. Registrar, can
21 you turn to image 9, please, of this document.
22 Thank you.

23 And you'll see that one of the
24 conclusions of this report was that wet surface
25 was a main contributing factor in the collision

1 analysis on the Red Hill Valley Parkway. Is that
2 right?

3 A. Correct.

4 Q. And the proportion of wet
5 weather collisions on the Red Hill went from
6 50 percent in the 2015 CIMA study to approximately
7 64 percent in the 2018 assessment. Is that right?

8 A. Correct.

9 Q. Okay. Mr. Registrar, can
10 you turn to image 17, please.

11 You'll see that this slide
12 includes the CIMA recommendations to reduce
13 collision severity and frequency. Is that right?

14 A. Correct.

15 Q. Okay. Here, CIMA does
16 not recommend closing the Red Hill Valley Parkway.
17 Correct?

18 A. Correct.

19 Q. Nor did it clearly
20 identify any specific interim measures that the
21 City needed to take in advance of the resurfacing.
22 Is that right?

23 A. Our understanding was
24 that the resurfacing is going to happen in a very
25 short period of time, and so the first

1 recommendation was acknowledging that. And then
2 the other recommendations, for example, install
3 slippery when wet signage, is a recommendation
4 that the City could go and implement right away or
5 oversize the speed limit signs and speed feedback
6 signs and a speed enforcement are recommendations
7 that could happen in a couple of hours after that
8 meeting.

9 Q. Understood, but there was
10 no direction from CIMA that either of these
11 recommendations needed to be implemented right
12 away. They could be done before or after the
13 resurfacing. Is that right?

14 A. No, that's not right.
15 Those recommendations were included as short-term
16 recommendations. And when we put something as
17 short term, it means that the City can do it right
18 away.

19 Q. Okay. Mr. Registrar, can
20 you turn up HAM12273, please.

21 So, this is the CIMA roadside
22 safety assessment, the final version.

23 And, Mr. Registrar, if you can
24 turn to image 24, please.

25 You'll see that on this page

1 these are CIMA's final recommendations to reduce
2 collision frequency/severity. You can take a
3 second to review this, if you would like.

4 A. Sure.

5 Q. Okay. And looking at
6 these recommendations in the final recommendations
7 that CIMA provided, this doesn't state that any
8 steps needed to be taken prior to resurfacing.
9 Correct?

10 A. If you go to the minutes
11 of the kickoff meeting, we have a section that we
12 talk about the recommendations, short-term and
13 medium-term recommendations, and it was clear to
14 us and the City that these recommendations can be
15 considered in short term and many of these
16 recommendations don't need to wait for the
17 resurfacing.

18 Q. Thank you, sir. I
19 appreciate that in prior minutes were certain
20 recommendations that could be considered in the
21 short term, but my question was more specifically
22 related to the final recommendations that were
23 presented to the City in the final report.

24 You would agree with me that
25 in the final report, there was no recommendations

1 that any of those steps needed to be done prior to
2 resurfacing with respect to the collision
3 frequency and severity. Is that correct?

4 A. I respectfully disagree.
5 There is no sentence here that says that these
6 recommendations should be conducted in conjunction
7 with resurfacing. These are our recommendations.

8 Q. I appreciate that,
9 Dr. Salek. I'm not asking you if there's any
10 sentence saying that it couldn't be done in
11 conjunction. My question is more specifically
12 asking there is no specific recommendation that
13 any of these steps needed to be done prior to
14 resurfacing. You would agree with me that none of
15 these recommendations listed were recommended or
16 CIMA had recommended -- were required or needed to
17 be done prior to resurfacing. Is that fair?

18 A. We didn't identify that
19 these recommendations should be done immediately
20 or in conjunction with the resurfacing, but based
21 on what is happening, working with many
22 municipalities, we have municipalities that take
23 our recommendations, do it overnight, and there
24 are municipalities that wait to do it in
25 conjunction with some of their major capital

1 programs.

2 Q. Understood. I just want
3 to make sure it's clear for the record. You
4 agree, though, that nowhere in this report it says
5 that it's required to be done prior to
6 resurfacing?

7 MR. TOBAN: This is Mr. Toban,
8 counsel for CIMA. I think the witness has been
9 asked and answered.

10 JUSTICE WILTON-SIEGEL: I
11 think he's answered the question.

12 MR. TOBAN: Yes, I agree as
13 well.

14 MR. MISHRA: Okay. I'm happy
15 to move on.

16 MR. TOBAN: Thank you.

17 BY MR. MISHRA:

18 Q. Dr. Salek, is it fair to
19 say that there was no need for interim measures
20 related to friction because you anticipated the
21 resurfacing would resolve any potential pavement
22 issues in the near future?

23 A. Based on our
24 understanding, the resurfacing was something being
25 done in a very short timeframe and we acknowledge

1 that that is going to have positive impact on the
2 collision data, especially those happening under
3 the wet condition.

4 Q. Okay. And there was no
5 imminent safety concerns that needed to be
6 addressed prior to resurfacing. Is that fair?

7 A. I cannot comment on that.
8 Our recommendation was clear that we observed
9 collision trends, but in anticipation of the
10 imminent resurfacing, we recommended that the City
11 proceed with that resurfacing.

12 Q. Understood. Thank you.
13 And given your role and expertise, I take it
14 you're familiar with the principles of
15 Vision Zero?

16 A. Correct.

17 Q. And you understood that
18 Vision Zero principles focus on reducing fatal or
19 serious injuries as opposed to merely reducing the
20 total number of collisions. Correct?

21 A. Vision Zero says that the
22 highways need to be designed to be forgiving and
23 the idea is to have fatal and serious injury
24 collisions happen to be zero, but it doesn't say
25 that we shouldn't consider reducing total

1 collisions. PDO collisions are also important,
2 but the vision is to have no fatality or serious
3 injury.

4 Q. Understood. So, it's
5 fair to say that from the Vision Zero perspective,
6 the focus is on reducing fatal or serious
7 injuries. That's the perspective of Vision Zero.
8 Correct?

9 A. As one of the authors of
10 the Ontario Vision Zero Guide, the vision for when
11 we implement Vision Zero programs is to have in
12 long term to have fatal and serious injury
13 collisions approaching to zero, but whatever
14 measure that we consider to achieve that is going
15 to reduce the PDO or property damage only
16 collisions as well because they're also important.

17 Q. Okay. When completing a
18 collision analysis, you would agree with me that
19 it's important to look not just at the number of
20 collisions but the severity of the collisions. Is
21 that correct?

22 A. Can you repeat your
23 question, please?

24 Q. Of course. So, when
25 completing a collision analysis, you would agree

1 with me that it's important to look not just at
2 the number of collisions, but also the severity of
3 the collisions?

4 A. Correct.

5 Q. And were you aware that
6 the number of police-reported and injury
7 collisions on the Red Hill had decreased since
8 2015 following the 2015 CIMA review on the Red
9 Hill Valley Parkway?

10 A. I don't have the
11 recollection, but at the time probably I have
12 observed this.

13 Q. Okay. And similarly,
14 were you aware that the number of fatal collisions
15 on the Red Hill had decreased or stayed the same
16 since 2015 following the 2015 CIMA safety review
17 on the Red Hill?

18 A. Can you repeat your
19 question?

20 Q. Of course. You were
21 aware that the number of fatal collisions on the
22 Red Hill had decreased or stayed the same since
23 2015 following the 2015 CIMA safety review on the
24 Red Hill?

25 A. Yes. We had that section

1 in our report that talks about fatal and injury
2 and severity, but to me as a safety engineer,
3 that's not a complete picture because collisions
4 per se are random events and they're the ultimate
5 consequence of the safety along the highway. So,
6 in one year or two years you may have a very high
7 number of collisions and, without doing any
8 intervention, the next year or a couple of years
9 after that you have no collision. Especially when
10 you look at fatal and injury collisions, that is,
11 you know, more tangible because fatal and serious
12 injury collisions are even more rare.

13 So, I, as a safety engineer,
14 cannot comment that because in five years you have
15 reduction in fatal collisions, that means that you
16 are doing great. I cannot make any observation on
17 that. That's because that can -- most probably
18 that can be because of the randomness in
19 collisions, which is a known and proven phenomenon
20 in road safety.

21 Q. Thank you, Dr. Salek.
22 Mr. Commissioner, can I just have a second to
23 review my notes?

24 JUSTICE WILTON-SIEGEL:
25 Mm-hmm.

1 MR. MISHRA: Thank you,
2 Commissioner, and thank you, Dr. Salek. Those are
3 all my questions.

4 JUSTICE WILTON-SIEGEL:
5 Ms. Leclair, anything further?

6 MS. LECLAIR: I don't have any
7 additional questions for Dr. Salek, but I do have
8 two documents to mark as exhibits as a
9 housekeeping matter.

10 The first is HAM36327. That,
11 I believe, is 160.

12 THE REGISTRAR: Thank you,
13 counsel.

14 EXHIBIT NO. 160: E-mail
15 from Brian Malone to Gord
16 McGuire dated February
17 25, 2019, HAM36327.

18 MS. LECLAIR: And the second
19 is CIM17088.0001 as 161.

20 THE REGISTRAR: Sorry,
21 CIM17088.0001?

22 MS. LECLAIR: Correct.

23 THE REGISTRAR: Okay. Thank
24 you.

25 JUSTICE WILTON-SIEGEL: And

1 that's what number?

2 MS. LECLAIR: 161, I believe.

3 JUSTICE WILTON-SIEGEL: Okay.

4 EXHIBIT NO. 161: CIMA
5 memo dated February 25,
6 2019, CIM17088.0001.

7 JUSTICE WILTON-SIEGEL: Thank
8 you very much. Dr. Salek, thank you very much for
9 appearing this afternoon. You're excused.

10 With respect to the rest of
11 us, I understand that we are not sitting tomorrow
12 because it is the National Day of Truth and
13 Reconciliation, so we stand adjourned until Monday
14 morning at 9:30. Thank you very much and have a
15 good weekend and see you then.

16 --- Whereupon the proceedings adjourned at
17 4:59 p.m. until Monday, October 3, 2022 at
18 9:30 a.m.

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