

# Ottawa Light Rail Commission

Paul Tetreault  
on Monday, May 9, 2022



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OTTAWA LIGHT RAIL COMMISSION  
OLRT CONSTRUCTORS - PAUL TETREAULT  
MAY 9, 2022

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--- Held via Zoom Videoconferencing, with all  
participants attending remotely, on the 9th day  
of May, 2022, 9:03 a.m. to 12:05 p.m.

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1 COMMISSION COUNSEL:

2

3 Christine Mainville, Co-Lead Counsel Member

4 Anthony Imbesi, Litigation Counsel Member

5

6

7 PARTICIPANTS:

8

9 Paul Tetreault, OLRT Constructors

10

11 Mannu Chowdhury,

12 Paliare, Roland, Rosenberg, Rothstein LLP

13

14

15

16

17 ALSO PRESENT:

18

19 Judith Caputo, Stenographer/Transcriptionist

20 Elizabeth Deasy, Virtual Technician

21

22

23

24

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INDEX OF EXHIBITS

NUMBER/DESCRIPTION	PAGE NO.
1: Curriculum Vitae of Paul Tetreault.	15

\* \* The following is a list of documents undertaken  
to be produced or other items to be followed up \* \*

INDEX OF UNDERTAKINGS

The documents to be produced are noted by U/T and  
appear on the following pages: (None).

1 -- Upon commencing at 9:00 a.m.

2

3 PAUL TETREAULT: AFFIRMED.

4 ANTHONY IMBESI: Good morning,

5 Mr. Tetreault. I'll read into the record the

6 parameters for today's interview and then we can

7 get started.

8 So the purpose of today's interview is

9 to obtain your evidence under oath or solemn

10 declaration for use at the Commission's Public

11 Hearings.

12 This will be a collaborative interview,

13 such that my co-counsel, Ms. Mainville, may

14 intervene to ask certain questions. If time

15 permits, your counsel may also ask follow-up

16 questions at the end of the interview.

17 This interview is being transcribed and

18 the Commission intends to enter the transcript into

19 evidence at the Commission's Public Hearings,

20 either at the hearing or by way of procedural order

21 before the hearings commence.

22 The transcript will be posted to the

23 Commission's public website, along with any

24 corrections made to it, after it is entered into

25 evidence.

1                   The transcript, along with any  
2 corrections later made to it, will be shared with  
3 the Commission's participants and their counsel on  
4 a confidential basis before being entered into  
5 evidence.

6                   You will be given the opportunity to  
7 review your transcript and correct any typos or  
8 other errors before the transcript is shared with  
9 the participants or entered into evidence. Any  
10 non-typographical corrections made will be appended  
11 to the transcript.

12                   Pursuant to Section 33 (6) of the  
13 Public Inquiries Act 2009: A witness at an inquiry  
14 shall be deemed to have objected to answer any  
15 question asked him or her upon the ground that his  
16 or her answer may tend to incriminate the witness,  
17 or may tend to establish his or her liability to  
18 civil proceedings at the instance of the Crown or  
19 of any person, and no answer given by a witness at  
20 an inquiry shall be used or be receivable in  
21 evidence against him or her in any trial or other  
22 proceedings against him or her thereafter taking  
23 place, other than a prosecution for perjury, in  
24 giving such evidence.

25                   As required by Section 33 (7) of that

1 act, you are hereby advised that you have the right  
2 to object to answer any question under Section 5 of  
3 the Canada Evidence Act.

4 So with that out of the way,  
5 Mr. Tetreault, we'll proceed. If you can just  
6 start by explaining for us your role in Stage 1 of  
7 Ottawa's LRT.

8 PAUL TETREAULT: Good morning. I was  
9 engaged or employed by SNC-Lavalin. I started with  
10 OLRT-C on February 12th of 2013, after the contract  
11 award, and pretty much at the time that the  
12 financing had been completed, but basically at the  
13 beginning of the actual Stage 1 project itself.

14 I retired voluntarily on April 14th of  
15 2017. So I was there for just over four years. I  
16 was employed as the commercial director for the  
17 joint venture, reporting to the project director,  
18 who at the time was David Whyte, W-H-Y-T-E. And  
19 later during the Stage 1 program, it was a  
20 gentleman by the name of Eugene Creamer.

21 And I had a second reporting line  
22 through the Vice-President of Commercial and  
23 Development at SNC-Lavalin, the gentleman by the  
24 name of Alain Lemay, L-E-M-A-Y, who was based in  
25 Vancouver.

1                   ANTHONY IMBESI: Okay, thank you. And  
2 I will pull up on my screen, a copy of your CV  
3 here. And actually, you can take us through it.

4                   Can you see what's on my screen?

5                   PAUL TETREAULT: Yes, sir.

6                   ANTHONY IMBESI: And you recognize this  
7 as an accurate copy of the CV that was provided to  
8 us?

9                   PAUL TETREAULT: That's correct.  
10 That's the document that I submitted to you.

11                  ANTHONY IMBESI: Okay, thank you.

12                  So perhaps you can just take us through  
13 your past experience prior to being involved with  
14 OLRT-C.

15                  PAUL TETREAULT: Okay. I spent  
16 40 years in the mass transit business, primarily in  
17 the development and manufacturing of rolling stock  
18 for mass transit systems. And also for systems  
19 implementation and systems integration of mass  
20 transit systems.

21                  And what I mean by "systems  
22 implementation" is all the systems that are  
23 required to build a mass transit system, such as  
24 the signalling systems, the communication systems,  
25 the supervisory and data acquisition systems, the



1 power systems, the rails, the maintenance, the  
2 operations, etcetera, etcetera.

3 So from 1979 to 1995, I was primarily  
4 involved in the project management, the  
5 manufacturing of rolling stock for various transit  
6 authorities throughout North America. And in 1995,  
7 I joined the Bombardier Systems Division, which was  
8 an acquisition from the Ontario Government.

9 In 1992, Bombardier acquired Urban  
10 Transit Development Corp. from the Government of  
11 Ontario. I was subsequently transferred as  
12 Vice-President of Project Management to that  
13 operation. I stayed with that operation until  
14 2003. And 2004, from that point, I went to Alcatel  
15 Transportation Division which is now Thales, which  
16 is a signalling company. And they also are the  
17 signalling company that provided the signalling for  
18 Stage 1 in Ottawa.

19 Came back from there, I did some work,  
20 did a little bit of consulting, did some local  
21 work. Went back to Bombardier Transportation in  
22 2008 until 2012, and then I was contacted by one of  
23 my ex-colleagues who was with SNC-Lavalin, and he  
24 indicated to me that there was a project in Ottawa,  
25 and it was a great opportunity, and they would

1 enjoy finding me a role in that operation, and are  
2 very happy to join OLRT-C. Because I was getting  
3 later in my career, and after having implemented  
4 transit systems throughout the world, it was going  
5 to be very good experience, and a very proud  
6 experience to be able to implement such a  
7 state-of-the-art transit system in Ottawa, our  
8 Nation's Capital, and it also afforded me the  
9 opportunity to come home every weekend which was  
10 quite nice.

11 So the plan was to, you know, work  
12 there in Ottawa for four, five years and then  
13 eventually retire, and that's exactly what I did.

14 Long story short, transit systems, I've  
15 been involved in one way or another in probably 30  
16 to 35 transit projects throughout the world. But  
17 I'm not a construction guy, my background is  
18 primarily mass transit and mass transit facilities.

19 ANTHONY IMBESI: So you mentioned that  
20 you're not a construction guy, but you have this  
21 extensive experience.

22 So when you talked about your prior  
23 experience, I think particularly with Bombardier in  
24 the development and manufacturing of rolling stock,  
25 what would you have been doing in that role?

1 PAUL TETREULT: Well, I had various  
2 roles. I started in procurement and it eventually  
3 led to --

4 [Court Reporter intervenes for  
5 clarification].

6 PAUL TETREULT: In 1979, I started  
7 with Bombardier Transportation in procurement, in  
8 supply management.

9 In 1985, I transferred to the Barre  
10 Vermont plant, which was a new plant that  
11 Bombardier had started in the United States in  
12 order to meet the requirements of the Buy America  
13 Act.

14 I spent 1985 to 1988 in Barre, Vermont  
15 as the materials manager. So as the materials  
16 manager, I was responsible for procurement,  
17 production planning, production control, and  
18 inventory control for the plant where we were  
19 producing -- at one point, we were producing over  
20 40 railcars a month.

21 I went back to Bombardier  
22 Transportation as a project director, where I had  
23 the responsibility for project management of  
24 various contracts, including contracts with  
25 New Jersey Transit; MBTA, which is the authority in

1 Boston; Amtrak, we built the Superliner II Cars for  
2 Amtrak. I was also the project director for the  
3 T-1 Subway Cars for TTC in Toronto, etcetera,  
4 etcetera.

5 So from 1988 until 1995, I managed  
6 various rolling stock projects at the project  
7 management level where I was responsible for the  
8 overall project, and I was also responsible for the  
9 relationship and management of the projects with  
10 our various customers at the time.

11 And in 1995, I transferred --

12 ANTHONY IMBESI: Go ahead, I'm sorry.

13 PAUL TETREAUULT: In 1995, I transferred  
14 to the operation in Millhaven, Ontario, where we  
15 had system contracts with Ankara, Turkey, where we  
16 implemented the Ankara Railway system.

17 We also had contacts in Malaysia with  
18 Kuala Lumpur to implement the LRT II systems as  
19 well as various contracts, including the SkyTrain  
20 system in Vancouver.

21 ANTHONY IMBESI: In terms of your role  
22 at OLRT-C, in terms of the role of commercial  
23 director, can you just explain for us what the  
24 responsibilities in the role of someone in that  
25 position would have been?

1 PAUL TETREAULT: Yes. I was  
2 responsible for finance for OLRT-C, human  
3 resources, prime contract management, procurement  
4 or procurement and subcontract management; as well  
5 as any other commercial matters that were dealt  
6 with within the joint venture itself.

7 So I was, for lack of better words, I  
8 was the transaction guy, the back-office guy, I did  
9 not deal directly with the City of Ottawa for the  
10 most part. I did attend some meetings, but the  
11 primary contact with the City of Ottawa would have  
12 been the project director and deputy project  
13 director.

14 I was also given the responsibility for  
15 the management of the rolling stock provider, which  
16 was Alstom, as well as the management of the  
17 communication signalling supplier, which was  
18 Thales. And they gave me that responsibility, only  
19 because of my extensive experience in rolling stock  
20 and in systems management.

21 ANTHONY IMBESI: When you say the  
22 management of the rolling stock provider and the  
23 signalling supplier, so that's Alstom and Thales,  
24 as I understand it on this project. What does that  
25 entail when you say --

1 PAUL TETREAUULT: That's correct.

2 ANTHONY IMBESI: -- when you say  
3 "management"; what does that encompass in terms of  
4 your responsibilities?

5 PAUL TETREAUULT: Through one of my  
6 subordinates, which was the contract manager, the  
7 contract manager was responsible for managing the  
8 overall contract with Alstom and Thales.

9 So the contracts have certain  
10 requirements; they have certain dates; certain  
11 milestones; certain events that have to be met;  
12 certain conditions that have to be met.

13 There were requirements for submission  
14 of documentation; there were requirements for  
15 submission of approvals; there are requirements for  
16 regulatory requirements. There was a requirement  
17 in the contract with Alstom for Canadian content,  
18 which required that they assembled the vehicles in  
19 Canada in order to meet those requirements.

20 It's everything but the actual design  
21 of the system. The actual design of the system was  
22 under responsibility of the Director of Systems  
23 Integration, who was Jacques Bergeron, and I  
24 believe you have already spoken with Jacques.

25 So it was a collaborative management of

1 the technical by the Director of Systems  
2 Integration, and then everything else was managed  
3 by my contact manager, who was a gentleman by the  
4 name of Alex Turner.

5 ANTHONY IMBESI: Thank you.

6 And I take it then, in the third bullet  
7 point here when you talk about being in close  
8 collaboration with the Director of Systems  
9 Integration, that was Mr. Bergeron that you were  
10 just referring to?

11 PAUL TETREAULT: That is correct,  
12 absolutely.

13 ANTHONY IMBESI: Just so I understand  
14 the structure of OLRT-C. Did he report to you or  
15 were they sort of independent roles in parallel to  
16 one another?

17 PAUL TETREAULT: No. Jacques reported  
18 to the project director, and I reported to the  
19 project director, so we were colleagues.

20 And, of course, being colleagues and  
21 worked hand-in-hand, we collaborated very, very  
22 closely.

23 ANTHONY IMBESI: Right. So you were  
24 dealing, if it's fair to say, more with the  
25 commercial side of things and he was dealing with

1 the technical side of things?

2 PAUL TETREAULT: I was dealing with the  
3 commercial and the logistical.

4 ANTHONY IMBESI: Commercial and  
5 logistical, thank you.

6 PAUL TETREAULT: Absolutely. Yes, sir.

7 ANTHONY IMBESI: So I will -- if we can  
8 mark Mr. Tetreault's CV as Exhibit 1, and I'll take  
9 it down from the screen.

10 EXHIBIT NO. 1: Curriculum Vitae of  
11 Paul Tetreault.

12 ANTHONY IMBESI: Before we move on. In  
13 terms of Mr. Bergeron, as I understand it, he was  
14 hired in 2014 by OLRT-C?

15 PAUL TETREAULT: He was, absolutely.

16 ANTHONY IMBESI: And as we understand  
17 it, he didn't come in to fill someone else's role.

18 Was he the first director of systems  
19 integration on this project.

20 PAUL TETREAULT: Yes, sir, he was. As  
21 a matter of fact, we had been looking for, I'm  
22 going to say a good while, to find an appropriate  
23 individual to fill that responsibility.

24 So, yeah. I mean, if we could have  
25 hired Jacques a year earlier, we probably would



1 have done it, or nine months earlier.

2 We had previously found a candidate for  
3 that role, who basically refused our offer, because  
4 the individual did not want to relocate to Ottawa.  
5 So filling the position of systems integrator, or  
6 Director of Systems Integration, was certainly a  
7 challenge, because we needed to find the right  
8 person. You know, with all due respect, a lot of  
9 people see this as a construction project, but some  
10 of us saw this as a transit system; and there's a  
11 definite difference between the construction  
12 project and the transit system project. Although  
13 construction is an important component of it, it's  
14 really integration of many, many systems and  
15 technologies that culminate in the transit system  
16 itself.

17 ANTHONY IMBESI: Okay. So when you say  
18 there's a distinction there, you're talking about  
19 how the focus is not so much on the construction  
20 component, it's more so on the integration of all  
21 the various systems that comprise the transit  
22 product as a whole?

23 PAUL TETREAULT: I'm saying it should  
24 be. You know, it's an opinion I'm giving you right  
25 now.

1 ANTHONY IMBESI: Right.

2 PAUL TETREAULT: With all due respect,  
3 it's an opinion.

4 In a project of this nature, yes, the  
5 focus should be on the integration of the systems,  
6 it should be on the technology.

7 I mean, there were many requirements in  
8 the Ottawa project that had never been done in the  
9 mass transit industry.

10 For example, the rolling stock, or the  
11 vehicle that was selected for this project is a  
12 vehicle that has extensive light rail experience in  
13 Europe, in very mild climates, with service which  
14 is basically in-city service, relatively low speed,  
15 etcetera, etcetera.

16 The Ottawa requirement, or a number of  
17 Ottawa requirements were to winterize the vehicle.  
18 The vehicle had to be winterized in order to deal  
19 with temperatures of, I think it was up to minus 40  
20 in the specification, if I recall correctly.  
21 Certainly minus 30. And, of course, I don't have  
22 those documents in front of me, so it's hard to  
23 recall.

24 The vehicle also had to meet North  
25 American Standards. Now, the rail standards in

1 North America, are very, very different than the  
2 rail standards in Europe.

3           So from a structural standpoint, the  
4 vehicle had to meet North American rail  
5 requirements. The vehicle also had to be able to  
6 operate at 90 kilometers per hour. While the  
7 initial design of this platform that was used to  
8 hybrid into the Ottawa vehicle, was not designed  
9 for 90 kilometers per hour. And this required  
10 substantial changes to the motors of the vehicle,  
11 to the gearboxes, to the suspension and other  
12 components.

13           So what I'm saying here is that the  
14 Ottawa vehicle is basically a hybrid of existing  
15 technology that was further developed to meet North  
16 America Standards, and that itself was a challenge.  
17 A good challenge.

18           And I'll be honest with you, Alstom did  
19 a wonderful job. I mean, I have seen -- I've seen  
20 a lot of rail vehicles in my life, and a lot of  
21 rail engineering, and I can honestly say that  
22 Alstom did a world class job in bringing that  
23 vehicle to meet the Ottawa specifications.

24           Another challenge was the Canadian  
25 content. So what we had to do there was, in order

1 to meet the Canadian content, Alstom had to set up  
2 a plant in Canada to assemble the vehicles. That  
3 plant ended up being the maintenance facility. And  
4 in effect, what they were doing is transferring  
5 technology from Europe to Canada.

6 So there's a lot of know-how in  
7 building railcars. The analogy I can give you is,  
8 it's like buying 737 aircraft from Boeing and  
9 saying, you're going to come and assemble these  
10 aircraft and build these aircraft in Ottawa. It's  
11 a whole setup, the whole logistics, the learning  
12 curves, the tooling, the training, it's a huge,  
13 huge job. So those were some of the challenges  
14 that were being faced at the rolling stock level.

15 And then the Alstom vehicle was  
16 traditionally married with the Alstom train  
17 control, or the Alstom control software. In this  
18 particular case, Thales was the chosen technology  
19 that was to be used, CBTC technology. "CBTC"  
20 meaning "Communications-Based Train Control".

21 So you're marrying Thales technology  
22 with Alstom vehicles. And that's like saying,  
23 okay, we're going to use Boeing body, but we want  
24 to use the McDonnell Douglas' software.

25 That in itself is a challenge. You

1 have two competitors here, and you're using one's  
2 body, and you're using the other's brain, for lack  
3 of better words. So that in itself was a  
4 challenge.

5 And, honestly I think Alstom and Thales  
6 did a reasonably good job given the circumstances.  
7 Because when I left the project, we were still on  
8 schedule. So I left the project in April of 2017,  
9 and we were essentially still on schedule, and we  
10 were essentially still in a solid financial  
11 position. We were meeting our costs and we were  
12 meeting our objectives.

13 Now, the big monkey wrench in all of  
14 this, because the project was going very well. I  
15 was very pleased with the progress of this project  
16 throughout my tenure, until that sinkhole happened.  
17 When that sinkhole happened in June of 2016, that  
18 caused a major monkey wrench in the project itself.  
19 And then, of course, because it was viewed as a  
20 delay event under the project, the mitigation  
21 process started at that point.

22 So June, July, August, September, I  
23 would say September 2016, we really started working  
24 hard to try to mitigate the effects of this  
25 sinkhole that started, that hit us in the middle of

1 the project. Not only in the middle of the project  
2 in terms of timeline, but in the middle of the  
3 alignment. Because the alignment starts at the  
4 MSF, the eastern part of the City, and it had  
5 segmented east to west.

6 So I think, if I recall properly again,  
7 I think we had five segments. And what you would  
8 do, the relevance of these segments is that you  
9 would start your testing in the first segment, and  
10 then you would combine your first segment with your  
11 second segment, and then combine your first and  
12 second with the third, and so on, and so on, and so  
13 on. So you're doing incremental systemwide  
14 testing.

15 So the sinkhole prevented them from  
16 continuing to do systemwide testing. That in  
17 itself is somewhat relevant to the fact that in a  
18 normal transit project, in my experience, the  
19 testing commission time for a project the size of  
20 Stage 1 Ottawa Light Rail would be approximately  
21 18 months, give or take.

22 So what you're going to do is, you're  
23 going to --

24 ANTHONY IMBESI: Go ahead.

25 PAUL TETREAULT: The way you're going

1 to do it is, once your construction is completed  
2 and the first vehicles are completed, you're going  
3 to test the vehicle statically. In other words,  
4 you're going to start up the vehicle, you're going  
5 to test all the functionality without moving the  
6 vehicle. And predecessor testing to that, would  
7 have been system component testing, like the  
8 newer motors, the bigger motors had to be tested.  
9 They had to be bench tested. The gearboxes had to  
10 be bench -- all the on-board vehicle systems that  
11 would've been changed, would have to go through a  
12 qualification testing process.

13           Once the vehicle is fully assembled,  
14 the vehicle goes through a testing process. That  
15 testing process itself, it starts with static  
16 testing and it moves to dynamic testing. Now, the  
17 dynamic testing is very incremental, very slowly  
18 done, it starts at the maintenance facility where  
19 you're just moving very slowly on tracks, and then  
20 you start moving the vehicle at 10 kilometers an  
21 hour, 20 kilometers an hour, 30 kilometers an hour,  
22 etcetera, etcetera, down the guideway, as the  
23 guideway gets completed.

24           And to make a long story short, for the  
25 purpose of the time here, from a systems

1 standpoint, you have about 300 tests that have to  
2 be done on each segment. So if you're -- if you  
3 have five segments, you're looking at 1,500  
4 different tests that have to be done to make sure  
5 that all the system's components work together in  
6 every possible scenario. Every possible scenario.

7           The sinkhole did not allow that to  
8 happen anymore, so they had to mitigate. Now how  
9 they mitigated, I don't know because I wasn't  
10 there. Because it was beyond the time that I had  
11 left. And I can only say that when I left, the  
12 project was on schedule, on budget.

13           I'm assuming, rightfully or wrongfully,  
14 that there was a continuation of mitigation that  
15 shortened the test period. Because of, you know,  
16 time pressures, money pressures, whatever it may  
17 be. You know, and I don't know that, but maybe you  
18 could -- if you compared the initial schedules in  
19 the project, to the last schedules in the project,  
20 you might be able to see, or view, or analyze the  
21 effects of those scheduled mitigations that were  
22 done as a result of that sinkhole.

23           Now, that all being said, I understand  
24 that there is an inquiry going on, but given the  
25 fact that there was new technology involved, given



1 the fact that the vehicle itself had never been  
2 service-proven or developed for North America;  
3 given the effects of the over --

4 -- Reporter's Note: (Experienced  
5 virtual connection difficulties).

6 ANTHONY IMBESI: Sorry, Mr. Tetreault.  
7 I believe we lost you there for a moment. I think  
8 you froze.

9 I heard you say that given there was  
10 new technology, the vehicle was never  
11 service-proven, and then I lost you for about  
12 20 seconds.

13 PAUL TETREAUULT: Am I back? Can you  
14 hear me now?

15 ANTHONY IMBESI: Yes.

16 PAUL TETREAUULT: So given the fact that  
17 the vehicle had to be developed for the North  
18 American -- specifically for the Ottawa contract,  
19 and given the integration of the systems, and the  
20 sinkhole, the overall outcome of the project, in my  
21 opinion, based on my experience, isn't that bad.

22 You know, if you look at the  
23 circumstances that the project had to go through,  
24 it's really -- the outcome isn't that bad.

25 ANTHONY IMBESI: And you had mentioned

1 the testing and commissioning, and you've mentioned  
2 that you'd estimate for a project like this  
3 approximately 18 months to do the testing and  
4 commissioning.

5 Is that what had been planned for by  
6 OLRT-C; do you recall?

7 PAUL TETREAULT: You know what? I  
8 really don't. And I don't have the documents in  
9 front of me, so someone would have to go back and  
10 take a look at that.

11 But, typically, you're looking at --  
12 yeah, roughly overall testing, commissioning,  
13 18 months, that's based on similar systems, such  
14 as -- you know, I'll give you my benchmark. My  
15 benchmark on that was the Ankara Metro in Turkey.  
16 Similar situation, yeah, it was 18 months in order  
17 to get through testing and commissioning in that  
18 system.

19 ANTHONY IMBESI: And you've said a few  
20 other things that I'd like to follow up on.

21 Now, in terms of the Alstom vehicle,  
22 that's the Citadis Spirit, correct?

23 PAUL TETREAULT: That's correct.

24 ANTHONY IMBESI: And so you've  
25 mentioned that the vehicle wasn't service-proven,

1 and I understand that that vehicle was based off of  
2 a prior model, the Citadis model that was primarily  
3 used in Europe.

4 So in your mind, was this a brand new  
5 vehicle for all intents and purposes, given the  
6 modifications?

7 PAUL TETREAULT: No. It's not a brand  
8 new vehicle. I'd say it's a further development.  
9 It's a further development from an existing  
10 platform. Where probably -- and I'm going to just --  
11 probably, I'm saying that 50 percent of that  
12 vehicle, the drawings on that vehicle, would have  
13 required some form of change, when you're using an  
14 existing platform.

15 ANTHONY IMBESI: Okay.

16 PAUL TETREAULT: Which is, you know,  
17 which is fine. You weren't developing the vehicle  
18 from scratch.

19 You see, the beauty of the Citadis  
20 vehicle, I believe the attraction to that vehicle  
21 was its low-floor capability, which was  
22 instrumental for -- it was absolutely -- it was an  
23 absolute for the City of Ottawa.

24 ANTHONY IMBESI: I'm sorry. Was that a  
25 modification that was made to the Citadis, or are

1 you saying that was a feature of the existing  
2 Citadis train?

3 PAUL TETREault: Feature of the existing.

4 ANTHONY IMBESI: It was a feature of  
5 the existing Citadis model.

6 PAUL TETREault: That's right.

7 ANTHONY IMBESI: And given the  
8 modifications that were made to this, I take it  
9 from what you've indicated, that you didn't believe  
10 that this particular vehicle, the Citadis Spirit  
11 was service-proven?

12 PAUL TETREault: Well, it was  
13 service-proven in its existing state. But it was  
14 never service-proven in the state that would be  
15 required to be developed to meet the Ottawa  
16 specification.

17 So Ottawa was -- you know, Ottawa was  
18 pushing the envelope in terms of technology, which  
19 is fine. I mean, there's nothing wrong in doing  
20 that. But there was engineering and development  
21 that had to be done in order to meet those  
22 specifications.

23 ANTHONY IMBESI: Right. In terms of  
24 those specifications, I think you mentioned speed,  
25 you mentioned -- was the CBTC a component of that,

1 as well?

2 PAUL TETREAULT: Absolutely. The  
3 integration of the Thales train control signalling  
4 with the Alstom vehicle was something that had  
5 never been done.

6 ANTHONY IMBESI: Never been done in the  
7 sense of marrying a Thales signalling system with  
8 an Alstom train? Or marrying a CBTC system with  
9 this type of train?

10 PAUL TETREAULT: No. Marrying a Thales  
11 CBTC with an Alstom train, with this particular  
12 Alstom train.

13 ANTHONY IMBESI: And just so I'm clear  
14 on that. This particular train is in the Citadis  
15 Spirit, because it was new? Or in terms of the  
16 Citadis generally?

17 PAUL TETREAULT: Again, the Citadis  
18 model itself would have been married with Alstom's  
19 own train control technology. So this was a  
20 departure from that, we were using the Thales, and  
21 it had to be integrated with the Alstom vehicle.

22 ANTHONY IMBESI: In terms of Alstom's  
23 signalling system, do they have a CBTC system as  
24 well; or is it a different type of system that  
25 would typically be married with their vehicles?

1 PAUL TETREULT: No, they have a CBTC  
2 system; yes, they do.

3 ANTHONY IMBESI: Just in terms of the --  
4 sorry, go ahead.

5 PAUL TETREULT: They do. Their  
6 technology is based out of France, whereas Thales'  
7 technology is based out of Canada. So I can only  
8 assume that the reason for going with Thales was  
9 because of --

10 -- Reporter's Note: (Experienced  
11 virtual connection difficulties.)

12 (Whereupon, a portion of the record was  
13 read back).

14 PAUL TETREULT: I don't know for sure,  
15 because I was not there when those choices were  
16 made. Those choices were made prior to me joining  
17 the OLRT-C, but I'm assuming that the reason that  
18 the Thales technology was chosen, is because that  
19 technology is Canadian, it's based out of Toronto,  
20 and it's also used in Scarborough, with the  
21 Scarborough Light Rail System, and it's also used  
22 in Vancouver with the SkyTrain System, which is the  
23 longest fully automated system in the world.

24 ANTHONY IMBESI: So when you spoke  
25 about challenges then of integrating the Thales

1 system with the Alstom vehicle, I take it that the  
2 Alstom vehicle would typically be integrated, I  
3 guess based on your evidence, with the existing  
4 Alstom vehicle and signalling system.

5 So what would the challenges be in  
6 particular then of integrating another company's  
7 CBTC system with an Alstom vehicle?

8 PAUL TETREAULT: Well, the  
9 communication-based train control is basically  
10 software-based. So in order to develop that train  
11 control, you need to understand the -- you need to  
12 intimately understand the functionality of that  
13 vehicle. You need to understand its speed  
14 profiles, its speed algorithms. You need to  
15 understand its braking profiles, its braking  
16 algorithms. You have to understand its  
17 acceleration capability, braking capability in  
18 service. Braking, as well as emergency braking.  
19 As well as other functions of the vehicle, such as  
20 door openings, door closings, you know, supervisory  
21 data acquisition systems, diagnostic systems on the  
22 vehicle.

23 The train control has to be designed  
24 with layers, and layers, and layers of safety.  
25 Safety is the primary importance here in developing

1 the software. So every behavioral element of the  
2 vehicle has to take into account the safety of the  
3 passengers.

4 So in order to do that, you have to  
5 understand -- if I was providing software to you,  
6 train control software to you, I would need to  
7 understand every function of your body in detail.

8 So that in itself is a challenge. But  
9 again, that challenge, I'll be honest with you,  
10 that challenge went quite well. We had to work  
11 with Thales, we had to work with Alstom. Sometimes  
12 we had to manage them, because it's not easy to get  
13 two competitors to necessarily work together. But  
14 at the end of the day, they did. And I think the  
15 train -- you know, the CBTC product that Ottawa has  
16 today is a very, very good product, as well as the  
17 vehicle, I think, is a very good product.

18 ANTHONY IMBESI: Was this the first  
19 time that a CBTC system had ever been integrated  
20 with a low-floor LRV; to your knowledge?

21 PAUL TETREULT: To my knowledge, yes.

22 ANTHONY IMBESI: And does that specific  
23 point raise any integration issues? Are there  
24 specific considerations given that it's a low-floor  
25 vehicle?



1 PAUL TETREAULT: No. Nothing that can  
2 not be overcome in terms of engineering or, you  
3 know, testing and commissioning, no.

4 ANTHONY IMBESI: In terms of the  
5 interfaces then generally for the project, was the  
6 most critical interface the integration of the  
7 rolling stock and the signalling system, in your  
8 view?

9 PAUL TETREAULT: In my opinion, I would  
10 say, I would say yes. From a technological  
11 standpoint, yes.

12 ANTHONY IMBESI: I guess taking a step  
13 back then, if you could just explain for us, in  
14 your experience then, how is systems integration  
15 approached then on a project of this size  
16 typically?

17 PAUL TETREAULT: Well, thanks for the  
18 question.

19 Visualize a pyramid, right? So the top  
20 of the pyramid, the very top of your pyramid is  
21 your trial running.

22 ANTHONY IMBESI: Is your what?

23 PAUL TETREAULT: Trial running. Trial  
24 running, all right? And trial running typically  
25 would last 30, 60, 90 days, depending on the

1 outcome. Because typically you would be required  
2 to meet a systems availability.

3 So the industry benchmark for systems  
4 availability is about 99.5, 99.6 percent. And  
5 typically, the contracts -- well, systems contracts  
6 will require that the contractor go through a trial  
7 running period and maintain a certain level of  
8 systems availability prior to going into revenue  
9 service. I think we had that in Ottawa. If you  
10 look at the contract, I think you'll see that.

11 After the trial running is the actual  
12 testing of all these five segments, systemwide  
13 testing.

14 So after the trial running, the next  
15 layer is systemwide testing. In that layer,  
16 there's probably, as I said earlier, 300 tests per  
17 segment that have to be completed.

18 Under that layer of system testing, you  
19 have individual system tests. So you would  
20 individually test the vehicles, you would  
21 individually test the train controls.

22 And in testing the train control you  
23 would put it on simulators where you would do what  
24 we call "bust it" testing in the software, where  
25 you try to break the algorithms, you try to break

1 the safety protocols and do all kinds of scenarios,  
2 possibilities, in order to prove that your software  
3 is safe and your software is robust.

4 You would do power supply testing. You  
5 would test your power supply to make sure your  
6 power supply can supply the necessary amount of  
7 power given any situation.

8 If you were operating the full system,  
9 where each train would be pulling full voltage,  
10 etcetera, etcetera, you would do testing of the  
11 communication systems, to make sure they were  
12 robust, that the various level of communication,  
13 emergency communication, communication with the  
14 police, communication with the paramedics,  
15 communication with the fire department, you would  
16 create rescue scenarios, etcetera, etcetera,  
17 etcetera.

18 So that would be your systemwide  
19 testing. Below that, below the individual systems,  
20 you would have component testing, where certain  
21 components would be tested.

22 You would test, for example, the  
23 gearbox. You would put the gearbox of the vehicles  
24 on a test bench and you would run it day and night  
25 to simulate ten years, 15 years of operations to

1 make sure that your gearbox is robust, and that  
2 there's no significant wear and tear, there's no  
3 cracks in it or anything like that.

4 So this whole pyramid of testing would  
5 go from the discrete component level testing, all  
6 the way up to the systemwide testing, and the trial  
7 running.

8 And if it's just -- it's a very  
9 important part of the program. And, again, I  
10 wasn't there, but I can only imagine that the  
11 testing had to be significantly modified and  
12 mitigated as a result of that sinkhole, because  
13 that sinkhole was right in the middle. So you  
14 couldn't incrementally do your systemwide testing.

15 ANTHONY IMBESI: Right. So, as you  
16 were saying, you can test the segments but you had  
17 to -- there presumably would have been some delay  
18 in testing the full length, the full track wide  
19 integration testing?

20 PAUL TETREAULT: Systemwide testing,  
21 absolutely. You know, you could test everything  
22 around the maintenance facility, you can test  
23 everything in the first segment, and possibly the  
24 second segment, but the sinkhole happened, let's  
25 say in the third segment, so you were stymied

1 there.

2           You couldn't go any further, right?  
3 You had what you had, you had to wait for that  
4 sinkhole to be mitigated; you had to wait for that  
5 concrete to be re-tunneled; you had to wait for  
6 that station to be finished, so that could open up  
7 so you had access to the third segment, the fourth  
8 segment and fifth segment.

9           Ultimately you needed all the segments  
10 in order to complete your systemwide testing and  
11 that to me is probably the area where things  
12 started to slide, or things started to go wrong.

13           Because I know for a fact that OLRT-C  
14 worked very, very hard to try to mitigate,  
15 absolutely. That was ongoing as I was just leaving  
16 the project. And there was a very, very concerted  
17 effort to mitigate.

18           It was a delay event or it was  
19 categorized as a delay event under the contract.  
20 And, you know, part of that, part of the  
21 requirements under the delay event of the contract  
22 was to mitigate.

23           And the contractor was obligated to,  
24 you know, put forth his best efforts to mitigate  
25 the delay of it. They were working hard but at

1 some point they were, perhaps they were overly  
2 optimistic, I don't know.

3 ANTHONY IMBESI: When you're talking --

4 PAUL TETREAULT: And they would have to  
5 --

6 ANTHONY IMBESI: I'm sorry, finish your  
7 thought there.

8 PAUL TETREAULT: I'm saying, perhaps we  
9 should put a magnifying glass on, you know, the  
10 period, the testing commission period and try to  
11 look at perhaps what the effects of that sinkhole  
12 were and how it affected this systemwide testing,  
13 and how it affected the trial running. Which  
14 ultimately led up to the revenue service date,  
15 right?

16 I believe that got delayed a couple of  
17 times, if I recall. Again, I wasn't there so...

18 ANTHONY IMBESI: Right. And so, I  
19 mean, the sinkhole happened in 2016, and you had  
20 indicated to us that you left in April of 2017.

21 So during that time, what was the  
22 status of the LRVs, the testing and commissioning  
23 as you've been describing them to us? Where were  
24 things at during that period of time, following the  
25 sinkhole and up to your departure?

1                   PAUL TETREAULT: We were essentially on  
2 schedule, as I recall. We were on schedule, we  
3 were on budget. I mean, the vehicles were being  
4 produced, the vehicles were being tested to the  
5 extent that we could. As I recall, we were pretty  
6 much on schedule.

7                   ANTHONY IMBESI: And when you're  
8 talking about the testing that was being done, what  
9 specific components of the testing were being done  
10 then at that time?

11                  PAUL TETREAULT: When I left, we were  
12 doing testing on the guideways in the first and  
13 second segment. So we were testing at the  
14 maintenance facility, in the yard, as well as the  
15 first two segments, we were able to test up to the  
16 area of the sinkhole.

17                  So that would have been pretty much the  
18 beginning of the testing commissioning period.  
19 Again, if I recall properly, we were pleased,  
20 actually pleased with the situation at that point  
21 in time.

22                  ANTHONY IMBESI: And so you talked  
23 about the testing and commissioning. Can you speak  
24 to us about the LRV production itself? Where was  
25 that at, at that point in time?

1                   PAUL TETREAUULT: So components of the  
2 LRV were -- some of the components were produced in  
3 France. Some of the components were produced in  
4 the United States. And of course the final  
5 assembly, the assembly of the vehicles was done at  
6 the maintenance facility.

7                   So basically, Alstom had to transfer  
8 the technology, or the know how, transfer the know  
9 how. They had to hire people in Ottawa. They had  
10 to train these people as, you know, vehicle  
11 assemblers and technicians.

12                   They had to bring in experienced  
13 quality people and they had to bring in experienced  
14 methods people, or industrial engineering folks.  
15 They had to set up the assembly process, they had  
16 to bring in the tooling in order to do that. They  
17 had to duplicate tooling from other assembly sites.  
18 And they did all that.

19                   There was a point in time where we felt  
20 that they were not investing enough money and  
21 effort upfront to set up that process. And Jacques  
22 Bergeron, myself, and Alex Turner went to meet the  
23 management of Alstom at their facility in New York.

24                   And we met with their management and we  
25 made our case. And we asked them to increase the



1 effort, increase the investment, because we felt  
2 that if they did not, the schedule may be in  
3 jeopardy.

4           And Alstom responded very favourably,  
5 and I'm pleased to say that they did make their  
6 transfer of technology and training programs much  
7 more robust in order to be able to assemble the  
8 vehicle successfully in Ottawa.

9           So what I'm saying is that there were a  
10 few bumps in the road and there always is in these  
11 situations, and these projects. But they were  
12 very, very responsive.

13           ANTHONY IMBESI: So you've indicated  
14 what you had done and that you felt they were  
15 responsive. But I'd just like to understand what  
16 did you feel was lacking then that they  
17 subsequently addressed?

18           PAUL TETREAULT: They weren't  
19 mobilizing -- they weren't -- they weren't putting  
20 enough manpower, or people power into the work.  
21 Now when I say "people power", I'm not talking  
22 about the guy or the gal who is, you know,  
23 assembling something in the vehicle.

24           It's more the know how, okay? And the  
25 know how is the logistics. It's the sequencing of

1 the work. It's the how to put it together. This  
2 is a huge vehicle. This vehicle has probably 4,000  
3 components.

4 And there's a lot -- there's a  
5 logistical way and a logical way to put it  
6 altogether so that it's efficient.

7 So they underestimated the effort  
8 required to transfer the technology, from France  
9 and the U.S. into Ottawa.

10 So that transfer of technology entailed  
11 know how, it entailed training, it entailed the  
12 duplication of tooling, which is a cost, right?  
13 These are huge, huge jigs and workstations.

14 And it's also bringing in experienced  
15 people into Ottawa, to train the new employees in  
16 Ottawa in terms of how to build these vehicles.

17 So, you know, at the top level it was a  
18 lack of investment in the transfer of technology  
19 that was required at the time. And that translated  
20 into logistics, parts, training people, methods,  
21 quality control, all of those elements that you  
22 need to manufacture successfully.

23 ANTHONY IMBESI: Do you recall when --  
24 I'm sorry, continue.

25 PAUL TETREAULT: And the reason why we

1     intervened was because some of us had previous  
2     transfer of technology experience. And we knew  
3     that the effort was greater than what was planned  
4     or what was provided at the time.

5             ANTHONY IMBESI: Do you recall when you  
6     would have gone to New York with Mr. Bergeron to  
7     address this issue?

8             PAUL TETREAULT: I think, I think it  
9     was February or March of 2015. But I'm not sure.

10            ANTHONY IMBESI: No, I appreciate that.

11            PAUL TETREAULT: There will be a record  
12     of it somewhere in the project, but it was seven  
13     years ago so.

14            ANTHONY IMBESI: While we're on the  
15     topic of Alstom and the manufacturing. Do you  
16     recall a transfer of the manufacturing or the  
17     assembly of the first two prototype vehicles to  
18     Ottawa ultimately from Hornell?

19            PAUL TETREAULT: Correct. Absolutely.  
20     Two were built, yes. Again, they took, you see  
21     what they did there, they took the technology from  
22     France and that technology had to be developed.

23            So what they did, is they developed  
24     that technology in Hornell with the experienced  
25     people that they had there, and they transferred

1 the two first prototypes to Ottawa, absolutely. I  
2 do recall.

3 ANTHONY IMBESI: Right. Was the  
4 intention for those prototypes to have been  
5 assembled in Hornell originally?

6 PAUL TETREAULT: I believe so.

7 ANTHONY IMBESI: Do you recall then why  
8 they transferred the assembly to Ottawa instead of  
9 following through with that in Hornell?

10 PAUL TETREAULT: Yes, I do. It was the  
11 Canadian content requirements and the  
12 interpretation of the Canadian content  
13 requirements.

14 If I recall correctly, Alstom somewhat  
15 misinterpreted the Canadian content requirement.  
16 They saw it as 25 percent aggregate, whereas the  
17 actual requirement was on a per vehicle basis.

18 So being on a per vehicle basis that  
19 required the transfer of those prototypes to Ottawa  
20 in order to meet the Canadian content requirements.

21 ANTHONY IMBESI: Did the transfer have  
22 anything to do as well with schedule mitigation?  
23 Or to your knowledge was it strictly related to the  
24 Canadian content?

25 PAUL TETREAULT: To my recollection, it

1 was strictly related to the Canadian content.

2 ANTHONY IMBESI: And so the two  
3 prototypes were originally going to be assembled or  
4 built in Hornell, they were transferred and  
5 ultimately done in Ottawa?

6 You had mentioned that initially you  
7 had had some concerns with Alstom's involvement in  
8 Ottawa, some of what they had committed to that  
9 facility?

10 Were there any concerns then with the  
11 construction of the first prototypes with the way  
12 that Alstom approached that in Ottawa?

13 PAUL TETREAULT: Not to my  
14 recollection.

15 ANTHONY IMBESI: And was the initial  
16 intention then with the prototypes for those to  
17 undergo validation testing before the entire fleet  
18 was assembled in Ottawa?

19 PAUL TETREAULT: No, that's done in  
20 parallel. You know, it's done in parallel. It is  
21 a practical tool.

22 The timelines of projects do not allow  
23 you to do that, where, in the automotive industry,  
24 for example, you will develop a vehicle, you will  
25 prototype it, you will test it and then you will

1 put it in production three years later.

2 In the transit industry, you can't do  
3 that, because the projects are too short. So you  
4 build your prototypes, you start testing your  
5 prototypes, and you continue your production line.  
6 If you need to modify, you modify as you go.

7 So if the testing of the prototypes  
8 discovered elements that needed to be changed, you  
9 would implement those changes in-situ, in the  
10 production line as you progressed in time.

11 ANTHONY IMBESI: So is there anything  
12 unique then about those being referred to as  
13 prototypes, or are they essentially then the first  
14 two LRVs that are constructed in a line of several  
15 LRVs?

16 Is there anything specific done to  
17 those prototypes in terms of testing or anything  
18 else prior to the commencement of the mass assembly  
19 of the remainder of the fleet?

20 PAUL TETREAUULT: There is some  
21 qualification testing that is done or type testing  
22 that is done. That was done to vehicles 1, 2 and  
23 3.

24 ANTHONY IMBESI: Can you refer to the  
25 two different tests that you referred to, what were

1 those called?

2 PAUL TETREAULT: Qualification testing  
3 or type testing.

4 ANTHONY IMBESI: Type testing.

5 PAUL TETREAULT: So qualification or  
6 type testing is "one of" testing.

7 ANTHONY IMBESI: When you say one of,  
8 do you mean the specific component or the LRV in  
9 its entirety?

10 PAUL TETREAULT: No, a component.

11 ANTHONY IMBESI: Okay.

12 PAUL TETREAULT: I'll give you an  
13 example. Let's take the suspension. So because  
14 the vehicle goes faster, you need a more robust  
15 suspension. So they would engineer that suspension  
16 to be more robust, but what they would do is take  
17 that suspension and they would put it through a  
18 fatigue test.

19 A fatigue test is cycling that  
20 suspension up and down up and down left and right,  
21 in all the different movements that suspension can  
22 make to simulate, for example, five years,  
23 10 years, 15 years of service.

24 Typically what we would do is, you  
25 would do maybe 1.5 million cycles. So you would

1 put the suspension into a test jig that would  
2 simulate the movement of the suspension.

3 And run it for one and a half million  
4 cycles. Then do a forensic analysis of it to  
5 determine whether or not there's any fatigue.  
6 Fatigue being cracks, or degradation that would not  
7 allow the vehicle to continue.

8 You would look at the wear and tear so  
9 you can determine what the maintenance cycles would  
10 be for this particular suspension. So that would  
11 be an example of type testing or qualification  
12 testing that you typically would do on maybe the  
13 first vehicle or the second vehicle.

14 And the reason why you're doing this  
15 type of testing is because, as we described -- as  
16 we spoke earlier, there are changes to the  
17 platform, making it different than what it was  
18 before.

19 So if it's anything different than what  
20 was before, that element of the vehicle is not  
21 service-proven. So if it's not service-proven it  
22 has to go through a rigorous qualification and type  
23 testing regime.

24 ANTHONY IMBESI: So you've gotten on to  
25 the next question I was going to ask you then. So



1 the specific components of the vehicle then that  
2 are subject to the qualification of a type testing,  
3 that would have been focused on the modifications  
4 to the specific vehicle for this project?

5 PAUL TETREAULT: That is correct.

6 ANTHONY IMBESI: And you mentioned the  
7 suspension then. Do you have a recollection of any  
8 other items that may have been included in that?

9 PAUL TETREAULT: Oh, there were changes  
10 to the motors. Changes to the gearbox, the  
11 suspension. Those would be the main areas. There  
12 were changes to the electrical system because the  
13 vehicles, the vehicles had to sustain certain  
14 environmental conditions.

15 And what I mean by environmental is  
16 heating. For example, with all the doors open at  
17 minus 30, you had to be able to sustain an interior  
18 temperature of let's say, for example, maybe  
19 12 degrees or 14 degrees.

20 So there were additional heating and  
21 ventilation elements that were put into that  
22 platform that had not been there before. There  
23 were structural components, because the structural  
24 capability of a North America vehicle is much  
25 higher than a European vehicle.

1                   And by structural, I mean what they  
2 call crash worthiness. So in terms of crash  
3 worthiness, the North American requirements are  
4 about four times higher than what European  
5 requirements are. So that means that the structure  
6 of the car body has to be much more robust. And  
7 that has to be tested.

8                   So there's crash worthiness testing,  
9 and the way they do that is through a process they  
10 call compression testing.

11                   So what they do is they take the frame  
12 of the vehicle, and they compress that frame to the  
13 tune of 800,000 pounds, because 800,000 pounds is  
14 the requirement here in North America. Whereas,  
15 the European requirement is roughly 200,000 pounds.

16                   So, yeah, substantial changes to the  
17 vehicle that all have to be tested and rigorously  
18 qualified in order to be implemented into the final  
19 product.

20                   ANTHONY IMBESI: Did all that testing  
21 proceed as planned to your recollection?

22                   PAUL TETREAUULT: You know, it actually  
23 was great, because it actually went quite well.  
24 Like I said, Alstom, you know, I worked for  
25 Bombardier for 28 years, Bombardier transportation,

1 great company. But what I saw from Alstom was  
2 absolutely world class in terms of engineering.  
3 And I can't say anything negative.

4 They were excellent in terms of their  
5 engineering, they were excellent in terms of the  
6 design of the car, excellent in terms of the  
7 rigorous testing, qualifications of the  
8 componentry. We had certain tests that had to be  
9 done, certain milestones that had to be met, and we  
10 were successful.

11 You know, by the way, there was also an  
12 independent review of this during the project. I'm  
13 giving you my point of view or my opinion, or my  
14 recollection, but there was also a third party  
15 independent review of this project.

16 There was also provincial review,  
17 because there was some provincial money involved  
18 here, I believe. There was a person from the  
19 province, there was a representative from the  
20 Province of Ontario who acted as an overview and  
21 would attend the monthly project meetings.

22 ANTHONY IMBESI: Who would have done  
23 the independent review that you mentioned?

24 PAUL TETREAUULT: The name of the  
25 individual, the first name of the individual was

1 Crawford.

2 ANTHONY IMBESI: Are you speaking about --

3 PAUL TETREAULT: I'm trying to remember  
4 his last name.

5 ANTHONY IMBESI: Are you speaking of  
6 Crawford Currie as the lender's technical advisor?

7 PAUL TETREAULT: Yes. Yes, Crawford  
8 Currie.

9 Crawford Currie would attend the  
10 project once a month and spend two days reviewing  
11 the status of the project, in order to certify the  
12 application for payment or the payment application,  
13 yes.

14 And of course the status of the  
15 vehicles and the status of the train control was  
16 part of that view.

17 ANTHONY IMBESI: Could you just explain  
18 for us then what that review encompassed?

19 PAUL TETREAULT: The overall review?

20 ANTHONY IMBESI: The one done by the  
21 LTA, the lender's technical advisor. So Mr. Currie  
22 or anyone else who performed that on his behalf?

23 PAUL TETREAULT: Okay, so Mr. Currie  
24 would typically come to the project. He was based  
25 in Britain, based in the UK, so he would typically

1 fly over once a month. He would spend two days  
2 walking through the project, literally walking  
3 through the project, reviewing the construction,  
4 reviewing the progress, reviewing the payment  
5 application.

6 So in terms of doing that, he would  
7 also review the status of Alstom's work at the  
8 maintenance facility. He would walk through the  
9 maintenance facility, he would be able to see the  
10 vehicles and their states of assembly or their  
11 progress in assembly.

12 He would ask for, you know, test  
13 reports; he would ask for whatever he felt was  
14 necessary, and we provided whatever he needed so  
15 that he could certify the progress of the project,  
16 and also certify the payment applications that  
17 OLRT-C was making.

18 ANTHONY IMBESI: So who would have been  
19 involved then in his project visits? Would you  
20 have been involved personally?

21 PAUL TETREAULT: I was only involved to  
22 the extent it involved Alstom and Thales. So  
23 typically the person who escorted Mr. Crawford  
24 through the two days of review was the deputy  
25 project director, who was Humberto Ferrer.

1 F-E-R-R-E-R.

2 But, like I said, they would bring me  
3 in for that specific part of it, right?

4 ANTHONY IMBESI: For the part involving  
5 the signalling and rolling stock?

6 PAUL TETREAUULT: That's correct. So if  
7 that involved a visit to the maintenance facility  
8 where they would produce the cars, typically I  
9 would accompany them for that two-hour visit or  
10 whatever period of time it was.

11 And there was also, at the end of the  
12 two-day walk-through period or review period,  
13 physical review period, there was also a sit down  
14 meeting that would last probably another half a  
15 day.

16 And if they had questions relating to  
17 the Alstom, or relating to the Thales part of the  
18 project, they would ask me to come in and attend  
19 that part of the meeting.

20 ANTHONY IMBESI: And what was their  
21 focus? What were they interested in? Was it the  
22 progression of the construction or the assembly  
23 depending what component they're looking at?

24 PAUL TETREAUULT: Yes, it was the  
25 progression of the assembly, the progression of the

1 vehicles.

2 But also they put a lot of effort into  
3 reviewing the progression, the component testing,  
4 the qualification testing, the vehicle testing, you  
5 know, equal -- I could say, equal emphasis was put  
6 on the testing as well as the actual, physical  
7 progress of assembling the vehicles.

8 ANTHONY IMBESI: And was that interest,  
9 was that on the progression or the status of the  
10 testing, or was it on the specific nature of the  
11 testing itself?

12 Were they concerned with what testing  
13 was being done, or just whether the testing was  
14 progressing in accordance with what everybody's  
15 plan was?

16 PAUL TETREAUULT: It's a little bit of  
17 both, to be honest with you. Because they, Mr.  
18 Currie understood that the developmental elements  
19 of the vehicle had certain type testing that were  
20 important milestones in proving out the design of  
21 that vehicle.

22 So he put emphasis on that, as well as  
23 the standard, you know, serial testing.

24 So it was both. In my opinion, he  
25 understood rolling stock vehicles and systems

1 integration quite well.

2 ANTHONY IMBESI: Was the City involved  
3 at all in these site visits or the meeting that you  
4 spoke about as well that accompanied those?

5 PAUL TETREAULT: No, this was OLRT's  
6 application for payment to RTG, which was the  
7 concession. So the City would not be involved.  
8 Although, the City would request visits to the  
9 Alstom facility from time to time and of course we  
10 would accommodate them so they could view the  
11 progress and walk through the progress and explain  
12 the progress.

13 The City really didn't have someone who  
14 was experienced in rolling stock vehicles and  
15 systems integration until much later in the  
16 project, where they hired a gentleman by the name  
17 of Michael Morgan.

18 ANTHONY IMBESI: How often would the  
19 City request those visits; or how often would they  
20 attend, for example, at Alstom's facility to the  
21 best of your recollection? Was this on a regular  
22 basis or just periodically?

23 PAUL TETREAULT: Periodically.

24 ANTHONY IMBESI: A few times a year,  
25 every few months kind of thing?



1                   PAUL TETREAULT: Well, it would be a  
2 few times a year initially. But then, as we  
3 progressed in the project, of course, it became a  
4 little bit more involved.

5                   I remember, like my recollection was  
6 that when Michael Morgan came on board, there was  
7 more interest and Michael was interested to view  
8 the progress on a much more regular basis.

9                   And I think we agreed to a walk through  
10 every couple of weeks at that point in time, if I  
11 recall properly.

12                  And you know, the collaboration we had  
13 with the City, despite the fact that they were not  
14 experienced or they didn't have people who were  
15 experienced in mass transit or systems integration,  
16 the collaboration level with the City was very  
17 good. Everybody I worked with at the City was  
18 extremely professional in all respects.

19                  ANTHONY IMBESI: And so you mentioned  
20 Mr. Morgan, who did have some of this rolling stock  
21 experience, and then you had mentioned at some  
22 point following his involvement there were visits  
23 that started to occur every few weeks.

24                  Do you recall when approximately that  
25 would have been, when that started to become more

1 regular?

2 PAUL TETREAULT: I would say the period  
3 starting early 2017. Just before I left, 3,  
4 4 months before I retired, the emphasis became much  
5 greater on the vehicles and the progress of the  
6 rolling stock and the systems works.

7 And I think that's, again, because they  
8 hired the right guy or somebody who understood  
9 rolling stock and systems integration. And again,  
10 not to say prior to that they weren't interested,  
11 they were, but it was treated much more as a  
12 construction project than a mass transit project.

13 ANTHONY IMBESI: In terms of the  
14 production or assembly of the rolling stock and  
15 ultimately the testing and commissioning, do you  
16 recall there being any delays to those components  
17 during your time on the project?

18 PAUL TETREAULT: There were some minor  
19 delays; there were some minor supply issues. But,  
20 again, you know the delays and the minor  
21 procurement or supply issues were identified, they  
22 were mitigated, there were work around plans.

23 And, again, Alstom were very good in  
24 collaborating with us to find mitigations in the  
25 way that we would not -- we would not affect the

1 overall project schedule.

2           For example, they had initially planned  
3 to have only one production shift at the facility.  
4 And as a result of some supply problems at the  
5 time, things started to fall behind. And they were  
6 very proactive in adding a second shift to the  
7 facility so that we could increase the production  
8 rate substantially in order to mitigate the loss of  
9 schedule due to the supply problem that we had at  
10 the time.

11           So again, there were some bumps along  
12 the road, but Alstom were very proactive; they  
13 mitigated. You know, there was a desire for  
14 everybody on the job, Alstom, Thales, Dragados,  
15 EllisDon, SNC-Lavalin, because it was our Nation's  
16 Capital and because, I don't know, call it pride  
17 maybe, everybody wanted to do a good job.

18           There was a bona fide effort by  
19 everybody. The amount of collaboration on this job  
20 was unbelievable. I've never seen better  
21 collaboration by separate companies or separate  
22 entities than I saw on the Ottawa Light Rail  
23 Project.

24           ANTHONY IMBESI: Did you have a direct  
25 involvement in the scheduling of Alstom and Thales?

1 PAUL TETREAULT: Not personally. My  
2 contract manager did, and our scheduler did. I had  
3 the overview, I would look at the overall schedule,  
4 I would obtain status of the overall schedule, and  
5 if I had concerns, I would delegate to these people  
6 to get in there and work with Alstom to overcome  
7 it.

8 ANTHONY IMBESI: Would it have been the  
9 same person --

10 PAUL TETREAULT: I did review it.

11 ANTHONY IMBESI: Sorry, you said you  
12 did review?

13 PAUL TETREAULT: I would review it on a  
14 monthly basis, not on a continuous basis but a  
15 monthly basis, at least.

16 So every month, for example, there's a  
17 production schedule, and the production schedule  
18 shows the position of the vehicle in such an  
19 assembly station. And that's what I would use to  
20 gauge whether or not we were following the overall  
21 program or not.

22 And if we have saw a slippage there, we  
23 would work with Alstom to mitigate, we would work  
24 with Thales to mitigate and we did. We did.

25 ANTHONY IMBESI: So when you talk about

1 production schedule, that's a schedule that's  
2 produced by Alstom to OLRT-C, showing the status  
3 and the progression of their production?

4 PAUL TETREULT: Yes. And you would  
5 also see that in the overall project schedule that  
6 OLRT-C would be providing to the City, on a monthly  
7 basis because that's -- the vehicle assembly  
8 schedule was part of the overall project schedule.

9 ANTHONY IMBESI: Right.

10 PAUL TETREULT: Alstom provided  
11 updates --

12 [Court Reporter intervenes for  
13 clarification].

14 PAUL TETREULT: Alstom would provide  
15 updates to us on a monthly basis and we would  
16 incorporate those updates into our overall project  
17 schedule, which was submitted to the City on a  
18 monthly basis.

19 ANTHONY IMBESI: And in terms of those  
20 that you had just indicated you had delegated some  
21 of these, the more day-to-day aspects of that in  
22 terms of managing the Alstom and Thales contracts  
23 and dealing with the scheduling.

24 Was it the same person dealing both  
25 with Alstom and Thales, or were there different

1 people managing the different subcontracts?

2 PAUL TETREAULT: No. This was the same  
3 person dealing with both.

4 ANTHONY IMBESI: And who would those  
5 people have been, to your recollection?

6 PAUL TETREAULT: The people, the person  
7 who was managing the -- you're asking the people  
8 who were managing the Alstom and Thales  
9 subcontract; is that the question?

10 ANTHONY IMBESI: Yes, in dealing with  
11 the scheduling.

12 PAUL TETREAULT: Okay, so the  
13 individual who was responsible for that, for us,  
14 was a gentleman by the name of Alex Turner. He was  
15 a contract manager. Alex reported to me.

16 And, of course, Alex would work very  
17 closely with technical people. So people in  
18 Jacques Bergeron's group. So the engineers would  
19 take care of the technical, the purely technical,  
20 and Alex Turner would take care of everything else  
21 being commercial, schedule, logistics, etcetera,  
22 etcetera.

23 ANTHONY IMBESI: So it's about 10:30.  
24 Perhaps we'll take a 15-minute break here and we'll  
25 come back and finish off the interview.

1 -- RECESS TAKEN AT 10:28 --

2 -- UPON RESUMING AT 10:45 --

3

4 ANTHONY IMBESI: Thank you. I'd just  
5 like to talk a little bit now about the Alstom and  
6 Thales subcontracts themselves.

7 Were you involved in the negotiation or  
8 preparation of either of those subcontracts?

9 PAUL TETREAUULT: No, I was not. That  
10 happened prior to me being hired.

11 ANTHONY IMBESI: Okay. Do you know who  
12 would have been involved in their negotiation and  
13 drafting?

14 PAUL TETREAUULT: Let me think. Well,  
15 from SNC-Lavalin, I think it may have been Hannelie  
16 Stockton (ph) -- I believe it's Stockton, her name.  
17 She was the vice-president of legal.

18 I know she's still with SNC-Lavalin,  
19 although it may not have been her personally, I'm  
20 sure it would have been one of her attorneys that  
21 would have been. Possibly Aaron Lal.

22 ANTHONY IMBESI: What about in terms of  
23 the negotiation of the commercial or  
24 project-specific terms?

25 So leaving aside the legal component of

1 it, do you know who would have been involved in  
2 dealing with those?

3 PAUL TETREAULT: I know that Daniel  
4 Botero, who was with Dragados, was very much  
5 involved in the negotiation of some of the  
6 commercial elements.

7 Because I remember having questions  
8 about milestones, and as such, cash flow milestones  
9 and Daniel Botero was able to respond to most of  
10 them. That was Dragados.

11 From SNC-Lavalin, I'm not sure. It may  
12 have been Ron Aitkin. But again, you know, by the  
13 time I got hired and I was brought on board, that  
14 was February of 2013, and all that had been done  
15 before me.

16 ANTHONY IMBESI: No, I certainly  
17 appreciate that.

18 So when you came on the subcontracts,  
19 I'm speaking specifically of Alstom and Thales  
20 those were already in place. Would you have  
21 reviewed those contracts in terms of starting your  
22 role?

23 PAUL TETREAULT: I did not review them  
24 in detail. They would have been -- the management  
25 of those two contracts was with Alex Turner, so I



1 was aware of the contracts.

2 I was aware of the content, the general  
3 content of the contracts, the general requirements  
4 of the contracts, but I did not perform a detailed  
5 read of those contracts.

6 ANTHONY IMBESI: And as the project  
7 unfolded, and I appreciate that there were others  
8 that you were supervising that were really managing  
9 these contracts, but did you become aware or have  
10 any concerns about any potential misalignment in  
11 those two subcontracts, whether it's in terms of  
12 the specific deliverables or the timing for  
13 performance?

14 PAUL TETREAUULT: There were some timing  
15 issues in terms of deliverables where there were  
16 obligations put on OLRT and subsequently on the  
17 City to make certain selections in terms of  
18 features, textures, colours, floor coverings, or  
19 elements of that nature that were really, really  
20 early in the process.

21 Well, in my experience, way too early  
22 in the process. And I was concerned that Alstom  
23 were going to use that to claim delays and stuff  
24 like that. But again, we were able to, with Alstom  
25 and with the City, and with RTG we were able to get

1 through all of that.

2 So there were some gaps. I know for a  
3 fact that the contracts with Alstom and Thales were  
4 not back-to-back with the consortium agreement or  
5 the construction contract. There were some, you  
6 know, peculiar requirements, but again we  
7 identified them, we managed them, we dealt with  
8 them.

9 ANTHONY IMBESI: And so you had  
10 mentioned a component of Alstom's subcontract and  
11 you mentioned I think it was a number of  
12 design-related issues.

13 Are those all part and parcel of what  
14 we've heard described as the design book?

15 PAUL TETREAULT: That's correct.

16 ANTHONY IMBESI: And so it would be, so  
17 in your view or your experience, those decisions  
18 were required to be made earlier on than is typical  
19 or practical on these types of projects; is that  
20 what you've indicated to us?

21 PAUL TETREAULT: That's correct.

22 ANTHONY IMBESI: And --

23 PAUL TETREAULT: I would put the caveat  
24 that despite the fact that they were earlier in the  
25 design process than normal, the caveat I'm putting

1 forward is we were able to identify them, we were  
2 able to mitigate them. And it did not have an  
3 effect on the overall schedule.

4 ANTHONY IMBESI: Right. Did the making  
5 of those selections finalizing that design book,  
6 did that initially have a schedule impact that was  
7 subsequently mitigated? Or you're saying it didn't  
8 have an impact at all in terms of the schedule?

9 PAUL TETREAUULT: In the opinion of  
10 Alstom, it had an impact that was subsequently  
11 mitigated.

12 In my opinion, it did not have an  
13 impact.

14 ANTHONY IMBESI: At all, it didn't have  
15 an impact at all on the scheduling?

16 PAUL TETREAUULT: Let me give you an  
17 example. If the requirement was to determine the  
18 colour of the flooring six months after notice to  
19 proceed, when the flooring would only be  
20 implemented a year and a half later, and you try to  
21 argue that because I didn't choose the colour of  
22 the flooring my vehicles are going to be late, I'm  
23 going to challenge your argument.

24 And I'm going to demonstrate to you  
25 that you really don't have an argument.

1                   How can I say? Some of these  
2 requirements were put up really early in the  
3 process, too early in the process and, you know,  
4 from a contract management point of view, if you  
5 wanted to argue them, you could argue them.

6                   But the argument would have no real  
7 value at the end of the day. And we were able to  
8 show them that, hey, you know, if you're going to  
9 tell me that -- because I didn't choose the colour  
10 of the floor my vehicles are going to be late, I am  
11 going to put the onus on you to demonstrate that to  
12 me in great detail.

13                   And I've built, I've been involved  
14 probably in building 10,000 railcars in the last  
15 40 years, so you better have a good argument, pal.

16                   ANTHONY IMBESI: In terms of any  
17 decision making with respect to the design that  
18 might have been delayed, your view is that they  
19 were not of sufficient importance to have an impact  
20 on the actual production and assembly of the  
21 vehicles?

22                   PAUL TETREAUULT: Exactly what I was  
23 trying to say, and thank you for saying it.

24                   ANTHONY IMBESI: And you had mentioned,  
25 as well, and I don't know if that encompasses what

1 we've just talked about, but you mentioned that the  
2 subcontracts did not appear to be back-to-back with  
3 the Project Agreement?

4 Are there any other aspects of any  
5 misalignment that you can recall that you can just  
6 explain for us?

7 PAUL TETREAULT: No, not really. That  
8 was about it. You know, there were some progress  
9 requirements that were a little bit too early, a  
10 little bit too early for the City, a little bit too  
11 early for OLRT-C. But at the end of the day, we  
12 were able to work through them.

13 We were able to, you know, provide some  
14 timelines and get Alstom to agree to later decision  
15 points.

16 And you know, like I said, at the end  
17 of the -- in any relationship, you have your  
18 discussions, you have your, you know, you don't  
19 always see eye to eye; you don't always agree.

20 But with Alstom we were able to sit  
21 down with their management and able to walk through  
22 the issues. We had a very collaborative  
23 relationship.

24 ANTHONY IMBESI: And so the examples  
25 that we just touched on, I think, you know, those

1 seem to relate to OLRT-C, RTG's obligations, the  
2 City's obligations to make certain decisions.

3 Did you observe or appreciate any  
4 issues as between the Thales subcontract and the  
5 Alstom contract, given the interfacing that's  
6 involved between the two parties?

7 PAUL TETREAULT: We had to hold their  
8 hand a little bit technically from time to time.  
9 Jacques Bergeron would have to involve himself.

10 You know, I remember one instance  
11 where, you know, Jacques pulled Thales into the  
12 production facility and Hornell on the first  
13 vehicles in order to do a wire to wire  
14 verification.

15 And I think if I recall properly,  
16 there's like 160 wire connections that have to be,  
17 you know, specifically verified and certified.

18 So, you know, you'd have to bring them  
19 together every once in a while. They would kind of  
20 stray and we would have to bring them together.

21 We were successful in doing that.  
22 Again, typical contract management, subcontract  
23 management, nothing, you know, no major issues, no  
24 litigation, no major claims on either side at that  
25 time. I think the claims, if any, came later, but

1 at that time, no.

2 ANTHONY IMBESI: So specifically,  
3 turning to Alstom's subcontract, were you familiar  
4 with the provision or aware of the provision that  
5 required OLRT-C, obviously through Thales, to  
6 provide a finalized CBTC specification by  
7 April 26th, 2013?

8 PAUL TETREAULT: I believe so, yes.  
9 Which was totally -- that again, you know, in my  
10 opinion, it's totally unrealistic. It cannot be  
11 done.

12 ANTHONY IMBESI: Right, and can you  
13 explain --

14 PAUL TETREAULT: That obligation --

15 ANTHONY IMBESI: Sorry, continue.

16 PAUL TETREAULT: That obligation could  
17 not be done within that timeline.

18 ANTHONY IMBESI: Can you just explain  
19 for us why that is?

20 PAUL TETREAULT: In order to arrive at  
21 that specification, Thales needs to fully  
22 understand all the performance requirements of that  
23 vehicle. And that vehicle not being fully  
24 developed cannot allow Thales to understand that at  
25 that point in time.

1           It also requires that Alstom understand  
2 the intricate functionality of the CBTC system that  
3 Thales will be providing.

4           That timeline does not allow for that  
5 exchange of information, and the development  
6 required to arrive at that integrated specification  
7 within that timeframe, that timeline.

8           So, for example, if the vehicle needs  
9 to go 90 miles an hour, Alstom would have to  
10 develop a bigger motor and a bigger gearbox.

11           By that date in 2015, they had not  
12 developed the specifications of that motor and that  
13 gearbox adequately to provide Thales with the  
14 information that they needed to get back to Alstom  
15 with the specification.

16           So in order to do that, you need to do  
17 -- you need to understand what the speed profile is  
18 going to be, what the acceleration profiles are  
19 going to be, what the braking profiles are going to  
20 be, etcetera, etcetera.

21           Now, you can do it theoretically. You  
22 can say, here is what we think we're going to do.  
23 We're going to be able to accelerate this vehicle  
24 at 2.2 kilometers per second. We're going to brake  
25 the vehicle at 2.5 kilometers per second, and we're



1 going to brake the vehicle at 4 kilometers per  
2 vehicle in emergency braking; and here are the  
3 curves.

4           You can do that, with the understanding  
5 that as you finalize your engineering, in both  
6 cases, you will further refine the design. So  
7 that's design progression.

8           What I'm saying is, within that time  
9 period, you cannot freeze at the time. That design  
10 period, to me, that design period is a year and a  
11 half of honing the design and talking to each  
12 other, and exchanging information.

13           ANTHONY IMBESI: Would that timeframe  
14 --

15           PAUL TETREAULT: On a --

16           ANTHONY IMBESI: I'm sorry, continue.

17           PAUL TETREAULT: I just wanted to add  
18 that this is a safety system, right? This is a  
19 system that has to perform and degrade without  
20 causing any injury or any harm to any human beings.  
21 So this is taken very, very, very seriously.  
22 Extremely seriously.

23           For example, in the industry, if  
24 there's a fire on the transit vehicle, there has to  
25 be a way to address the specifications regarding

1 toxicity, fire and smoke are of a higher degree  
2 than even the aviation industry. Because in the  
3 aviation industry they figure they're not going to  
4 egress.

5 But in transportation you have to be  
6 able to egress. If that train stops in the tunnel  
7 because there's a fire, first of all, the train  
8 control has to be able to identify that there's a  
9 problem.

10 Secondly, it has to stop the train in a  
11 certain position, so that the people can egress and  
12 get out safely.

13 Those are all elements of design that  
14 are taken into account, and that doesn't happen  
15 overnight.

16 ANTHONY IMBESI: You mentioned the  
17 design period, and you had said, you know  
18 approximately a year and a half.

19 Does that design period, is it longer  
20 because we're dealing with a vehicle that was new,  
21 that needed to be developed based on further  
22 specifications and requirements over and above what  
23 the existing vehicle was?

24 I guess my question is, what would the  
25 period be if you were dealing just with a

1 service-proven Alstom vehicle, you know, as the  
2 Citadis as seen in Europe, versus dealing now with  
3 a vehicle that has significantly modified  
4 components?

5 Does the design period change given  
6 there were additional requirements that needed to  
7 be developed?

8 PAUL TETREAULT: Yes, sir, absolutely.  
9 Now if you were going to do this with a vehicle, a  
10 service-proven existing vehicle with a  
11 service-proven existing train control system, the  
12 only element that you would have to deal with is  
13 the actual configuration of the guideway or the  
14 track, right?

15 Because everything between the train  
16 control and everything between the vehicle has  
17 already been engineered, has already been proven,  
18 has already been tested, the functionality is  
19 well-known, and it is also, you know, safety  
20 certified. So I would be --

21 So is it half the time? Is it a third  
22 of the time? Again, it depends on the  
23 configuration of the system, the length of the  
24 system, how many stations, you know, what the  
25 travel times will be. Those factors are -- those

1 factors change in every system despite the fact  
2 that technology may not change.

3 ANTHONY IMBESI: Right. So in your  
4 view then, that requirement that was imposed in  
5 Alstom's subcontract, that just didn't take into  
6 account the realities of the project, being the  
7 newly prescriptiveness of the system and the  
8 necessary process that has to be undertaken to get  
9 to the part where you can have a finalized design?

10 PAUL TETREAULT: That's correct. You  
11 know, despite the fact --

12 [Court Reporter intervenes for  
13 clarification].

14 PAUL TETREAULT: That is correct.  
15 Despite the fact that it was in the contract,  
16 anybody in the industry knew or would know that  
17 that requirement could not be met. Alstom knew it,  
18 Thales knew it and certainly I knew it. And  
19 others.

20 ANTHONY IMBESI: And others as well?  
21 I'm sorry, I cut you off.

22 PAUL TETREAULT: Yes, others such as  
23 Jacques, people who -- how can I say, people who  
24 have mass transit experience would know that that  
25 requirement could not be met.

1                   And even if Alstom would want to use it  
2 against us, but, no, you know, you're an expert in  
3 the field; you know better than this.

4                   You know, we're all experts in the  
5 field. We know better than this, we're going to  
6 work together, we're going to overcome this and  
7 we're going to end up producing a product that is  
8 successful to the needs of the project.

9                   Essentially, we got there, right? I  
10 mean, you know, we had those discussions; we had  
11 those big discussions.

12                  ANTHONY IMBESI: Did you have  
13 discussions with Alstom about that requirement, and  
14 how it wasn't feasible?

15                  PAUL TETREAULT: I did not personally  
16 have those discussions, but I'm sure Alex did, Alex  
17 Turner, who worked for me. I'm sure that others  
18 did have that.

19                  You know, again, the reality was that  
20 the time was progressing normally. I know  
21 we're -- with all due respect, I know you're  
22 focusing a lot on Alstom, you're focusing a lot on  
23 Thales, but I think the real, the real monkey  
24 wrench in all of this project was that unfortunate  
25 sinkhole.

1                   ANTHONY IMBESI: So when you were  
2 talking about the design period, you mentioned your  
3 hypothetical if you're using a service-proven  
4 vehicle with a service-proven signalling or train  
5 control system.

6                   How did you view the Thales CBTC system  
7 that was used for this project? Was that a  
8 service-proven system?

9                   PAUL TETREAUULT: The system is  
10 service-proven in terms of the technology. The  
11 technology of this system was developed in 1986.  
12 And it has had numerous worldwide implementations.

13                   The most well-known implementation is  
14 the Vancouver SkyTrain system, which is the longest  
15 driverless automated system in the world. It's  
16 43 kilometers long.

17                   So this technology was, this technology  
18 was basically what, 1986, or 25-year old  
19 technology. The hardware itself, you know, it's  
20 based on computers.

21                   You know, computer technology has  
22 changed, but the hardware itself is just, you know,  
23 better generations of hardware that was designed in  
24 the late '80s, where they were using 186 computers.  
25 And now the system has been upgraded to, believe it

1 or not, 386 computers.

2 The system is based on three computers  
3 on a transit vehicle that speak to each other, and  
4 they're constantly comparing data in terms of  
5 milliseconds, and that data is retransmitted back  
6 to a control centre.

7 The control centre basically analyzes  
8 the data, and this is all happening in  
9 milliseconds, and that determines the behaviour of  
10 the vehicle.

11 So that part of the technology is  
12 unchanged. What is changed is, I'm going to take  
13 this technology, and I'm going to apply it to a new  
14 vehicle that has different characteristics. So all  
15 of these characteristics have to be known and  
16 programmed in terms of acceleration, braking,  
17 degradation.

18 And when I say "degradation", it means  
19 if there's a problem with one of the motors, does  
20 the system keep going at a lower speed, etcetera,  
21 etcetera.

22 And then there's the guideway, the  
23 configuration of your transit system, which in any  
24 transit system they're all different. You know,  
25 the maintenance facility configuration is different

1 in every transit system. The alignment, right?  
2 Where the system goes is different in every transit  
3 system.

4 The curves, the separation between  
5 stations, the speed profiles, the desired trip  
6 time, all of that has to be considered and it is  
7 unique to every transit system.

8 So what I'm trying to say is, the  
9 technology itself is proven in terms of the train  
10 control, but it had to be adapted to a new vehicle  
11 that had to be developed and of course it had to be  
12 adapted to the actual geography of the Ottawa Light  
13 Rail Transit System.

14 ANTHONY IMBESI: Okay. And turning  
15 back, and I had mentioned to you that specific  
16 timing provision for the CBTC specification in  
17 Alstom's subcontract. And as I understand it, the  
18 contract provided that if that specification was  
19 not provided by that date, Alstom could impose its  
20 own design and work from that.

21 So what I'd like to understand from you  
22 is how the design evolution and integration  
23 proceeded on this project? Did Alstom go down that  
24 route in terms of imposing its own design, only to  
25 have to be modified down the line? Or how did that



1 progress to your knowledge?

2 PAUL TETREAULT: No, they did not at  
3 all. The design progressed collaboratively with  
4 Thales and Alstom throughout the period of time I  
5 was there. There was never any threat or any  
6 reference made to reverting to any other  
7 technology.

8 ANTHONY IMBESI: In terms of that  
9 evolving design or the integration, how does that  
10 work in practice? I understand there were various  
11 interface meetings? Were you involved in those?

12 PAUL TETREAULT: No, I was not  
13 involved. Those interface meetings would have been  
14 involved with Alex Turner, who was our contract  
15 manager who reported to me.

16 He would have attended all of those  
17 meetings, as well as the engineering folks that  
18 were involved, depending on whether it was --  
19 sometimes the subject would have been alignment,  
20 sometimes it would have been stations, sometimes it  
21 would have been vehicle performance.

22 Whatever the subject matter engineer  
23 would attend, depending on what the agenda would  
24 be, what the subject would be.

25 ANTHONY IMBESI: And to your knowledge

1 -- I'm sorry, continue.

2 PAUL TETREAULT: Those meetings, in  
3 other words, those meetings happened on a regular  
4 basis. I'm talking like as-needed, you know,  
5 they'd get together every week if they had to.  
6 Whatever was needed in terms of the project to  
7 progress the design at the time.

8 ANTHONY IMBESI: And in terms of the --  
9 please continue.

10 PAUL TETREAULT: A very normal process.  
11 A very normal process.

12 ANTHONY IMBESI: And in terms of the  
13 evolution of the design and the interfacing, were  
14 there retrofits that had to be undertaken on some  
15 of the LRVs?

16 PAUL TETREAULT: Not at the point where  
17 I had left, no. But would there be, absolutely.  
18 Absolutely.

19 ANTHONY IMBESI: Sorry, not at the  
20 point you --

21 PAUL TETREAULT: Not at the point when  
22 I left the project --

23 ANTHONY IMBESI: I see.

24 PAUL TETREAULT: -- there were no  
25 retrofits that I can recall. Because, again, we

1 were just starting some of the testing and  
2 commissioning.

3 Normally the testing and commissioning  
4 would reveal areas where you would have to make  
5 certain modifications and to your point, yes, that  
6 would cause retrofits to either the train control  
7 or the vehicle, depending on what the situation  
8 could have been at the time.

9 So typically in the new development,  
10 there can be many retrofits; it's not unusual.

11 ANTHONY IMBESI: Right. As I  
12 understand it, when certain retrofits are performed  
13 that may lead to certain testing having to be  
14 redone; is that correct?

15 PAUL TETREAULT: That is correct.  
16 Absolutely.

17 So if I need to make a change in  
18 software, to change some algorithms because the  
19 performance of a certain element of the vehicle is  
20 revealed to be a certain way in testing, then that  
21 software has to be modified.

22 And typically what they would do is,  
23 they would test it on a simulator, and they would  
24 test it off the vehicle.

25 They would implement the software in

1 the vehicle and then test it again in various  
2 scenarios, to make sure that the retrofit is  
3 adequate and safe. That is known in the industry  
4 as regression testing.

5 ANTHONY IMBESI: Right. And then so  
6 from that, is it when certain components are  
7 retrofitted that the testing needs to be redone?  
8 Or is it typically following any retrofit you need  
9 to repeat that aspect of testing that identified  
10 that issue?

11 PAUL TETREAULT: It depends whether  
12 it's hardware or software. In the case of  
13 software, the scenario I just explained. In the  
14 case of a component, it depends. It depends what  
15 the component is.

16 For example, if it's simply, you know,  
17 we don't like the driver's seat and the driver's  
18 seat needs to be, the angle needs to be changed by  
19 three degrees. Obviously that's a pretty  
20 straightforward element that does not require  
21 testing.

22 But if it has anything to do with the  
23 performance of the vehicle, or the safety of the  
24 vehicle, yes, it has to be tested.

25 So if you're going to modify the door

1 opening speed, let's say, we're going -- if we were  
2 to modify the door opening speed, that would have  
3 to be tested.

4 That would have to be tested to make  
5 sure that we're meeting the door opening and the  
6 door closing speed that we've agreed to, and it  
7 will also have to be tested for purposes of safety.

8 So you want to make sure that a child,  
9 you know, a child who has a backpack that has a  
10 strap that's, you know, flowing in the wind, when  
11 the doors close they don't trap that and don't drag  
12 the child along the platform or whatever the  
13 criteria may be.

14 And there is criteria for everything.  
15 There's absolute criteria for everything.

16 So if it involves anything that moves,  
17 anything that affects the performance of the system  
18 or the safety of the system, it has to be tested.

19 ANTHONY IMBESI: But you don't recall  
20 during your time there, there being extensive  
21 retrofits that were being undertaken on the fleet?

22 PAUL TETREAULT: No, not at the time.  
23 Because, again, by the time I left we were just at  
24 the beginning of the testing and commissioning  
25 process.

1                   ANTHONY IMBESI: That's when you expect  
2 some of these issues to be identified?

3                   PAUL TETREAULT: Absolutely, yes, at  
4 that point, yeah. That's -- when you get into that  
5 pyramid of system testing and systemwide testing,  
6 you will discover issues. Those issues need to be  
7 mitigated either through hardware or through  
8 software changes, yeah. It's not atypical.

9                   ANTHONY IMBESI: We had touched on this  
10 a little bit earlier today, but do you recall at  
11 any point in time, either Thales or Alstom falling  
12 behind schedule during your involvement?

13                  PAUL TETREAULT: Yes, they did fall  
14 behind. But not in materiality in terms of not  
15 meeting major milestones.

16                  So, you know, there's certain  
17 milestones, like you have to have the first car  
18 produced by a certain date, ten cars produced by a  
19 certain date; you've got to be able to be testing  
20 by a certain date; you have to be able to do this  
21 or that.

22                  In the micro activities leading up to  
23 the major milestones, there was some lateness and,  
24 you know, this is not untypical where you have  
25 hundreds and thousands of activities, and some are

1 late and they have to be mitigated.

2 They were mitigated. At the time I  
3 left the project, I had no reason to believe that  
4 Alstom or Thales would not be able to meet the  
5 revenue service date that we had, which was  
6 sometime in 2018, I believe. I forget.

7 ANTHONY IMBESI: Is it not the case  
8 that Alstom was looking to extend some of these  
9 milestones?

10 PAUL TETREAULT: Not the major  
11 milestones. Perhaps interim activities or  
12 subactivities, but not the major -- I don't believe  
13 so. I mean --

14 ANTHONY IMBESI: So you're --

15 PAUL TETREAULT: Any good subcontractor  
16 is going to try to get more time. Whether they  
17 need it or not, it's just the nature of commercial  
18 management, right? You give me more time to do a  
19 task, I'm going to take it.

20 And I certainly would try to argue for  
21 more time. I mean, that's not unusual behaviour.  
22 But you know, again, I mean I truly believe that  
23 had we not had the sinkhole, we would have made it.

24 ANTHONY IMBESI: Right. So you don't  
25 recall a request by Alstom for an extension to the

1 RSA date?

2 PAUL TETREAULT: I do not.

3 ANTHONY IMBESI: Okay.

4 PAUL TETREAULT: Honestly, no.

5 ANTHONY IMBESI: And so would you have  
6 been familiar with the schedules that were being  
7 put forward by Alstom, or would you only be  
8 familiar with those schedules that were accepted  
9 and then provided up to you along with the  
10 integrated schedule for OLRT-C?

11 PAUL TETREAULT: No, I would get  
12 involved in discussions with potential schedules,  
13 potential changes, potential scenarios. So, yeah,  
14 at the working level, I would be informed where  
15 things were going and how certain elements may be  
16 mitigated.

17 And I would obviously agree to them or  
18 disagree with them, and if I disagreed we would  
19 engage in further discussion if we were to mitigate  
20 what issues may have been to an acceptable level.

21 ANTHONY IMBESI: Do you recall whether  
22 Thales was granted an extension to some of these  
23 key milestones?

24 PAUL TETREAULT: No, I don't believe  
25 they were. I don't believe they were granted any



1 extension, up to and including April 2017.

2 ANTHONY IMBESI: Okay. Perhaps after  
3 the fact, after that date, but not up to that date.

4 CHRISTINE MAINVILLE: Could I just jump  
5 in with a question.

6 You said, "had it not been for the  
7 sinkhole, we would have made it".

8 I just want to clarify in what way the  
9 sinkhole impacted the rolling stock timelines? Or  
10 by that comment, do you mean it impacted the  
11 project as a whole, and without referencing the  
12 rolling stock in particular?

13 PAUL TETREAUULT: Well, my answer to  
14 your question would be both.

15 So the sinkhole occurred in the middle  
16 of the alignment, roughly. And we would be testing  
17 the system from the maintenance facility going from  
18 the east of the City towards the west of the City.

19 And the sinkhole would only allow us to  
20 do a little bit of testing. So you could have 36  
21 vehicles, whatever the vehicles was, sitting there  
22 doing nothing, because we couldn't go any further.  
23 And that's one part of it from the testing and  
24 commissioning.

25 The other area where I was getting

1 concerned, and I'm not a construction guy, was  
2 OLRT-C were working very hard to mitigate.

3 And my concern was at the time, that we  
4 were being very optimistic in our mitigation, we  
5 were being too optimistic in our mitigation, to the  
6 extent that this would be eating into the overall  
7 testing and commissioning time that would be needed  
8 in order to attain revenue service.

9 So my answer is twofold. Now, I was  
10 the commercial guy, so I was like, guys, guys  
11 you're being too aggressive here in the mitigation.  
12 I have my concerns.

13 But we had a duty to mitigate, because  
14 this was considered to be a delay event. And those  
15 involved in the mitigation were working very hard  
16 to try to please the City. They wanted A) to  
17 please the City, they didn't want to create any --  
18 they didn't want to create tension with the City.  
19 They just wanted to get the job done.

20 Of course, you know, honestly it's a  
21 concession. So time is money. So there was a lot  
22 of pressure to try to mitigate. Not only for the  
23 benefit of the City, but for the benefit of the  
24 concession.

25 I believe that, you know, we may have

1 been too aggressive in trying to mitigate.

2 CHRISTINE MAINVILLE: Can I just have  
3 you talk a bit more about this delay event and what  
4 the parameters of those are? To what extent --  
5 there's an obligation to mitigate, but obviously  
6 sometimes it's just not realistic. There's only so  
7 much mitigation you can do.

8 How does that work -- contractually --  
9 in terms of what the obligations are, taking into  
10 account I think in this case the City refused any  
11 relief on this front?

12 PAUL TETREAULT: You're hitting a very,  
13 very important point, in my opinion. Because it  
14 became defined as a "delay event". I might be  
15 adventurous here, but I'm not an expert in  
16 geotechnical. But sinkholes just don't happen.  
17 Usually sinkholes happen because there's water  
18 involved.

19 My opinion at the time is this may not  
20 be a delay event; maybe this is, perhaps this is a  
21 latent defect. And perhaps it is a latent defect  
22 because perhaps the water came, or, you know, the  
23 liquid or the water came from something that was  
24 not under OLRT's control, but perhaps it was under  
25 the City's control. For example, it could have

1 been a leaky water main; we didn't know.

2 So my position, being a commercial guy  
3 was initially it's a latent defect until proven  
4 otherwise. We didn't do that.

5 I remember being in substantial  
6 discussions with the concession and with my  
7 colleagues. And the concession did not want to  
8 upset the City.

9 And they thought that if we took the  
10 position that I was predicating we should have  
11 taken, that we would have been upsetting the City.

12 And therefore, they went along with the  
13 delay event and did not want to pursue the City any  
14 further and just try to get on with it and mitigate  
15 the issues and try to meet the revenue service  
16 date.

17 CHRISTINE MAINVILLE: Who would have  
18 made the call on that? Who were these discussions  
19 with within OLRT or RTG?

20 PAUL TETREAULT: Ultimately, the  
21 discussions would have been made at the executive  
22 level by the joint venture management, that would  
23 be the representatives of EllisDon, Dragados,  
24 SNC-Lavalin, that were part of the Executive  
25 Committee.

1                   So there were two members of each  
2 company that were on the Executive Committee and  
3 they would have made this decision in conjunction  
4 with the chief executive of the concession at the  
5 time with RTG.

6                   And the CEO of RTG at the time was  
7 Antonio -- I'm sure you have his last name there --  
8 Antonio Estrada, I believe.

9                   So this would have been made in  
10 conjunction with Antonio and the Executive  
11 Committee, which was two executives from each of  
12 the three companies.

13                   ANTHONY IMBESI: So did that decision  
14 take the approach that they did, that that informed  
15 their scheduling and what they were presenting in  
16 terms of proposed schedules, mitigation measures,  
17 that type of thing?

18                   PAUL TETREAULT: Well, the whole  
19 attitude was try to mitigate the event. And I  
20 think the edict that came from the management or  
21 the executives was for the project to mitigate, and  
22 they were very aggressive with respect to requiring  
23 that we mitigate.

24                   And I think we became overly optimistic  
25 in terms of our ability to -- at the time, what we

1 thought our ability would be in order to mitigate  
2 the schedule.

3 And I started to be concerned that we  
4 were cutting off the testing and commissioning time  
5 in order to provide for more construction time in  
6 order to mitigate the effects of the sinkhole.

7 So testing and commissioning is the  
8 last major activity in the project. So when things  
9 go wrong that's usually where time gets cut.

10 CHRISTINE MAINVILLE: And I take it you  
11 alerted someone to those concerns?

12 PAUL TETREAULT: I would have expressed  
13 my opinion. I had no qualms about expressing my  
14 opinions. Again, you know, it's my opinion that  
15 the construction guys don't always see the view of  
16 the systems or mass transit guys.

17 Yeah, I would express my opinion, but  
18 my opinions would be expressed within OLRT-C, of  
19 course, and not necessarily to the concession,  
20 because I was not responsible for the relationship  
21 with the concession.

22 And also my opinions would not be  
23 expressed to the City because again, I was not  
24 responsible for communication in relationship with  
25 the City. But within my own colleagues, my project

1 director, my construction director, my deputy  
2 project director, I would have definitely raised my  
3 concerns at the time.

4 CHRISTINE MAINVILLE: And you mentioned  
5 this at the outset some people saw this as a  
6 construction project and perhaps insufficiently as  
7 a transit and systems integration project?

8 I take it that was also within OLRT-C.  
9 Did you sense that there was --

10 PAUL TETREAULT: Yeah.

11 CHRISTINE MAINVILLE: -- a lack of  
12 experience, and at what level, if so?

13 PAUL TETREAULT: Absolutely. You know  
14 those -- those of us who had transit experience,  
15 who were a minority, we would often, yeah, of  
16 course, we would look at each other and say, they  
17 just don't understand, right?

18 The construction director does not  
19 understand that you need 18 months to test the  
20 system. He thinks it's like buying an automobile,  
21 where you go to the dealer, you buy the vehicle,  
22 you turn the key and you drive it away.

23 I'm using that as a little bit of a  
24 sarcastic example. But, yeah, absolutely. And  
25 I'll be honest with you, I didn't understand

1 construction. I learned a lot. It was a great  
2 experience.

3 CHRISTINE MAINVILLE: Just to be clear,  
4 at what level did you see this lack of  
5 understanding of the complexities of the transit  
6 system's piece? Was that the Executive Committee  
7 level, project director level or...

8 PAUL TETREAULT: Yes. All of the  
9 above. The only persons who understood the  
10 intricacies of the transit system were the  
11 representatives from SNC-Lavalin. Because they had  
12 previous transit system experience.

13 But the executives from Dragados and  
14 EllisDon, obviously not. And I don't blame them,  
15 because it's not their business. It's not a  
16 criticism of them, it's just a fact.

17 ANTHONY IMBESI: And so you had talked  
18 about your concerns with the potential compression,  
19 as I'll call it, of the testing and commissioning.  
20 I appreciate you weren't on the project when that  
21 phase ramped up and came up to trial running.

22 In your experience, what issues would  
23 you see manifest themselves from a compression or  
24 reduction in the testing and commissioning from  
25 what was originally planned on the project?



1 PAUL TETREAULT: To put it very  
2 briefly, the compression of the testing and  
3 commissioning time, firstly it would not allow you  
4 to find the bugs quickly enough.

5 Secondly, it will not allow you  
6 sufficient time to correct the bugs. So if you  
7 need to correct the bugs, you're going to have to  
8 modify hardware, you're going to have to retrofit  
9 hardware, you're going to have to retest. You're  
10 going to have to retrofit software, you're going to  
11 have to retest; right, that takes time.

12 You have to cure the situation. So  
13 there's a cure period, if you need another  
14 component. Say you need a forging, you have to  
15 have a die made, you have to have somebody forge  
16 it, so that takes time. So that whole period gets  
17 compressed.

18 Bugs that -- you may find bugs very  
19 late in the process that would not allow you  
20 sufficient time to correct within the obligations  
21 of the schedule, perhaps.

22 And now I'm just being very theoretical  
23 right now. Again, I wasn't there. I don't know  
24 what happened, right? I don't know how many  
25 retrofits there were; I don't know the nature of

1 the retrofits.

2 But typically, part of the 18 months is  
3 not only -- or I use 18 months as a benchmark. But  
4 typically that period of time, is a period to  
5 perform the testing and find the bugs, but it's  
6 also a period to cure the bugs, either by hardware  
7 or software fix, and then redo that testing and  
8 then move on to the next thing, and so on and so  
9 on.

10 I mean, I'm aware of at one point there  
11 was a derailment of the vehicle when it was in  
12 service. And according to what I read on the  
13 Internet, or according to my knowledge, it was a  
14 component that failed and that's okay, that's fine.

15 I mean, trains derail all the time.  
16 They're running on something that's about three  
17 inches wide.

18 So you got an 80,000-pound train  
19 running on a three-inch rail, and you know,  
20 somebody throws a shopping cart on the rail,  
21 chances are it's going to derail; it happens all  
22 the time.

23 But it seemed to me that the media made  
24 a big thing out of it it's like, I'm going like, in  
25 my opinion it's like, well, it happens.

1 CHRISTINE MAINVILLE: Sorry, one question.  
2 Given how all of these bugs get sorted  
3 out during testing and commissioning, would you say  
4 that only then is after that -- after sufficient  
5 testing and commissioning is integration of the  
6 systems fully complete? Let me pause there.

7 PAUL TETREAUULT: There's a criteria  
8 that needs to be considered.

9 In a retrofit, if the retrofit affects  
10 safety, it must be done prior to revenue service.

11 If a retrofit affects performance of  
12 the system, then it may or may not be done prior to  
13 revenue service, depending on whether or not the  
14 end customer agrees to live with the effects of  
15 that degraded performance, or there may be -- you  
16 know, there may be a contingency plan, there may be  
17 another way around it.

18 And typically if the retrofit is  
19 aesthetic or does not affect safety or performance,  
20 then the timeline is wide open. It can be done as  
21 a matter of convenience. Does that answer your  
22 question?

23 CHRISTINE MAINVILLE: Partly. When you  
24 left would you say the integration of the rolling  
25 stock and the Thales signalling system was

1 complete? That they were fully integrated, or is  
2 that not something...

3 PAUL TETREAULT: Theoretically, yes.  
4 Theoretically? Yes. Had it been proven,  
5 practically proven through testing? No.

6 We were at that point in juncture,  
7 though. The design, the theoretical, the academic  
8 design, the theoretical design had been done, it  
9 had been simulated but it had not been proven  
10 through actual vehicle and CBTC and systemwide  
11 testing.

12 CHRISTINE MAINVILLE: Sorry, one more  
13 question.

14 Was there any issue with sharing of  
15 information as between Thales and Alstom that you  
16 did not ultimately overcome? Were there things  
17 outstanding at least by the time you left, that one  
18 or the other party was reluctant to share?

19 PAUL TETREAULT: No. Not that I know of.

20 ANTHONY IMBESI: Okay. Did you have  
21 any input into the preparation of any trial running  
22 criteria, or were you involved in any discussions  
23 with respect to that prior to you leaving the  
24 project?

25 PAUL TETREAULT: No, I was not. That

1 was already prescribed. The criteria, the  
2 timeline, the performance requirements, that was  
3 already established.

4 ANTHONY IMBESI: When you talk about it  
5 being established, is that established in a plan  
6 that was prepared during your time? Or was that  
7 established to your knowledge in the contract?  
8 What are you referring to?

9 PAUL TETREAULT: I believe that was  
10 part of the construction contract, I believe.

11 ANTHONY IMBESI: That would be the  
12 reference to the 12-day trial running period?

13 PAUL TETREAULT: Possibly. 12-day  
14 seems very short to me. Normally it would be much  
15 more than that. I mean, industry standard is much  
16 more than 12 days; typically it's no less than  
17 30 days.

18 ANTHONY IMBESI: I think you had  
19 mentioned --

20 PAUL TETREAULT: Providing -- typically  
21 30 days meeting a certain benchmark of service  
22 availability that is typically around the  
23 99.5 percent service availability. That would be  
24 pretty much the industry standard.

25 ANTHONY IMBESI: I have a few more

1 questions for you.

2 In terms of the relationship with the  
3 City, you had indicated I think you said you only  
4 had limited involvement with the City directly; is  
5 that fair?

6 PAUL TETREAUULT: Yes. My involvement  
7 with the City would be, I would attend monthly  
8 project meetings, typically. Up to a certain point  
9 where it was decided too many people were attending  
10 that meeting so they scaled it down. Once it got  
11 scaled down I did not attend those meetings  
12 anymore, I forget exactly when it was, but I'm  
13 going to say about a year before I left.

14 I would say I attended the monthly  
15 project meetings in 2013, '14, '15. I would also  
16 attend the -- once in a while, not every time, but  
17 I would say periodically, I would attend the Change  
18 Control Board Meetings, because there were  
19 commercial elements there. That's about it.

20 For the most part, the relationship  
21 with the City from an OLRT standpoint was conducted  
22 by the project director and the deputy project  
23 director.

24 ANTHONY IMBESI: Did the relationship  
25 with the City change at all over your involvement

1 in the project, for example, following the  
2 sinkhole?

3 PAUL TETREAULT: My answer is going to  
4 be based on perception. I think the sinkhole was a  
5 major event, a major concern. However every  
6 dealing I had with the City, the City's  
7 representatives, so it's always very professional.

8 You know, other than the fact that I  
9 thought we should take a different approach to it,  
10 the City was always very professional. I dealt  
11 with some of the commercial people; I would be in  
12 meetings with their project directors, their staff.  
13 They were all very professional.

14 The response to the sinkhole was  
15 unbelievable. I have never seen that in 40 years  
16 where, you know, a City has come together so  
17 strongly, the contractors, the cement contractors,  
18 all pulled together.

19 At the end of the day they put 400  
20 trucks of cement in that sinkhole in a 48-hour  
21 period. It's unbelievable how the contractor  
22 community came into support OLRT-C and the City  
23 through this event.

24 ANTHONY IMBESI: How would you describe  
25 the level of information sharing between OLRT-C and

1 the City. I appreciate the City's contract is with  
2 RTG but if you can just explain your understanding  
3 of that.

4 PAUL TETREAULT: Yes, RTG is the  
5 concession. But the actual constructor is OLRT.  
6 So the City would be dealing with us day-to-day  
7 with their construction people, our construction  
8 people. The relationship, I felt, you know, based  
9 again, on my experience in the transit industry, I  
10 thought we had a very transparent relationship with  
11 the City.

12 You know, there was no manipulation of  
13 the status, of the facts. I thought OLRT-C had,  
14 from what I could see, I thought OLRT-C had a very  
15 good relationship with the City of Ottawa.

16 Again, the project was just a pleasure  
17 to work on.

18 ANTHONY IMBESI: So during your  
19 involvement, did the City ever express any concern  
20 with the level of information it was receiving?

21 PAUL TETREAULT: Not to my knowledge.  
22 We provided a plethora of information  
23 every month. The amount of information we provided  
24 them probably surpassed their ability to analyze  
25 it. You know I'll just give you an example.



1                   The schedule itself, you're looking at  
2 a schedule that has 20,000 activities, and we have  
3 to resubmit that schedule every month. You  
4 possibly could not have the people power to review  
5 that in detail. It was a very transparent  
6 relationship.

7                   ANTHONY IMBESI: Do you think the City  
8 had the expertise to understand the information  
9 they were receiving?

10                  PAUL TETREAULT: I think the City was  
11 understaffed. I don't think they had sufficient  
12 staff. I don't think they have permanent --  
13 sufficient permanent staff or sufficient  
14 consultants to understand all the information that  
15 was being provided.

16                  ANTHONY IMBESI: Just because of its  
17 quantity or because of its complexity?

18                  PAUL TETREAULT: Again, quantity, yes,  
19 complexity, yes, in terms of not construction, I  
20 think the City was well versed in construction.  
21 They understood construction very well. But where  
22 they lacked was in, you know, transit systems  
23 expertise.

24                  They had a consultant that they would  
25 use, a U.S. based consultancy that they would use

1 sporadically from time to time, but very, very  
2 periodically, very sporadically. There was no  
3 continuity.

4 I mean, you know, they had this  
5 consultant in the States that they would hire to  
6 witness a test in a supplier's facility, for  
7 example, stuff like that. But beyond that, they  
8 didn't have a lot of expertise.

9 Now don't get me wrong. The people  
10 that were there, were excellent in what -- they  
11 were very well qualified. This is not an issue of  
12 quality here; it's an issue of quantity and  
13 expertise.

14 ANTHONY IMBESI: Right. Did the lack  
15 of expertise in the transit systems particularly,  
16 did any issues manifest from that lack of expertise  
17 during your time on the project?

18 PAUL TETREAUULT: There were times where  
19 I would have to -- something would be brought up  
20 and I would have to explain the details on how the  
21 process was -- how a process could move forward or  
22 what had to be done, predecessor activities and  
23 subsequent activities, stuff like that.

24 But, you know, they would ask  
25 questions; I would try to answer the questions to

1 the best of my knowledge.

2 But again, my opinion is that the  
3 compression period into 2017, 2018, and at that  
4 point in time, I do not know whether or not they  
5 understood the ramifications of the mitigation and  
6 the effects on the testing and commissioning.

7 ANTHONY IMBESI: Is there anything you  
8 would have changed in respect of your involvement  
9 in the project or of OLRT-C's management or  
10 involvement in hindsight?

11 PAUL TETREAULT: You know, again, I  
12 really -- no. I think they truly -- I retired  
13 because I wanted to retire. As a matter of fact, I  
14 wanted to retire a year earlier and they asked me  
15 to stay on for another year, which I agreed to do.

16 The only reason why I agreed to do that  
17 I enjoyed the project, I thought it was a good  
18 project, we had a good cause, we had a good  
19 customer.

20 We had a partnership that was  
21 unbelievably strong, well valued. It was, you know  
22 -- I'll be honest, I'm proud to have worked on that  
23 project. I think that despite the challenges, I  
24 think Ottawa has a great transit system.

25 ANTHONY IMBESI: Thank you, those are

1 my questions.

2 Christine, did you have anything  
3 further for Mr. Tetreault?

4 CHRISTINE MAINVILLE: Yes. Are you  
5 aware of any request to the lenders or to the City  
6 regarding the liquidated damages that flowed from  
7 the delay? I guess you weren't there past the  
8 May 2018 RSA date, correct?

9 PAUL TETREAULT: No.

10 CHRISTINE MAINVILLE: The original RSA  
11 date?

12 PAUL TETREAULT: No.

13 CHRISTINE MAINVILLE: So you wouldn't  
14 have been aware of anything, okay.

15 PAUL TETREAULT: Yeah.

16 CHRISTINE MAINVILLE: And were you  
17 aware of the City underwriting RTG's debt?

18 PAUL TETREAULT: No, I was not.

19 CHRISTINE MAINVILLE: Okay. In terms  
20 of who was responsible at the outset for systems  
21 integration, we've talked a lot about the rolling  
22 stock and signalling system. Was it always  
23 understood that OLRT-C was responsible for that?

24 PAUL TETREAULT: Absolutely.

25 CHRISTINE MAINVILLE: And what about

1 overall systems integration? Did that  
2 responsibility also lie in OLRT-C?

3 PAUL TETREAULT: Absolutely.

4 CHRISTINE MAINVILLE: Do you know what  
5 part RTG EJV, the engineering joint venture, played  
6 in this integration?

7 PAUL TETREAULT: Very little. Very  
8 little.

9 They did the engineering for the  
10 construction, the stations, the construction  
11 portion of it. They did very little of the systems  
12 integration. Most of it was done by OLRT-C  
13 ourselves.

14 CHRISTINE MAINVILLE: Did you  
15 understand there to have been any dispute early on  
16 in the project about who would take charge of this  
17 part of the project?

18 PAUL TETREAULT: I truly believe that  
19 systems integration was underestimated by the  
20 EJV and by OLRT-C. I spent a lot of time, along  
21 with the project director David Whyte, trying to  
22 convince the management that we needed to invest  
23 strongly in systems integration.

24 To that effect we were successful in  
25 convincing the management that we needed to do that

1 and we were able to hire Jacques as well as a  
2 number of engineers who specialized in system  
3 integration.

4 CHRISTINE MAINVILLE: If you could have  
5 more, would you say you would have wanted more than  
6 Jacques and his team?

7 PAUL TETREAUULT: I think once we  
8 established Jacques and his team of systems  
9 integration engineers, we were of sufficient  
10 quantity.

11 Were we too late in implementing?  
12 Early would have been better, but I don't think we  
13 were too late. I think we -- I think we were okay.

14 I'm very thankful we were able to  
15 convince the management team, make an argument and  
16 we were able to put together a system.

17 You know, we had to make the conscious  
18 decision that despite EJVV, we, OLRT, despite our  
19 own estimates, we're going to go out there and  
20 invest in these people because we think it's  
21 important in order to make the system and the  
22 project successful. You know, I'm thankful that we  
23 were able to do that.

24 CHRISTINE MAINVILLE: What would you  
25 have been able to do with people in place earlier

1 on on the systems integration piece?

2 PAUL TETREAULT: I think we would have  
3 been able to advance some of the engineering  
4 issues, you know. It would have been given us a  
5 little bit more time, a little bit more slack in  
6 the schedule for lack of better words. A little  
7 bit more float in the schedule.

8 You know, more time for -- you know, in  
9 every schedule you have to have some rainy day or  
10 some type of float. You know eventually as time  
11 went along and there were some minor issues, little  
12 bumps in the road, but every time there's a bump in  
13 the road you've got to take a little bit of time to  
14 fix that bump and it reduces your float. It  
15 squeezes you a little bit more.

16 So I think we got through it okay. I  
17 think we got through it all right. But hey, it  
18 would have been nice to have it a little bit  
19 earlier, always.

20 You're talking to the conservative  
21 commercial guy who always wants to err on the side  
22 of caution.

23 CHRISTINE MAINVILLE: And what do you  
24 attribute the issues in finding someone to? Was it  
25 the one person who turned it down or were there

1 challenges in finding a suitable person to fill  
2 that role that Mr. Bergeron ultimately filled.

3 PAUL TETREAULT: There's not many  
4 people in this country that are able to fill a role  
5 like that. You have to have extensive experience  
6 in engineering mass transit systems.

7 So I would say there's a handful of  
8 candidates in Canada and, you know, I reached out  
9 to Jacques. I'll be honest with you, Jacques is a  
10 very close personal friend of mine. Jacques was  
11 vice-president of engineering with Nova Bus. And  
12 he had many years of experience with Bombardier,  
13 not only in North America, but in Europe.

14 I reached out to Jacques and I said you  
15 know we've got a really nice project here, in  
16 Ottawa, why don't you come visit?

17 So he came and spent the day with us,  
18 and the project director and other people really  
19 liked Jacques. He's a very likable person.

20 And the project director looked at me  
21 and said, get this guy on board, do what you got to  
22 do. And that's what we did. And that's how  
23 Jacques joined the team.

24 So other than Jacques and another  
25 candidate who had refused an offer, there was one



1 other candidate who came and looked at the project,  
2 but we didn't feel that he was the right person so  
3 we did not make an offer to that candidate.

4 CHRISTINE MAINVILLE: One last  
5 question. In terms of the two first prototype  
6 vehicles ultimately being assembled in Ottawa  
7 instead of Hornell, you mentioned that you didn't  
8 see concerns from the validation testing  
9 perspective.

10 But was there some risk in not having  
11 the prototypes assembled at a facility like the one  
12 in Hornell, where there is the experience and  
13 qualified teams there? Is there more risk in  
14 having built the prototypes in Ottawa as opposed  
15 to -- like a new facility, such as the one in  
16 Ottawa?

17 PAUL TETREAUULT: Ultimately I don't  
18 think there's more risk; ultimately I think there's  
19 more cost. And the reason why there's more cost is  
20 because there is a learning curve when you start up  
21 a new operation. And of course, that learning  
22 curve would not be present in Hornell, where  
23 they've produced thousands of vehicles.

24 So when the decision was made to  
25 assemble those prototypes in Ottawa, resulting from

1 the interpretation of the Canadian content  
2 requirements, part of that was that Alstom needed  
3 to make their transfer technology plan more robust.

4 Now what did that involve? That  
5 involved bringing more people in from Hornell, in  
6 greater numbers, and in greater knowledge areas to  
7 assist with the assembly of those two prototypes.  
8 But their processes are probably amongst the best  
9 I've ever seen.

10 So from a technical standpoint I don't  
11 think you'll see risk; it's really time and money.

12 CHRISTINE MAINVILLE: And was the MSF  
13 delivered late or available late to Alstom to  
14 proceed with assembly?

15 PAUL TETREAULT: Yes. Yes, it was.

16 CHRISTINE MAINVILLE: And to what  
17 extent? Can you tell me a bit about that?

18 PAUL TETREAULT: You know, there was a  
19 date where the MSF had to be turned over to Alstom,  
20 and the MSF had to be turned over to Alstom in a  
21 state where they could assemble vehicles.

22 So, you know, assembling rail vehicles  
23 -- I call it an intricate operation, it has to be  
24 dust free; it has to be clean; it has to be safe;  
25 it has to be of high quality.

1                   The MSF was kind of like finished. It  
2 was -- the space was available, but things like  
3 security gates weren't there, power wasn't  
4 available. There were a myriad of lagging  
5 construction issues with the turnover of the MSF.

6                   That created many discussions with  
7 Alstom, and it also gave me many discussions to be  
8 had with my colleagues that say, hey, boys, clean  
9 it up.

10                   Get the power in there, get the safety  
11 gates. You know, you can't be standing in the mud  
12 up to your ankles and telling me that it's  
13 finished. So there were some internal arguments  
14 going on.

15                   And did it have an effect on the  
16 beginning of Alstom's operation? My answer is,  
17 yes. Ultimately it did. Were we able to mitigate  
18 it? Yes, we were. By the time I left we had an  
19 understanding, we knew where it was going.

20                   Now Alstom had a little bit of a claim  
21 on us for extra costs related to that. I  
22 negotiated those costs, tried to get a deal with my  
23 colleagues and my executives where I could finalize  
24 that matter before I left.

25                   They refused the deal that I put on the

1 table, which would have cost us to spend a little  
2 bit more money with Alstom, and it's my  
3 understanding that after that, well, the claims  
4 just continued to grow and at some point, I guess  
5 it may have got out of control; I don't know what  
6 happened.

7 CHRISTINE MAINVILLE: Thanks very much  
8 for that in going overtime. Is there anything we  
9 haven't touched on that you feel is important for  
10 us to know?

11 PAUL TETREULT: No, not really. I  
12 think we've -- no, I'm very satisfied with the  
13 discussion, very happy to help.

14 ANTHONY IMBESI: I know we've gone  
15 over. Was there anything from your end?

16 PAUL TETREULT: No.

17 ANTHONY IMBESI: Sorry, I was speaking  
18 to Mr. Chowdhury.

19 MANNU CHOWDHURY: No questions from our  
20 end. Thank you, Mr. Imbesi.

21 ANTHONY IMBESI: Okay, great.

22

23 -- Concluded at 12:05 p.m.

24

25

1 REPORTER'S CERTIFICATE

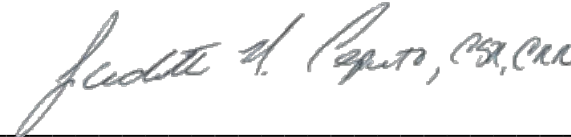
2  
3 I, JUDITH M. CAPUTO, RPR, CSR, CRR,  
4 Certified Shorthand Reporter, certify;

5 That the foregoing proceedings were  
6 taken before me at the time and place therein set  
7 forth; at which time the interviewee was put under  
8 oath by me;

9 That the statements of the presenters  
10 and all comments made at the time of the meeting  
11 were recorded stenographically by me;

12 That the foregoing is a Certified  
13 Transcript of my shorthand notes so taken.

14  
15 Dated this 10th day of May, 2022.

16   
17 \_\_\_\_\_

18 NEESONS, A VERITEXT COMPANY

19 PER: JUDITH M. CAPUTO, RPR, CSR, CRR  
20  
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**WORD INDEX**

**< 1 >**

**1** 3:4 6:6, 13,  
19 8:18 15:8,  
10 21:20 45:22  
**1,500** 23:3  
**1.5** 46:25  
**10** 22:20 46:23  
**10,000** 67:14  
**10:28** 62:1  
**10:30** 61:23  
**10:45** 62:2  
**10th** 116:15  
**12** 48:19 100:16  
**12:05** 1:16  
115:23  
**12-day** 100:12,  
13  
**12th** 6:10  
**14** 48:19 101:15  
**14th** 6:14  
**15** 3:4 34:25  
46:23 101:15  
**15-minute** 61:24  
**160** 69:16  
**18** 21:21 25:3,  
13, 16 94:19  
97:2, 3  
**186** 77:24  
**1979** 8:3 10:6  
**1985** 10:9, 14  
**1986** 77:11, 18  
**1988** 10:14 11:5  
**1992** 8:9  
**1995** 8:3, 6  
11:5, 11, 13  
  
**< 2 >**  
**2** 45:22  
**2.2** 71:24  
**2.5** 71:25  
**20** 22:21 24:12  
**20,000** 104:2  
**200,000** 49:15  
**2003** 8:14  
**2004** 8:14  
**2008** 8:22  
**2009** 5:13  
**2012** 8:22  
**2013** 6:10  
63:14 70:7  
101:15  
**2014** 15:14  
**2015** 42:9 71:11

**2016** 20:17, 23  
37:19  
**2017** 6:15 20:8  
37:20 57:3  
88:1 106:3  
**2018** 86:6  
106:3 107:8  
**2022** 1:8, 16  
116:15  
**25** 43:16  
**25-year** 77:18  
**26th** 70:7  
**28** 49:25  
  
**< 3 >**  
**3** 45:23 57:3  
**30** 9:15 17:21  
22:21 32:25  
48:17 100:17, 21  
**300** 23:1 33:16  
**33** 5:12, 25  
**35** 9:16  
**36** 88:20  
**386** 78:1  
  
**< 4 >**  
**4** 57:4 72:1  
**4,000** 41:2  
**40** 7:16 10:20  
17:19 67:15  
102:15  
**400** 102:19  
**43** 77:16  
**48-hour** 102:20  
  
**< 5 >**  
**5** 6:2  
**50** 26:11  
  
**< 6 >**  
**6** 5:12  
**60** 32:25  
  
**< 7 >**  
**7** 5:25  
**737** 19:8  
  
**< 8 >**  
**80,000-pound**  
97:18  
**800,000** 49:13  
**80s** 77:24  
  
**< 9 >**

**9** 1:8  
**9:00** 4:1  
**9:03** 1:16  
**90** 18:6, 9  
32:25 71:9  
**99.5** 33:4  
100:23  
**99.6** 33:4  
**9th** 1:15  
  
**< A >**  
**a.m** 1:16 4:1  
**Aaron** 62:21  
**ability** 92:25  
93:1 103:24  
**absolute** 26:23  
84:15  
**absolutely**  
14:12 15:6, 15  
26:22 28:2  
35:21 36:15  
42:19 43:1  
50:2 74:8  
81:17, 18 82:16  
85:3 94:13, 24  
107:24 108:3  
**academic** 99:7  
**accelerate** 71:23  
**acceleration**  
30:17 71:18  
78:16  
**acceptable**  
87:20  
**accepted** 87:8  
**access** 36:7  
**accommodate**  
55:10  
**accompanied**  
55:4  
**accompany** 53:9  
**account** 31:2  
73:14 75:6  
90:10  
**accurate** 7:7  
**acquired** 8:9  
**acquisition** 7:25  
8:8 30:21  
**Act** 5:13 6:1, 3  
10:13  
**acted** 50:20  
**activities** 85:22,  
25 86:11 104:2  
105:22, 23  
**activity** 93:8

**actual** 6:13  
13:20, 21 33:11  
43:17 54:6  
67:20 74:13  
79:12 99:10  
103:5  
**adapted** 79:10,  
12  
**add** 72:17  
**adding** 58:6  
**additional** 48:20  
74:6  
**address** 42:7  
72:25  
**addressed** 40:17  
**adequate** 83:3  
**adequately**  
71:13  
**advance** 110:3  
**adventurous**  
90:15  
**advised** 6:1  
**advisor** 51:6, 21  
**aesthetic** 98:19  
**affect** 57:25  
98:19  
**AFFIRMED** 4:3  
**afforded** 9:8  
**after** 4:24 6:10  
9:3 33:11, 14  
66:18 88:2, 3  
98:4 115:3  
**agenda** 80:23  
**aggregate** 43:16  
**aggressive**  
89:11 90:1  
92:22  
**ago** 42:13  
**agree** 68:14, 19  
87:17  
**agreed** 56:9  
84:6 106:15, 16  
**agreement** 65:4  
68:3  
**agrees** 98:14  
**ahead** 11:12  
21:24 29:4  
**aircraft** 19:8, 10  
**Aitkin** 63:12  
**Alain** 6:24  
**Alcatel** 8:14  
**alerted** 93:11  
**Alex** 14:4  
39:22 61:14, 15,

16, 20 63:25  
76:16 80:14  
**algorithms**  
30:14, 16 33:25  
82:18  
**alignment** 21:3  
79:1 80:19  
88:16  
**allow** 23:7  
44:22 47:7  
70:24 71:4  
88:19 96:3, 5, 19  
**Alstom** 12:16,  
23 13:8, 17  
18:18, 22 19:1,  
15, 16, 17, 22  
20:5 25:21  
28:4, 8, 11, 12,  
21 30:1, 2, 4, 7  
31:11 39:7, 23  
40:4 42:15  
43:14 44:12  
49:24 50:1  
52:22 53:17  
55:9 57:23  
58:12, 14, 25  
59:6, 23 60:2,  
10, 14, 22, 25  
61:8 62:5  
63:19 64:22, 24  
65:3 66:10  
68:14, 20 69:5  
71:1, 9, 14 74:1  
75:17 76:1, 13,  
22 79:19, 23  
80:4 85:11  
86:4, 8, 25 87:7  
99:15 113:2, 13,  
19, 20 114:7, 20  
115:2  
**Alstom's** 28:18,  
22 44:7 52:7  
55:20 65:10  
70:3 75:5  
79:17 114:16  
**altogether** 41:6  
**America** 8:6  
10:12 18:1, 16  
24:2 48:24  
49:14 111:13  
**American** 17:25  
18:4 24:18 49:3  
**amount** 34:6  
58:19 103:23

<p><b>Amtrak</b> 11:1, 2 <b>analogy</b> 19:7 <b>analysis</b> 47:4 <b>analyze</b> 23:20 103:24 <b>analyzes</b> 78:7 <b>angle</b> 83:18 <b>Ankara</b> 11:15, 16 25:15 <b>ankles</b> 114:12 <b>Anthony</b> 2:4 4:4 7:1, 6, 11 9:19 11:12, 21 12:21 13:2 14:5, 13, 23 15:4, 7, 12, 16 16:17 17:1 21:24 24:6, 15, 25 25:19, 24 26:15, 24 27:4, 7, 23 28:6, 13, 22 29:3, 24 31:18, 22 32:4, 12, 22 35:15 37:3, 6, 18 38:7, 22 40:13 41:23 42:5, 10, 14 43:3, 7, 21 44:2, 15 45:11, 24 46:4, 7, 11 47:24 48:6 49:20 50:22 51:2, 5, 17, 20 52:18 53:4, 20 54:8 55:2, 18, 24 56:19 57:13 58:24 59:8, 11, 25 60:9, 19 61:4, 10, 23 62:4, 11, 22 63:16 64:6 65:9, 16, 22 66:4, 14 67:16, 24 68:24 70:2, 12, 15, 18 72:13, 16 73:16 75:3, 20 76:12 77:1 79:14 80:8, 25 81:8, 12, 19, 23 82:11 83:5 84:19 85:1, 9 86:7, 14, 24 87:3, 5, 21 88:2 92:13 95:17 99:20 100:4, 11,</p>	<p>18, 25 101:24 102:24 103:18 104:7, 16 105:14 106:7, 25 115:14, 17, 21 <b>Antonio</b> 92:7, 8, 10 <b>anybody</b> 75:16 <b>anymore</b> 23:8 101:12 <b>appear</b> 3:16 68:2 <b>appended</b> 5:10 <b>application</b> 51:12 52:5 55:6 <b>applications</b> 52:16 <b>apply</b> 78:13 <b>appreciate</b> 42:10 63:17 64:7 69:3 95:20 103:1 <b>approach</b> 92:14 102:9 <b>approached</b> 32:15 44:12 <b>appropriate</b> 15:22 <b>approvals</b> 13:15 <b>approximately</b> 21:20 25:3 56:24 73:18 <b>April</b> 6:14 20:8 37:20 70:7 88:1 <b>area</b> 36:11 38:16 88:25 <b>areas</b> 48:11 82:4 113:6 <b>argue</b> 66:21 67:5 86:20 <b>argument</b> 66:23, 25 67:6, 15 109:15 <b>arguments</b> 114:13 <b>arrive</b> 70:20 71:6 <b>aside</b> 62:25 <b>asked</b> 5:15 39:25 106:14 <b>asking</b> 61:7 <b>as-needed</b> 81:4 <b>aspect</b> 83:9 <b>aspects</b> 60:21 68:4</p>	<p><b>assemble</b> 19:2, 9 40:7 112:25 113:21 <b>assembled</b> 13:18 22:13 43:5 44:3, 18 112:6, 11 <b>assemblers</b> 39:11 <b>assembling</b> 40:23 54:7 113:22 <b>assembly</b> 39:5, 15, 17 42:17 43:8 45:18 52:10, 11 53:22, 25 57:14 59:19 60:7 67:20 113:7, 14 <b>assist</b> 113:7 <b>assume</b> 29:8 <b>assuming</b> 23:13 29:17 <b>attain</b> 89:8 <b>attend</b> 12:10 50:21 51:9 53:18 55:20 80:23 101:7, 11, 16, 17 <b>attended</b> 80:16 101:14 <b>attending</b> 1:15 101:9 <b>attitude</b> 92:19 <b>attorneys</b> 62:20 <b>attraction</b> 26:20 <b>attribute</b> 110:24 <b>atypical</b> 85:8 <b>August</b> 20:22 <b>authorities</b> 8:6 <b>authority</b> 10:25 <b>automated</b> 29:23 77:15 <b>automobile</b> 94:20 <b>automotive</b> 44:23 <b>availability</b> 33:2, 4, 8 100:22, 23 <b>available</b> 113:13 114:2, 4 <b>aviation</b> 73:2, 3 <b>award</b> 6:11</p>	<p><b>aware</b> 64:1, 2, 9 70:4 97:10 107:5, 14, 17  &lt; B &gt; <b>back</b> 8:19, 21 10:21 24:13 25:9 29:13 32:13 61:25 71:14 78:5 79:15 <b>background</b> 9:17 <b>back-office</b> 12:8 <b>backpack</b> 84:9 <b>back-to-back</b> 65:4 68:2 <b>bad</b> 24:21, 24 <b>Barre</b> 10:9, 14 <b>based</b> 6:24 24:21 25:13 26:1 29:6, 7, 19 30:3 51:24, 25 73:21 77:20 78:2 102:4 103:8 104:25 <b>basically</b> 6:12 16:3 17:14 18:14 30:9 39:7 77:18 78:7 <b>basis</b> 5:4 43:17, 18 55:22 56:8 59:14, 15 60:7, 15, 18 81:4 <b>beauty</b> 26:19 <b>beginning</b> 6:13 38:18 84:24 114:16 <b>behalf</b> 51:22 <b>behavioral</b> 31:1 <b>behaviour</b> 78:9 86:21 <b>beings</b> 72:20 <b>believe</b> 13:24 24:7 26:20 27:9 37:16 43:6 50:18 62:16 70:8 77:25 86:3, 6, 12, 22 87:24, 25 89:25 92:8 100:9, 10 108:18 <b>bench</b> 22:9, 10 34:24</p>	<p><b>benchmark</b> 25:14, 15 33:3 97:3 100:21 <b>benefit</b> 89:23 <b>Bergeron</b> 13:23 14:9 15:13 39:22 42:6 69:9 111:2 <b>Bergeron's</b> 61:18 <b>best</b> 36:24 55:21 106:1 113:8 <b>better</b> 12:7 20:3 58:20 67:15 76:3, 5 77:23 109:12 110:6 <b>big</b> 20:13 76:11 97:24 <b>bigger</b> 22:8 71:10 <b>bit</b> 8:20 54:16 56:4 62:5 68:9, 10 69:8 85:10 88:20 90:3 94:23 110:5, 7, 13, 15, 18 113:17 114:20 115:2 <b>blame</b> 95:14 <b>board</b> 56:6 63:13 101:18 111:21 <b>body</b> 19:23 20:2 31:7 49:6 <b>Boeing</b> 19:8, 23 <b>Bombardier</b> 8:7, 9, 21 9:23 10:7, 11, 21 49:25 111:12 <b>bona</b> 58:18 <b>book</b> 65:14 66:5 <b>Boston</b> 11:1 <b>Botero</b> 63:4, 9 <b>boys</b> 114:8 <b>brain</b> 20:2 <b>brake</b> 71:24 72:1 <b>braking</b> 30:15, 17, 18 71:19 72:2 78:16 <b>brand</b> 26:4, 7</p>
---	--	---	---	---

**break** 33:25  
61:24  
**briefly** 96:2  
**bring** 39:12, 13,  
16 53:2 69:18,  
20  
**bringing** 18:22  
41:14 113:5  
**Britain** 51:25  
**brought** 63:13  
105:19  
**budget** 23:12  
38:3  
**bugs** 96:4, 6, 7,  
18 97:5, 6 98:2  
**build** 7:23  
19:10 41:16  
45:4  
**building** 19:7  
67:14  
**built** 11:1  
42:20 44:4  
67:13 112:14  
**bullet** 14:6  
**bump** 110:12, 14  
**bumps** 40:10  
58:11 110:12  
**Bus** 111:11  
**business** 7:16  
95:15  
**bust** 33:24  
**Buy** 10:12  
94:21  
**buying** 19:8  
94:20  
  
< C >  
**call** 33:24 49:2,  
10 58:16 91:18,  
95:19 113:23  
**called** 46:1  
**Canada** 6:3  
13:19 19:2, 5  
29:7 111:8  
**Canadian** 13:17  
18:24 19:1  
29:19 43:11, 12,  
15, 20, 24 44:1  
113:1  
**candidate** 16:2  
111:25 112:1, 3  
**candidates**  
111:8  
**capability** 26:21  
30:17 48:24

**Capital** 9:8  
58:16  
**Caputo** 2:19  
116:3, 19  
**car** 49:6 50:6  
85:17  
**care** 61:19, 20  
**career** 9:3  
**Cars** 11:1, 3  
53:8 85:18  
**cart** 97:20  
**case** 19:18  
39:25 83:12, 14  
86:7 90:10  
**cases** 72:6  
**cash** 63:8  
**categorized**  
36:19  
**caused** 20:18  
**caution** 110:22  
**caveat** 65:23, 25  
**CBTC** 19:19  
27:25 28:8, 11,  
23 29:1 30:7  
31:15, 19 70:6  
71:2 77:6  
79:16 99:10  
**cement** 102:17,  
20  
**centre** 78:6, 7  
**CEO** 92:6  
**certain** 4:14  
13:9, 10, 11, 12  
33:7 34:20  
48:13 50:8, 9  
54:19 64:17  
69:2 73:11  
82:5, 12, 13, 19,  
20 83:6 85:16,  
18, 19, 20 87:15  
100:21 101:8  
**certainly** 16:6  
17:21 63:16  
75:18 86:20  
**CERTIFICATE**  
116:1  
**certified** 69:17  
74:20 116:4, 12  
**certify** 51:11  
52:15, 16 116:4  
**challenge** 16:7  
18:16, 17, 24  
19:25 20:4  
31:8, 9, 10 66:23

**challenges**  
19:13 29:25  
30:5 106:23  
111:1  
**chances** 97:21  
**change** 26:13  
74:5 75:1, 2  
82:17, 18  
101:17, 25  
**changed** 22:11  
45:8 77:22  
78:12 83:18  
106:8  
**changes** 18:10  
45:9 47:16  
48:9, 10, 12  
49:16 85:8  
87:13  
**characteristics**  
78:14, 15  
**charge** 108:16  
**chief** 92:4  
**child** 84:8, 9, 12  
**choices** 29:15,  
16  
**choose** 66:21  
67:9  
**chosen** 19:18  
29:18  
**Chowdhury**  
2:11 115:18, 19  
**Christine** 2:3  
88:4 90:2  
91:17 93:10  
94:4, 11 95:3  
98:1, 23 99:12  
107:2, 4, 10, 13,  
16, 19, 25 108:4,  
14 109:4, 24  
110:23 112:4  
113:12, 16 115:7  
**circumstances**  
20:6 24:23  
**Citadis** 25:22  
26:2, 19, 25  
27:2, 5, 10  
28:14, 16, 17  
74:2  
**City** 12:9, 11  
21:4 26:23  
55:2, 7, 8, 13, 19  
56:13, 16, 17  
60:6, 17 64:17,  
25 68:10 88:18  
89:16, 17, 18, 23

90:10 91:8, 11,  
13 93:23, 25  
101:3, 4, 7, 21,  
25 102:6, 10, 16,  
22 103:1, 6, 11,  
15, 19 104:7, 10,  
20 107:5, 17  
**City's** 69:2  
90:25 102:6  
103:1  
**civil** 5:18  
**claim** 64:23  
114:20  
**claims** 69:24,  
25 115:3  
**clarification**  
10:5 60:13  
75:13  
**clarify** 88:8  
**class** 18:22  
50:2  
**clean** 113:24  
114:8  
**clear** 28:13  
95:3  
**climates** 17:13  
**close** 14:7  
84:11 111:10  
**closely** 14:22  
61:17  
**closing** 84:6  
**closings** 30:20  
**co-counsel** 4:13  
**Co-Lead** 2:3  
**collaborated**  
14:21  
**collaborating**  
57:24  
**collaboration**  
14:8 56:12, 16  
58:19, 21  
**collaborative**  
4:12 13:25  
68:22  
**collaboratively**  
80:3  
**colleagues**  
14:19, 20 91:7  
93:25 114:8, 23  
**colour** 66:18, 21  
67:9  
**colours** 64:18  
**combine** 21:10,  
11

**come** 9:9  
15:17 19:9  
51:24 53:18  
61:25 102:16  
111:16  
**commence** 4:21  
**commencement**  
45:18  
**commencing**  
4:1  
**comment** 88:10  
**comments**  
116:10  
**commercial**  
6:16, 22 11:22  
12:5 14:25  
15:3, 4 61:21  
62:23 63:6  
86:17 89:10  
91:2 101:19  
102:11 110:21  
**COMMISSION**  
1:6 2:1 4:18  
21:19 37:10  
**commissioning**  
25:1, 4, 12, 17  
32:3 37:22  
38:18, 23 57:15  
82:2, 3 84:24  
88:24 89:7  
93:4, 7 95:19,  
24 96:3 98:3, 5  
106:6  
**Commission's**  
4:10, 19, 23 5:3  
**committed** 44:8  
**Committee**  
91:25 92:2, 11  
95:6  
**communication**  
7:24 12:17  
34:11, 12, 13, 14,  
15 93:24  
**communication-**  
**based** 30:9  
**Communications**  
**-Based** 19:20  
**community**  
102:22  
**companies**  
58:21 92:12  
**company** 8:16,  
17 50:1 92:2  
116:18



<p><b>company's</b> 30:6 <b>compared</b> 23:18 <b>comparing</b> 78:4 <b>competitors</b> 20:1 31:13 <b>complete</b> 36:10 98:6 99:1 <b>completed</b> 6:12 22:1, 2, 23 33:17 <b>complexities</b> 95:5 <b>complexity</b> 104:17, 19 <b>component</b> 16:13, 20 22:7 27:25 34:20 35:5 46:8, 10 53:23 54:3 62:25 65:10 83:14, 15 96:14 97:14 <b>componentry</b> 50:8 <b>components</b> 18:12 23:5 34:21 38:9 39:1, 2, 3 41:3 48:1, 23 57:16 74:4 83:6 <b>compress</b> 49:12 <b>compressed</b> 96:17 <b>compression</b> 49:10 95:18, 23 96:2 106:3 <b>comprise</b> 16:21 <b>computer</b> 77:21 <b>computers</b> 77:20, 24 78:1, 2 <b>concern</b> 89:3 102:5 103:19 <b>concerned</b> 54:12 64:22 89:1 93:3 <b>concerns</b> 44:7, 10 59:5 64:10 89:12 93:11 94:3 95:18 112:8 <b>concerted</b> 36:16 <b>concession</b> 55:7 89:21, 24 91:6, 7 92:4 93:19, 21 103:5</p>	<p><b>Concluded</b> 115:23 <b>concrete</b> 36:5 <b>conditions</b> 13:12 48:14 <b>conducted</b> 101:21 <b>confidential</b> 5:4 <b>configuration</b> 74:13, 23 78:23, 25 <b>conjunction</b> 92:3, 10 <b>connection</b> 24:5 29:11 <b>connections</b> 69:16 <b>conscious</b> 109:17 <b>conservative</b> 110:20 <b>considerations</b> 31:24 <b>considered</b> 79:6 89:14 98:8 <b>consortium</b> 65:4 <b>constantly</b> 78:4 <b>constructed</b> 45:14 <b>construction</b> 9:17, 20 16:9, 11, 13, 19 22:1 44:11 52:3 53:22 57:12 65:5 89:1 93:5, 15 94:1, 6, 18 95:1 100:10 103:7 104:19, 20, 21 108:10 114:5 <b>constructor</b> 103:5 <b>CONSTRUCTOR</b> <b>S</b> 1:7 2:9 <b>consultancy</b> 104:25 <b>consultant</b> 104:24 105:5 <b>consultants</b> 104:14 <b>consulting</b> 8:20 <b>contact</b> 12:11 14:3 <b>contacted</b> 8:22 <b>contacts</b> 11:17</p>	<p><b>content</b> 13:17 18:25 19:1 43:11, 12, 15, 20, 24 44:1 64:2, 3 113:1 <b>contingency</b> 98:16 <b>continuation</b> 23:14 <b>continue</b> 41:24 45:5 47:7 70:15 72:16 81:1, 9 <b>continued</b> 115:4 <b>continuing</b> 21:16 <b>continuity</b> 105:3 <b>continuous</b> 59:14 <b>contract</b> 6:10 12:3 13:6, 7, 8, 17 24:18 33:10 36:19, 21 59:2 61:15 65:5 67:4 69:5, 22 75:15 79:18 80:14 100:7, 10 103:1 <b>contractor</b> 33:6 36:23 102:21 <b>contractors</b> 102:17 <b>contracts</b> 10:24 11:15, 19 13:9 33:5 60:22 63:21, 25 64:1, 3, 4, 5, 9 65:3 <b>contractually</b> 90:8 <b>control</b> 10:17, 18 19:17, 20 28:3, 19 30:9, 11, 23 31:6 33:22 41:21 51:15 73:8 74:11, 16 77:5 78:6, 7 79:10 82:6 90:24, 25 101:18 115:5 <b>controls</b> 33:21 <b>convenience</b> 98:21 <b>convince</b> 108:22 109:15</p>	<p><b>convincing</b> 108:25 <b>copy</b> 7:2, 7 <b>Corp</b> 8:10 <b>correct</b> 5:7 7:9 13:1 14:11 25:22, 23 42:19 48:5 53:6 65:15, 21 75:10, 14 82:14, 15 96:6, 7, 20 107:8 <b>corrections</b> 4:24 5:2, 10 <b>correctly</b> 17:20 43:14 <b>cost</b> 41:12 112:19 115:1 <b>costs</b> 20:11 114:21, 22 <b>COUNSEL</b> 2:1, 3, 4 4:15 5:3 <b>country</b> 111:4 <b>couple</b> 37:16 56:10 <b>course</b> 14:20 17:21 20:19 39:4 51:14 55:9 56:3 61:16 79:11 89:20 93:19 94:16 112:21 <b>Court</b> 10:4 60:12 75:12 <b>coverings</b> 64:18 <b>cracks</b> 35:3 47:6 <b>crash</b> 49:2, 8 <b>Crawford</b> 51:1, 6, 7, 9 52:23 <b>Creamer</b> 6:20 <b>create</b> 34:16 89:17, 18 <b>created</b> 114:6 <b>criteria</b> 84:13, 14, 15 98:7 99:22 100:1 <b>critical</b> 32:6 <b>criticism</b> 95:16 <b>Crown</b> 5:18 <b>CRR</b> 116:3, 19 <b>CSR</b> 116:3, 19 <b>culminate</b> 16:15 <b>cure</b> 96:12, 13 97:6</p>	<p><b>Curriculum</b> 3:4 15:10 <b>Currie</b> 51:6, 8, 9, 21, 23 54:18 <b>curve</b> 112:20, 22 <b>curves</b> 19:12 72:3 79:4 <b>customer</b> 98:14 106:19 <b>customers</b> 11:10 <b>cut</b> 75:21 93:9 <b>cutting</b> 93:4 <b>CV</b> 7:2, 7 15:8 <b>cycles</b> 46:25 47:4, 9 <b>cycling</b> 46:19  &lt; D &gt; <b>damages</b> 107:6 <b>Daniel</b> 63:3, 9 <b>data</b> 7:25 30:21 78:4, 5, 8 <b>date</b> 37:14 71:11 79:19 85:18, 19, 20 86:5 87:1 88:3 91:16 107:8, 11 113:19 <b>Dated</b> 116:15 <b>dates</b> 13:10 <b>David</b> 6:18 108:21 <b>day</b> 1:15 31:14 34:24 53:15 67:7 68:11 102:19 110:9 111:17 116:15 <b>days</b> 32:25 51:10 52:1, 24 100:16, 17, 21 <b>day-to-day</b> 60:21 103:6 <b>deal</b> 12:9 17:18 74:12 114:22, 25 <b>dealer</b> 94:21 <b>dealing</b> 14:24, 25 15:2 60:23, 24 61:3, 10 63:2 73:20, 25 74:2 102:6 103:6 <b>dealt</b> 12:5 65:7</p>
---	--	--	--	--

<p>102:10 <b>Deasy</b> 2:20 <b>debt</b> 107:17 <b>decided</b> 101:9 <b>decision</b> 67:17 68:14 92:3, 13 109:18 112:24 <b>decisions</b> 65:17 69:2 <b>declaration</b> 4:10 <b>deemed</b> 5:14 <b>defect</b> 90:21 91:3 <b>defined</b> 90:14 <b>definite</b> 16:11 <b>definitely</b> 94:2 <b>degradation</b> 47:6 78:17, 18 <b>degrade</b> 72:19 <b>degraded</b> 98:15 <b>degree</b> 73:1 <b>degrees</b> 48:19 83:19 <b>delay</b> 20:20 35:17 36:18, 19, 21, 25 89:14 90:3, 14, 20 91:13 107:7 <b>delayed</b> 37:16 67:18 <b>delays</b> 57:16, 19, 20 64:23 <b>delegate</b> 59:5 <b>delegated</b> 60:20 <b>deliverables</b> 64:12, 15 <b>delivered</b> 113:13 <b>demonstrate</b> 66:24 67:11 <b>department</b> 34:15 <b>departure</b> 28:20 37:25 <b>depending</b> 32:25 53:23 80:18, 23 82:7 98:13 <b>depends</b> 74:22 83:11, 14 <b>deputy</b> 12:12 52:24 94:1 101:22 <b>derail</b> 97:15, 21 <b>derailment</b></p>	<p>97:11 <b>describe</b> 102:24 <b>described</b> 47:15 65:14 <b>describing</b> 37:23 <b>design</b> 13:20, 21 18:7 50:6 54:20 65:14, 25 66:5 67:17 72:6, 7, 9, 10, 11 73:13, 17, 19 74:5 75:9 77:2 79:20, 22, 24 80:3, 9 81:7, 13 99:7, 8 <b>designed</b> 18:8 30:23 77:23 <b>design-related</b> 65:12 <b>desire</b> 58:13 <b>desired</b> 79:5 <b>despite</b> 56:13 65:24 75:1, 11, 15 106:23 109:18 <b>detail</b> 31:7 63:24 67:12 104:5 <b>detailed</b> 64:4 <b>details</b> 105:20 <b>determine</b> 47:5, 9 66:17 <b>determines</b> 78:9 <b>develop</b> 30:10 44:24 71:10 <b>developed</b> 18:15 24:2, 17 27:15 42:22, 23 70:24 71:12 73:21 74:7 77:11 79:11 <b>developing</b> 26:17 30:25 <b>Development</b> 6:23 7:17 8:10 9:24 26:8, 9 27:20 71:5 82:9 <b>developmental</b> 54:18 <b>diagnostic</b> 30:21 <b>die</b> 96:15 <b>difference</b> 16:11 <b>different</b> 18:1 23:4 28:24</p>	<p>45:25 46:21 47:17, 19 60:25 61:1 78:14, 24, 25 79:2 102:9 <b>difficulties</b> 24:5 29:11 <b>direct</b> 58:24 <b>directly</b> 12:9 101:4 <b>director</b> 6:16, 17 10:22 11:2, 23 12:12, 13 13:22 14:1, 8, 18, 19 15:18 16:6 52:25 94:1, 2, 18 95:7 101:22, 23 108:21 111:18, 20 <b>directors</b> 102:12 <b>disagree</b> 87:18 <b>disagreed</b> 87:18 <b>discover</b> 85:6 <b>discovered</b> 45:8 <b>discrete</b> 35:5 <b>discussion</b> 87:19 115:13 <b>discussions</b> 68:18 76:10, 11, 13, 16 87:12 91:6, 18, 21 99:22 114:6, 7 <b>dispute</b> 108:15 <b>distinction</b> 16:18 <b>Division</b> 8:7, 15 <b>document</b> 7:10 <b>documentation</b> 13:14 <b>documents</b> 3:10, 15 17:22 25:8 <b>doing</b> 9:25 19:4 21:13 27:19 38:12 47:14 52:6 69:21 88:22 <b>door</b> 30:20 83:25 84:2, 5, 6 <b>doors</b> 48:16 84:11 <b>Douglas</b> 19:24 <b>drafting</b> 62:13 <b>drag</b> 84:11</p>	<p><b>Dragados</b> 58:14 63:4, 10 91:23 95:13 <b>drawings</b> 26:12 <b>drive</b> 94:22 <b>driverless</b> 77:15 <b>driver's</b> 83:17 <b>due</b> 16:8 17:2 58:9 76:21 <b>duplicate</b> 39:17 <b>duplication</b> 41:12 <b>dust</b> 113:24 <b>duty</b> 89:13 <b>dynamic</b> 22:16, 17  &lt; E &gt; <b>earlier</b> 15:25 16:1 33:16 47:16 65:18, 24 85:10 106:14 109:25 110:19 <b>early</b> 57:3 64:20, 21 67:2, 3 68:9, 10, 11 108:15 109:12 <b>east</b> 21:5 88:18 <b>eastern</b> 21:4 <b>easy</b> 31:12 <b>eating</b> 89:6 <b>edict</b> 92:20 <b>effect</b> 19:4 66:3 108:24 114:15 <b>effects</b> 20:24 23:21 24:3 37:11 93:6 98:14 106:6 <b>efficient</b> 41:6 <b>effort</b> 36:17 39:21 40:1 41:7 42:3 54:2 58:18 <b>efforts</b> 36:24 <b>egress</b> 73:4, 6, 11 <b>EJV</b> 108:5, 20 109:18 <b>electrical</b> 48:12 <b>element</b> 31:1 47:20 74:12 82:19 83:20 <b>elements</b> 41:21 45:8 48:21</p>	<p>54:18 63:6 64:19 73:13 87:15 101:19 <b>Elizabeth</b> 2:20 <b>EllisDon</b> 58:15 91:23 95:14 <b>else's</b> 15:17 <b>emergency</b> 30:18 34:13 72:2 <b>emphasis</b> 54:5, 22 57:4 <b>employed</b> 6:9, 16 <b>employees</b> 41:15 <b>encompass</b> 13:3 <b>encompassed</b> 51:18 <b>encompasses</b> 67:25 <b>ended</b> 19:3 <b>engage</b> 87:19 <b>engaged</b> 6:9 <b>engineer</b> 46:15 80:22 <b>engineered</b> 74:17 <b>engineering</b> 18:21 27:20 32:2 39:14 50:2, 5 72:5 80:17 108:5, 9 110:3 111:6, 11 <b>engineers</b> 61:18 109:2, 9 <b>enjoy</b> 9:1 <b>enjoyed</b> 106:17 <b>entail</b> 12:25 <b>entailed</b> 41:10, 11 <b>enter</b> 4:18 <b>entered</b> 4:24 5:4, 9 <b>entire</b> 44:17 <b>entirety</b> 46:9 <b>entities</b> 58:22 <b>envelope</b> 27:18 <b>environmental</b> 48:14, 15 <b>equal</b> 54:5 <b>err</b> 110:21 <b>errors</b> 5:8 <b>escorted</b> 52:23</p>
---	---	--	---	--

<p><b>essentially</b> 20:9, 10 38:1 45:13 76:9 <b>establish</b> 5:17 <b>established</b> 100:3, 5, 7 109:8 <b>estimate</b> 25:2 <b>estimates</b> 109:19 <b>Estrada</b> 92:8 <b>etcetera</b> 8:2 11:3, 4 17:15 22:22 34:10, 16, 17 61:21, 22 71:20 78:20, 21 <b>Eugene</b> 6:20 <b>Europe</b> 17:13 18:2 19:5 26:3 74:2 111:13 <b>European</b> 48:25 49:4, 15 <b>event</b> 20:20 36:18, 19, 21 89:14 90:3, 14, 20 91:13 92:19 102:5, 23 <b>events</b> 13:11 <b>eventually</b> 9:13 10:2 110:10 <b>Everybody</b> 56:17 58:14, 17, 19 <b>everybody's</b> 54:14 <b>evidence</b> 4:9, 19, 25 5:5, 9, 21, 24 6:3 30:3 <b>evolution</b> 79:22 81:13 <b>evolving</b> 80:9 <b>exactly</b> 9:13 67:22 101:12 <b>example</b> 17:10 34:22 44:24 46:13, 22 47:11 48:16, 18 55:20 58:2 59:16 66:17 71:8 72:23 83:16 90:25 94:24 102:1 103:25 105:7 <b>examples</b> 68:24 <b>excellent</b> 50:4,</p>	<p>5, 6 105:10 <b>exchange</b> 71:5 <b>exchanging</b> 72:12 <b>ex-colleagues</b> 8:23 <b>executive</b> 91:21, 24 92:2, 4, 10 95:6 <b>executives</b> 92:11, 21 95:13 114:23 <b>Exhibit</b> 15:8, 10 <b>EXHIBITS</b> 3:1 <b>existing</b> 18:14 26:9, 14 27:1, 3, 5, 13 30:3 73:23 74:10, 11 <b>expect</b> 85:1 <b>experience</b> 7:13 9:5, 6, 21, 23 12:19 17:12 21:18 24:21 32:14 42:2 56:21 64:21 65:17 75:24 94:12, 14 95:2, 12, 22 103:9 111:5, 12 112:12 <b>Experienced</b> 24:4 29:10 39:12, 13 41:14 42:24 55:14 56:14, 15 <b>expert</b> 76:2 90:15 <b>expertise</b> 104:8, 23 105:8, 13, 15, 16 <b>experts</b> 76:4 <b>explain</b> 11:23 32:13 51:17 55:11 68:6 70:13, 18 103:2 105:20 <b>explained</b> 83:13 <b>explaining</b> 6:6 <b>express</b> 93:17 103:19 <b>expressed</b> 93:12, 18, 23 <b>expressing</b> 93:13 <b>extend</b> 86:8</p>	<p><b>extension</b> 86:25 87:22 88:1 <b>extensive</b> 9:21 12:19 17:12 84:20 111:5 <b>extent</b> 38:5 52:22 89:6 90:4 113:17 <b>extra</b> 114:21 <b>extremely</b> 56:18 72:22 <b>eye</b> 68:19  &lt; F &gt; <b>faced</b> 19:14 <b>facilities</b> 9:18 <b>facility</b> 19:3 22:18 35:22 38:14 39:6, 23 44:9 52:8, 9 53:7 55:9, 20 58:3, 7 69:12 78:25 88:17 105:6 112:11, 15 <b>fact</b> 15:21 21:17 23:25 24:1, 16 36:13 56:13 65:3, 24 75:1, 11, 15 88:3 95:16 102:8 106:13 <b>factors</b> 74:25 75:1 <b>facts</b> 103:13 <b>failed</b> 97:14 <b>fair</b> 14:24 101:5 <b>fall</b> 58:5 85:13 <b>falling</b> 85:11 <b>familiar</b> 70:3 87:6, 8 <b>faster</b> 46:14 <b>fatigue</b> 46:18, 19 47:5, 6 <b>favourably</b> 40:4 <b>feasible</b> 76:14 <b>feature</b> 27:1, 3, 4 <b>features</b> 64:18 <b>February</b> 6:10 42:9 63:14 <b>feel</b> 40:16 112:2 115:9 <b>felt</b> 39:19 40:1, 14 52:13 103:8 <b>Ferrer</b> 52:25</p>	<p><b>F-E-R-R-E-R</b> 53:1 <b>fide</b> 58:18 <b>field</b> 76:3, 5 <b>fifth</b> 36:8 <b>figure</b> 73:3 <b>fill</b> 15:17, 23 111:1, 4 <b>filled</b> 111:2 <b>filling</b> 16:5 <b>final</b> 39:4 49:18 <b>finalize</b> 72:5 114:23 <b>finalized</b> 70:6 75:9 <b>finalizing</b> 66:5 <b>finance</b> 12:2 <b>financial</b> 20:10 <b>financing</b> 6:12 <b>find</b> 15:22 16:7 57:24 96:4, 18 97:5 <b>finding</b> 9:1 110:24 111:1 <b>fine</b> 26:17 27:19 97:14 <b>finish</b> 37:6 61:25 <b>finished</b> 36:6 114:1, 13 <b>fire</b> 34:15 72:24 73:1, 7 <b>firstly</b> 96:3 <b>fix</b> 97:7 110:14 <b>fleet</b> 44:17 45:19 84:21 <b>float</b> 110:7, 10, 14 <b>floor</b> 64:18 67:10 <b>flooring</b> 66:18, 19, 22 <b>flow</b> 63:8 <b>flowed</b> 107:6 <b>flowing</b> 84:10 <b>fly</b> 52:1 <b>focus</b> 16:19 17:5 53:21 <b>focused</b> 48:3 <b>focusing</b> 76:22 <b>folks</b> 39:14 80:17 <b>follow</b> 25:20 <b>followed</b> 3:11</p>	<p><b>following</b> 3:10, 16 37:24 43:9 56:22 59:20 83:8 102:1 <b>follow-up</b> 4:15 <b>foregoing</b> 116:5, 12 <b>forensic</b> 47:4 <b>forge</b> 96:15 <b>forget</b> 86:6 101:12 <b>forging</b> 96:14 <b>form</b> 26:13 <b>forth</b> 36:24 116:7 <b>forward</b> 66:1 87:7 105:21 <b>found</b> 16:2 <b>fourth</b> 36:7 <b>frame</b> 49:11, 12 <b>France</b> 29:6 39:3 41:8 42:22 <b>free</b> 113:24 <b>freeze</b> 72:9 <b>friend</b> 111:10 <b>front</b> 17:22 25:9 90:11 <b>froze</b> 24:8 <b>full</b> 34:8, 9 35:18 <b>fully</b> 22:13 29:23 70:21, 23 98:6 99:1 <b>function</b> 31:7 <b>functionality</b> 22:5 30:12 71:2 74:18 <b>functions</b> 30:19  &lt; G &gt; <b>gal</b> 40:22 <b>gaps</b> 65:2 <b>gates</b> 114:3, 11 <b>gauge</b> 59:20 <b>gearbox</b> 34:23 35:1 48:10 71:10, 13 <b>gearboxes</b> 18:11 22:9 <b>general</b> 64:2, 3 <b>generally</b> 28:16 32:5 <b>generations</b> 77:23</p>
--	---	--	---	--

**gentleman** 6:20,  
23 14:3 55:16  
61:14  
**geography**  
79:12  
**geotechnical**  
90:16  
**give** 19:7  
21:21 25:14  
46:12 66:16  
86:18 103:25  
**given** 5:6, 19  
12:14 20:6  
23:24, 25 24:3,  
9, 16, 19 26:5  
27:7 31:24  
34:7 69:5 74:5  
98:2 110:4  
**giving** 5:24  
16:24 50:13  
**glass** 37:9  
**Good** 4:4 6:8  
9:5 15:22  
18:17 20:6  
31:16, 17 56:17  
57:23 58:17  
67:15 86:15  
103:15 106:17,  
18  
**Government**  
8:8, 10  
**granted** 87:22,  
25  
**great** 8:25  
49:23 50:1  
67:12 95:1  
106:24 115:21  
**greater** 42:3  
57:5 113:6  
**ground** 5:15  
**group** 61:18  
**grow** 115:4  
**guess** 30:3  
32:12 73:24  
107:7 115:4  
**guideway** 22:22,  
23 74:13 78:22  
**guideways**  
38:12  
**guy** 9:17, 20  
12:8 40:22  
57:8 89:1, 10  
91:2 110:21  
111:21

**guys** 89:10  
93:15, 16  
**< H >**  
**half** 47:3 53:14  
66:20 72:11  
73:18 74:21  
**hand** 69:8  
**handful** 111:7  
**hand-in-hand**  
14:21  
**Hannelie** 62:15  
**happen** 23:8  
73:14 90:16, 17  
**happened** 20:16,  
17 35:24 37:19  
62:10 81:3  
96:24 115:6  
**happening** 78:8  
**happens** 97:21,  
25  
**happy** 9:2  
115:13  
**hard** 17:22  
20:24 36:14, 25  
89:2, 15  
**hardware** 77:19,  
22, 23 83:12  
85:7 96:8, 9  
97:6  
**harm** 72:20  
**hear** 24:14  
**heard** 24:9  
65:14  
**hearing** 4:20  
**Hearings** 4:11,  
19, 21  
**heating** 48:16,  
20  
**Held** 1:14  
**help** 115:13  
**hey** 67:8  
110:17 114:8  
**high** 113:25  
**higher** 48:25  
49:4 73:1  
**hindsight**  
106:10  
**hire** 39:9 105:5  
109:1  
**hired** 15:14, 25  
55:16 57:8  
62:10 63:13  
**hit** 20:25

**hitting** 90:12  
**hold** 69:7  
**home** 9:9  
**honest** 18:18  
31:9 54:17  
94:25 106:22  
111:9  
**honestly** 18:21  
20:5 87:4 89:20  
**honing** 72:11  
**Hornell** 42:18,  
24 43:5, 9 44:4  
69:12 112:7, 12,  
22 113:5  
**hour** 18:6, 9  
22:21 71:9  
**huge** 19:12, 13  
41:2, 13  
**human** 12:2  
72:20  
**Humberto** 52:25  
**hundreds** 85:25  
**hybrid** 18:8, 14  
**hypothetical**  
77:3  
**< I >**  
**identified** 57:21  
65:7 83:9 85:2  
**identify** 66:1  
73:8  
**II** 11:1, 18  
**imagine** 35:10  
**Imbesi** 2:4 4:4  
7:1, 6, 11 9:19  
11:12, 21 12:21  
13:2 14:5, 13,  
23 15:4, 7, 12,  
16 16:17 17:1  
21:24 24:6, 15,  
25 25:19, 24  
26:15, 24 27:4,  
7, 23 28:6, 13,  
22 29:3, 24  
31:18, 22 32:4,  
12, 22 35:15  
37:3, 6, 18 38:7,  
22 40:13 41:23  
42:5, 10, 14  
43:3, 7, 21 44:2,  
15 45:11, 24  
46:4, 7, 11  
47:24 48:6  
49:20 50:22  
51:2, 5, 17, 20

52:18 53:4, 20  
54:8 55:2, 18,  
24 56:19 57:13  
58:24 59:8, 11,  
25 60:9, 19  
61:4, 10, 23  
62:4, 11, 22  
63:16 64:6  
65:9, 16, 22  
66:4, 14 67:16,  
24 68:24 70:2,  
12, 15, 18 72:13,  
16 73:16 75:3,  
20 76:12 77:1  
79:14 80:8, 25  
81:8, 12, 19, 23  
82:11 83:5  
84:19 85:1, 9  
86:7, 14, 24  
87:3, 5, 21 88:2  
92:13 95:17  
99:20 100:4, 11,  
18, 25 101:24  
102:24 103:18  
104:7, 16  
105:14 106:7,  
25 115:14, 17,  
20, 21  
**impact** 66:6, 8,  
10, 13, 15 67:19  
**impacted** 88:9,  
10  
**implement** 9:6  
11:18 45:9  
82:25  
**implementation**  
7:19, 22 77:13  
**implementations**  
77:12  
**implemented**  
9:3 11:16  
49:18 66:20  
**implementing**  
109:11  
**importance**  
30:25 67:19  
**important** 16:13  
35:9 54:20  
90:13 109:21  
115:9  
**impose** 79:19  
**imposed** 75:4  
**imposing** 79:24  
**inches** 97:17

**in-city** 17:14  
**included** 48:8  
**including** 10:24  
11:19 88:1  
**incorporate**  
60:16  
**increase** 39:25  
40:1 58:7  
**incremental**  
21:13 22:17  
**incrementally**  
35:14  
**incriminate** 5:16  
**independent**  
14:15 50:12, 15,  
23  
**INDEX** 3:1, 13  
**indicated** 8:24  
27:9 37:20  
40:13 60:20  
65:20 101:3  
**individual** 15:23  
16:4 33:19  
34:19 50:25  
61:13  
**individually**  
33:20, 21  
**industrial** 39:14  
**industry** 17:9  
33:3 44:23  
45:2 72:23  
73:2, 3 75:16  
83:3 100:15, 24  
103:9  
**information**  
71:5, 14 72:12  
99:15 102:25  
103:20, 22, 23  
104:8, 14  
**informed** 87:14  
92:14  
**initial** 18:7  
23:18 44:15  
**initially** 44:6  
56:2 58:2 66:6  
91:3  
**injury** 72:20  
**input** 99:21  
**Inquiries** 5:13  
**inquiry** 5:13, 20  
23:24  
**in-situ** 45:9  
**instance** 5:18  
69:10

<b>instrumental</b> 26:22	<b>intricate</b> 71:2 113:23	58:14, 17, 19 89:19	<b>layer</b> 33:15, 18	<b>logistics</b> 19:11 40:25 41:20 61:21
<b>insufficiently</b> 94:6	<b>inventory</b> 10:18	<b>join</b> 9:2	<b>layers</b> 30:24	<b>Long</b> 9:14 22:24 77:16
<b>integrated</b> 28:21 30:2 31:19 71:6 87:10 99:1	<b>invest</b> 108:22 109:20	<b>joined</b> 8:7 111:23	<b>lead</b> 82:13	<b>longer</b> 73:19
<b>integrating</b> 29:25 30:6	<b>investing</b> 39:20	<b>joining</b> 29:16	<b>leading</b> 85:22	<b>longest</b> 29:23 77:14
<b>integration</b> 7:19 13:23 14:2, 9 15:19 16:6, 14, 20 17:5 24:19 28:3 31:23 32:6, 14 35:19 55:1, 15 56:15 57:9 79:22 80:9 94:7 98:5, 24 107:21 108:1, 6, 12, 19, 23 109:3, 9 110:1	<b>investment</b> 40:1 41:18	<b>joint</b> 6:17 12:6 91:22 108:5	<b>learned</b> 95:1	<b>looked</b> 111:20 112:1
<b>integrator</b> 16:5	<b>involve</b> 69:9 113:4	<b>Judith</b> 2:19 116:3, 19	<b>learning</b> 19:11 112:20, 21	<b>looking</b> 15:21 23:3 25:11 53:23 86:8 104:1
<b>intends</b> 4:18	<b>involved</b> 7:13 8:4 9:15 23:25 50:17 52:19, 20, 21, 22 53:7 55:2, 7 56:4 62:7, 12 63:1, 5 67:13 69:6 80:11, 13, 14, 18 87:12 89:15 90:18 99:22 113:5	<b>July</b> 20:22	<b>leaving</b> 36:15 62:25 99:23	<b>loss</b> 58:8
<b>intention</b> 43:4 44:16	<b>involvement</b> 44:7 56:22 58:25 85:12 101:4, 6, 25 103:19 106:8, 10	<b>jump</b> 88:4	<b>led</b> 10:3 37:14	<b>lost</b> 24:7, 11
<b>intents</b> 26:5	<b>involves</b> 84:16	<b>junction</b> 99:6	<b>left</b> 20:7, 8 23:11 37:20 38:11 46:20 57:3 81:17, 22 84:23 86:3 98:24 99:17 101:13 114:18, 24	<b>lot</b> 16:8 18:20 19:6 41:4 54:2 76:22 89:21 95:1 105:8 107:21 108:20
<b>interest</b> 54:8 56:7	<b>involving</b> 53:4	<b>June</b> 20:17, 22	<b>legal</b> 62:17, 25	<b>low</b> 17:14
<b>interested</b> 53:21 56:7 57:10	<b>issue</b> 42:7 83:10 99:14 105:11, 12	< K >	<b>Lemay</b> 6:24	<b>lower</b> 78:20
<b>interface</b> 32:6 80:11, 13	<b>issues</b> 31:23 57:19, 21 64:15 65:12 68:22 69:4, 23 85:2, 6 87:20 91:15 95:22 105:16 110:4, 11, 24 114:5	<b>key</b> 87:23 94:22	<b>L-E-M-A-Y</b> 6:24	<b>low-floor</b> 26:21 31:20, 24
<b>interfaces</b> 32:5	<b>item</b> 3:11 48:8	<b>kilometers</b> 18:6, 9 22:20, 21 71:24, 25 72:1 77:16	<b>lenders</b> 107:5	<b>LRT</b> 6:7 11:18
<b>interfacing</b> 69:5 81:13	< J >	<b>knew</b> 42:2 75:16, 17, 18 114:19	<b>lender's</b> 51:6, 21	<b>LRV</b> 31:20 38:24 39:2 46:8
<b>interim</b> 86:11	<b>Jacques</b> 13:23, 24 14:17 15:25 39:21 61:18 69:9, 11 75:23 109:1, 6, 8 111:9, 10, 14, 19, 23, 24	<b>know-how</b> 19:6	<b>length</b> 35:18 74:23	<b>LRVs</b> 37:22 45:14, 15 81:15
<b>interior</b> 48:17	<b>known</b> 78:15 83:3	<b>knowledge</b> 31:20, 21 43:23 80:1, 25 97:13 100:7 103:21 106:1 113:6	<b>level</b> 11:7 19:14 33:7 34:12 35:5 41:17 56:16 87:14, 20 91:22 94:12 95:4, 7 102:25 103:20	<b>LTA</b> 51:21
<b>internal</b> 114:13	<b>known</b> 78:15 83:3	<b>know</b> 11:18	<b>liability</b> 5:17	<b>Lumpur</b> 11:18
<b>Internet</b> 97:13	<b>lack</b> 12:7 20:2 41:18 94:11 95:4 105:14, 16 110:6	< L >	<b>lie</b> 108:2	< M >
<b>interpretation</b> 43:12 113:1	<b>lacked</b> 104:22	<b>lack</b> 12:7 20:2 41:18 94:11 95:4 105:14, 16 110:6	<b>life</b> 18:20	<b>made</b> 4:24 5:2, 10 26:25 27:8 29:16 39:25 65:18 80:6 86:23 88:7 91:18, 21 92:3, 9 96:15 97:23 112:24 116:10
<b>intervene</b> 4:14	<b>lacking</b> 40:16	<b>lacked</b> 104:22	<b>LIGHT</b> 1:6 17:12 21:20 29:21 58:22 79:12	<b>magnifying</b> 37:9
<b>intervened</b> 42:1	<b>lagging</b> 114:4	<b>lacking</b> 40:16	<b>likable</b> 111:19	<b>main</b> 48:11 91:1
<b>intervenes</b> 10:4 60:12 75:12	<b>Lal</b> 62:21	<b>lagging</b> 114:4	<b>liked</b> 111:19	<b>maintain</b> 33:7
<b>interview</b> 4:6, 8, 12, 16, 17 61:25	<b>late</b> 66:22 67:10 77:24 86:1 96:19 109:11, 13 113:13	<b>Lal</b> 62:21	<b>limited</b> 101:4	<b>maintenance</b> 8:1 19:3 22:18 35:22 38:14 39:6 47:9 52:8, 9 53:7 78:25 88:17
<b>interviewee</b> 116:7	<b>late</b> 66:22 67:10 77:24 86:1 96:19 109:11, 13 113:13	<b>late</b> 66:22 67:10 77:24 86:1 96:19 109:11, 13 113:13	<b>liquid</b> 90:23	<b>Mainville</b> 2:3 4:13 88:4 90:2 91:17 93:10
<b>intimately</b> 30:12	<b>lateness</b> 85:23	<b>lateness</b> 85:23	<b>liquidated</b> 107:6	
<b>intricacies</b> 95:10	<b>latent</b> 90:21 91:3	<b>latent</b> 90:21 91:3	<b>literally</b> 52:2	

<p>94:4, 11 95:3 98:1, 23 99:12 107:4, 10, 13, 16, 19, 25 108:4, 14 109:4, 24 110:23 112:4 113:12, 16 115:7 <b>major</b> 20:18 69:23, 24 85:15, 23 86:10, 12 93:8 102:5 <b>making</b> 47:17 52:17 66:4 67:17 <b>Malaysia</b> 11:17 <b>manage</b> 31:12 <b>managed</b> 11:5 14:2 65:7 <b>management</b> 8:4, 12 10:8, 23 11:7, 9 12:3, 4, 15, 16, 20, 22 13:3, 25 39:23, 24 63:24 67:4 68:21 69:22, 23 86:18 91:22 92:20 106:9 108:22, 25 109:15 <b>manager</b> 10:15, 16 13:6, 7 14:3 59:2 61:15 80:15 <b>managing</b> 13:7 60:22 61:1, 7, 8 64:8 <b>manifest</b> 95:23 105:16 <b>manipulation</b> 103:12 <b>Mannu</b> 2:11 115:19 <b>manpower</b> 40:20 <b>manufacture</b> 41:22 <b>manufacturing</b> 7:17 8:5 9:24 42:15, 16 <b>March</b> 42:9 <b>mark</b> 15:8 <b>married</b> 19:16 28:18, 25 <b>marrying</b> 19:21 28:7, 8, 10</p>	<p><b>mass</b> 7:16, 18, 19, 23 9:18 17:9 45:18 56:15 57:12 75:24 93:16 111:6 <b>materiality</b> 85:14 <b>materials</b> 10:15 <b>matter</b> 15:21 80:22 98:21 106:13 114:24 <b>matters</b> 12:5 <b>MBTA</b> 10:25 <b>McDonnell</b> 19:24 <b>meaning</b> 19:20 <b>means</b> 49:5 78:18 <b>measures</b> 92:16 <b>media</b> 97:23 <b>meet</b> 10:12 13:19 17:24 18:4, 15, 23 19:1 27:15, 21 33:2 39:22 43:20 86:4 91:15 <b>meeting</b> 20:11, 12 53:14, 19 55:3 84:5 85:15 100:21 101:10 116:10 <b>meetings</b> 12:10 50:21 80:11, 13, 17 81:2, 3 101:8, 11, 15, 18 102:12 <b>Member</b> 2:3, 4 <b>members</b> 92:1 <b>mentioned</b> 9:19 24:25 25:1, 25 27:24, 25 44:6 48:6 50:23 56:19, 21 65:10, 11 67:24 68:1 73:16 77:2 79:15 94:4 100:19 112:7 73:16 77:2 79:15 94:4 100:19 112:7 <b>met</b> 13:11, 12 39:24 50:9 75:17, 25 <b>methods</b> 39:14 41:20 <b>Metro</b> 25:15</p>	<p><b>Michael</b> 55:17 56:6, 7 <b>micro</b> 85:22 <b>middle</b> 20:25 21:1, 2 35:13 88:15 <b>mild</b> 17:13 <b>miles</b> 71:9 <b>milestones</b> 13:11 50:9 54:20 63:8 85:15, 17, 23 86:9, 11 87:23 <b>Millhaven</b> 11:14 <b>million</b> 46:25 47:3 <b>milliseconds</b> 78:5, 9 <b>mind</b> 26:4 <b>mine</b> 111:10 <b>minor</b> 57:18, 19, 20 110:11 <b>minority</b> 94:15 <b>minus</b> 17:19, 21 48:17 <b>misalignment</b> 64:10 68:5 <b>misinterpreted</b> 43:15 <b>mitigate</b> 20:24 23:8 36:14, 17, 22, 24 58:8 59:23, 24 66:2 87:19 89:2, 13, 22 90:1, 5 91:14 92:19, 21, 23 93:1, 6 114:17 <b>mitigated</b> 23:9 35:12 36:4 57:22 58:13 66:7, 11 85:7 86:1, 2 87:16 <b>mitigation</b> 20:20 23:14 43:22 89:4, 5, 11, 15 90:7 92:16 106:5 <b>mitigations</b> 23:21 57:24 <b>mobilizing</b> 40:19 <b>model</b> 26:2 27:5 28:18 <b>modification</b> 26:25</p>	<p><b>modifications</b> 26:6 27:8 48:3 82:5 <b>modified</b> 35:11 74:3 79:25 82:21 <b>modify</b> 45:6 83:25 84:2 96:8 <b>moment</b> 24:7 <b>money</b> 23:16 39:20 50:17 89:21 113:11 115:2 <b>monkey</b> 20:13, 18 76:23 <b>month</b> 10:20 51:10 52:1 59:16 103:23 104:3 <b>monthly</b> 50:21 59:14, 15 60:6, 15, 18 101:7, 14 <b>months</b> 16:1 21:21 25:3, 13, 16 55:25 57:4 66:18 94:19 97:2, 3 <b>Morgan</b> 55:17 56:6, 20 <b>morning</b> 4:4 6:8 <b>motor</b> 71:10, 12 <b>motors</b> 18:10 22:8 48:10 78:19 <b>move</b> 15:12 97:8 105:21 <b>movement</b> 47:2 <b>movements</b> 46:21 <b>moves</b> 22:16 84:16 <b>moving</b> 22:5, 19, 20 <b>MSF</b> 21:4 113:12, 19, 20 114:1, 5 <b>mud</b> 114:11 <b>myriad</b> 114:4</p>	<p><b>nature</b> 17:4 54:10 64:19 86:17 96:25 <b>necessarily</b> 31:13 93:19 <b>necessary</b> 34:6 52:14 75:8 <b>needed</b> 16:7 36:9 45:8 52:14 71:14 73:21 74:6 81:6 89:7 108:22, 25 113:2 <b>needs</b> 70:21 71:8 76:8 83:7, 18 98:8 <b>NEESONS</b> 116:18 <b>negative</b> 50:3 <b>negotiated</b> 114:22 <b>negotiation</b> 62:7, 12, 23 63:5 <b>new</b> 10:10, 25 23:25 24:10 26:4, 8 28:15 39:23 41:15 42:6 73:20 78:13 79:10 82:9 112:15, 21 <b>newer</b> 22:8 <b>newly</b> 75:7 <b>nice</b> 9:10 110:18 111:15 <b>night</b> 34:24 <b>non-</b> <b>typographical</b> 5:10 <b>normal</b> 21:18 65:25 81:10, 11 <b>normally</b> 76:20 82:3 100:14 <b>North</b> 8:6 17:24 18:1, 4, 15 24:2, 17 48:24 49:3, 14 111:13 <b>Note</b> 24:4 29:10 <b>noted</b> 3:15 <b>notes</b> 116:13 <b>notice</b> 66:18 <b>Nova</b> 111:11 <b>number</b> 17:16 65:11 109:2</p>
--	--	---	--	--

<b>NUMBER/DESCRIPTION</b> 3:3 <b>numbers</b> 113:6 <b>numerous</b> 77:12  < O > <b>object</b> 6:2 <b>objected</b> 5:14 <b>objectives</b> 20:12 <b>obligated</b> 36:23 <b>obligation</b> 70:14, 16 90:5 <b>obligations</b> 64:16 69:1, 2 90:9 96:20 <b>observe</b> 69:3 <b>obtain</b> 4:9 59:4 <b>occur</b> 56:23 <b>occurred</b> 88:15 <b>offer</b> 16:3 111:25 112:3 <b>old</b> 77:18 <b>OLRT</b> 1:7 2:9 64:16 91:19 101:21 103:5 109:18 <b>OLRT-C</b> 6:10 7:14 9:2 11:22 12:2 14:14 15:14 25:6 29:17 36:13 52:17 60:2, 6 68:11 69:1 70:5 87:10 89:2 93:18 94:8 102:22, 25 103:13, 14 107:23 108:2, 12, 20 <b>OLRT-C's</b> 106:9 <b>OLRT's</b> 55:5 90:24 <b>on-board</b> 22:10 <b>one's</b> 20:1 <b>ongoing</b> 36:15 <b>Ontario</b> 8:8, 11 11:14 50:20 <b>onus</b> 67:11 <b>open</b> 36:6 48:16 98:20 <b>opening</b> 84:1, 2, 5 <b>openings</b> 30:20 <b>operate</b> 18:6 <b>operating</b> 34:8	<b>operation</b> 8:13 9:1 11:14 112:21 113:23 114:16 <b>operations</b> 8:2 34:25 <b>opinion</b> 16:24 17:3 24:21 32:9 50:13 54:24 66:9, 12 70:10 90:13, 19 93:13, 14, 17 97:25 106:2 <b>opinions</b> 93:14, 18, 22 <b>opportunity</b> 5:6 8:25 9:9 <b>opposed</b> 112:14 <b>optimistic</b> 37:2 89:4, 5 92:24 <b>order</b> 4:20 10:12 13:19 17:18 18:25 25:16 27:21 30:10 31:4 34:2 36:10 39:16 40:7 43:20 49:18 51:11 58:8 69:13 70:20 71:16 89:8 93:1, 5, 6 109:21 <b>original</b> 107:10 <b>originally</b> 43:5 44:3 95:25 <b>other's</b> 20:2 <b>OTTAWA</b> 1:6 8:18, 24 9:7, 12 12:9, 11 16:4 17:8, 16, 17 18:8, 14, 23 19:10 21:20 24:18 26:23 27:15, 17 31:15 33:9 39:9 40:8 41:9, 15, 16 42:18 43:1, 8, 19 44:5, 8, 12, 18 58:22 79:12 103:15 106:24 111:16 112:6, 14, 16, 25 <b>Ottawa's</b> 6:7 <b>outcome</b> 24:20, 24 33:1	<b>outset</b> 94:5 107:20 <b>outstanding</b> 99:17 <b>overall</b> 11:8 13:8 24:20 25:12 51:19 58:1 59:3, 4, 20 60:5, 8, 16 66:3 89:6 108:1 <b>overcome</b> 32:2 59:6 76:6 99:16 <b>overly</b> 37:1 92:24 <b>overnight</b> 73:15 <b>overtime</b> 115:8 <b>overview</b> 50:20 59:3  < P > <b>p.m</b> 1:16 115:23 <b>pages</b> 3:16 <b>pal</b> 67:15 <b>Paliare</b> 2:12 <b>parallel</b> 14:15 44:20 <b>paramedics</b> 34:14 <b>parameters</b> 4:6 90:4 <b>parcel</b> 65:13 <b>part</b> 12:10 21:4 35:9 36:20 51:16 53:3, 4, 17, 19 60:8 65:13 75:9 78:11 88:23 91:24 97:2 100:10 101:20 108:5, 17 113:2 <b>participants</b> 1:15 2:7 5:3, 9 <b>particular</b> 19:18 27:10 28:11, 14 30:6 47:10 88:12 <b>particularly</b> 9:23 105:15 <b>parties</b> 69:6 <b>Partly</b> 98:23 <b>partnership</b> 106:20 <b>parts</b> 41:20	<b>party</b> 50:14 99:18 <b>passengers</b> 31:3 <b>PAUL</b> 1:7 2:9 3:4 4:3 6:8 7:5, 9, 15 10:1, 6 11:13 12:1 13:1, 5 14:11, 17 15:2, 6, 11, 15, 20 16:23 17:2 21:25 24:13, 16 25:7, 23 26:7, 16 27:3, 6, 12 28:2, 10, 17 29:1, 5, 14 30:8 31:21 32:1, 9, 17, 23 35:20 37:4, 8 38:1, 11 39:1 40:18 41:25 42:8, 11, 19 43:6, 10, 25 44:13, 19 45:20 46:2, 5, 10, 12 48:5, 9 49:22 50:24 51:3, 7, 19, 23 52:21 53:6, 24 54:16 55:5, 23 56:1 57:2, 18 59:1, 10, 13 60:4, 10, 14 61:2, 6, 12 62:9, 14 63:3, 23 64:14 65:15, 21, 23 66:9, 16 67:22 68:7 69:7 70:8, 14, 16, 20 72:15, 17 74:8 75:10, 14, 22 76:15 77:9 80:2, 12 81:2, 10, 16, 21, 24 82:15 83:11 84:22 85:3, 13 86:10, 15 87:2, 4, 11, 24 88:13 90:12 91:20 92:18 93:12 94:10, 13 95:8 96:1 98:7 99:3, 19, 25 100:9, 13, 20 101:6 102:3 103:4, 21 104:10, 18 105:18 106:11	107:9, 12, 15, 18, 24 108:3, 7, 18 109:7 110:2 111:3 112:17 113:15, 18 115:11, 16 <b>pause</b> 98:6 <b>payment</b> 51:12 52:4, 16 55:6 <b>peculiar</b> 65:6 <b>people</b> 16:9 39:9, 10, 13, 14 40:20, 21 41:15, 20 42:25 56:14 59:5 61:1, 5, 6, 7, 17 73:11 75:23 94:5 101:9 102:11 103:7, 8 104:4 105:9 109:20, 25 111:4, 18 113:5 <b>percent</b> 26:11 33:4 43:16 100:23 <b>perception</b> 102:4 <b>perform</b> 64:4 72:19 97:5 <b>performance</b> 64:13 70:22 80:21 82:19 83:23 84:17 98:11, 15, 19 100:2 <b>performed</b> 51:22 82:12 <b>period</b> 23:15 33:7 37:10, 24 38:18 53:10, 12, 13 57:2 72:9, 10 73:17, 19, 25 74:5 77:2 80:4 96:13, 16 97:4, 6 100:12 102:21 106:3 <b>periodically</b> 55:22, 23 101:17 105:2 <b>perjury</b> 5:23 <b>permanent</b> 104:12, 13 <b>permits</b> 4:15 <b>person</b> 5:19 16:8 50:18
---	--	--	--	--

<p>52:23 59:9 60:24 61:3, 6 110:25 111:1, 19 112:2 <b>personal</b> 111:10 <b>personally</b> 52:20 59:1 62:19 76:15 <b>persons</b> 95:9 <b>perspective</b> 112:9 <b>ph</b> 62:16 <b>phase</b> 95:21 <b>physical</b> 53:13 54:6 <b>piece</b> 95:6 110:1 <b>place</b> 5:23 63:20 109:25 116:6 <b>plan</b> 9:11 54:15 98:16 100:5 113:3 <b>planned</b> 25:5 42:3 49:21 58:2 95:25 <b>planning</b> 10:17 <b>plans</b> 57:22 <b>plant</b> 10:10, 18 19:2, 3 <b>platform</b> 18:7 26:10, 14 47:17 48:22 84:12 <b>played</b> 108:5 <b>pleased</b> 20:15 38:19, 20 40:5 <b>pleasure</b> 103:16 <b>plethora</b> 103:22 <b>point</b> 8:14 10:19 14:7 20:21 31:23 37:1 38:20, 25 39:19 50:13 56:10, 22 67:4 70:25 81:16, 20, 21 82:5 85:4, 11 90:13 97:10 99:6 101:8 106:4 115:4 <b>points</b> 68:15 <b>police</b> 34:14 <b>portion</b> 29:12 108:11 <b>position</b> 11:25 16:5 20:11</p>	<p>59:18 73:11 91:2, 10 <b>possibilities</b> 34:2 <b>possible</b> 23:6 <b>possibly</b> 35:23 62:21 100:13 104:4 <b>posted</b> 4:22 <b>potential</b> 64:10 87:12, 13 95:18 <b>pounds</b> 49:13, 15 <b>power</b> 8:1 34:4, 5, 6, 7 40:20, 21 104:4 114:3, 10 <b>practical</b> 44:21 65:19 <b>practically</b> 99:5 <b>practice</b> 80:10 <b>predecessor</b> 22:6 105:22 <b>predicating</b> 91:10 <b>preparation</b> 62:8 99:21 <b>prepared</b> 100:6 <b>prescribed</b> 100:1 <b>prescriptiveness</b> 75:7 <b>PRESENT</b> 2:17 112:22 <b>presenters</b> 116:9 <b>presenting</b> 92:15 <b>pressure</b> 89:22 <b>pressures</b> 23:16 <b>presumably</b> 35:17 <b>pretty</b> 6:11 38:5, 17 83:19 100:24 <b>prevented</b> 21:15 <b>previous</b> 42:1 95:12 <b>previously</b> 16:2 <b>pride</b> 58:16 <b>primarily</b> 7:16 8:3 9:18 26:2 <b>primary</b> 12:11 30:25 <b>prime</b> 12:3</p>	<p><b>prior</b> 7:13 9:22 26:2 29:16 33:8 45:18 57:10 62:10 98:10, 12 99:23 <b>proactive</b> 58:6, 12 <b>problem</b> 58:9 73:9 78:19 <b>problems</b> 58:4 <b>procedural</b> 4:20 <b>proceed</b> 6:5 49:21 66:19 113:14 <b>proceeded</b> 79:23 <b>proceedings</b> 5:18, 22 116:5 <b>process</b> 20:21 22:12, 14, 15 39:15, 21 49:9 64:20, 22 65:25 67:3 75:8 81:10, 11 84:25 96:19 105:21 <b>processes</b> 113:8 <b>procurement</b> 10:2, 7, 16 12:3, 4 57:21 <b>produce</b> 53:8 <b>produced</b> 3:11, 15 38:4 39:2, 3 60:2 85:18 112:23 <b>producing</b> 10:19 76:7 <b>product</b> 16:22 31:15, 16, 17 49:19 76:7 <b>production</b> 10:17 38:24 45:1, 5, 10 57:14 58:3, 7 59:17 60:1, 3 67:20 69:12 <b>professional</b> 56:18 102:7, 10, 13 <b>profile</b> 71:17 <b>profiles</b> 30:14, 15 71:18, 19 79:5 <b>program</b> 6:19 35:9 59:21</p>	<p><b>programmed</b> 78:16 <b>programs</b> 40:6 <b>progress</b> 20:15 52:4, 11, 15 54:7 55:11, 12 56:8 57:5 68:8 80:1 81:7 <b>progressed</b> 45:10 56:3 80:3 <b>progressing</b> 54:14 76:20 <b>progression</b> 53:22, 25 54:3, 9 60:3 72:7 <b>project</b> 6:13, 17 8:4, 12, 24 10:22, 23 11:2, 6, 8 12:12, 24 14:18, 19 15:19 16:9, 12 17:4, 8, 11 20:7, 8, 14, 15, 18, 20 21:1, 18, 19 23:12, 19 24:20, 23 25:2 32:5, 15 36:16 42:12 48:4 50:12, 15, 21 51:10, 11, 24 52:2, 3, 15, 19, 25 53:18 55:16 56:3 57:12, 17 58:1, 23 60:5, 8, 16 64:6 68:3 75:6 76:8, 24 77:7 79:23 81:6, 22 86:3 88:11 92:21 93:8, 25 94:2, 6, 7 95:7, 20, 25 99:24 101:8, 15, 22 102:1, 12 103:16 105:17 106:9, 17, 18, 23 108:16, 17, 21 109:22 111:15, 18, 20 112:1 <b>projects</b> 9:16 11:6, 9 40:11 44:22 45:3 65:19 <b>project-specific</b> 62:24</p>	<p><b>properly</b> 21:6 38:19 56:11 69:15 <b>proposed</b> 92:16 <b>prosecution</b> 5:23 <b>protocols</b> 34:1 <b>prototype</b> 42:17 44:25 112:5 <b>prototypes</b> 43:1, 4, 19 44:3, 11, 16 45:4, 5, 7, 13, 17 112:11, 14, 25 113:7 <b>proud</b> 9:5 106:22 <b>prove</b> 34:2 <b>proven</b> 74:17 79:9 91:3 99:4, 5, 9 <b>provide</b> 60:14 68:13 70:6 71:13 93:5 <b>provided</b> 7:7 8:17 42:4 52:14 60:10 79:18, 19 87:9 103:22, 23 104:15 <b>provider</b> 12:15, 22 <b>providing</b> 31:5 60:6 71:3 100:20 <b>province</b> 50:19, 20 <b>provincial</b> 50:16, 17 <b>proving</b> 54:20 <b>provision</b> 70:4 79:16 <b>Public</b> 4:10, 19, 23 5:13 <b>pull</b> 7:2 <b>pulled</b> 69:11 102:18 <b>pulling</b> 34:9 <b>purely</b> 61:19 <b>purpose</b> 4:8 22:25 <b>purposes</b> 26:5 84:7 <b>Pursuant</b> 5:12 <b>pursue</b> 91:13 <b>pushing</b> 27:18</p>
---	--	---	---	--



**put** 33:23  
34:23 36:24  
37:9 41:1, 5  
45:1 46:17  
47:1 48:21  
54:2, 5, 22  
64:16 65:23  
67:2, 11 87:7  
96:1 102:19  
109:16 114:25  
116:7  
**putting** 40:19  
65:25  
**pyramid** 32:19,  
20 35:4 85:5

< Q >

**qualification**  
22:12 45:21  
46:2, 5 47:11,  
22 48:2 54:4  
**qualifications**  
50:7  
**qualified** 49:18  
105:11 112:13  
**quality** 39:13  
41:21 105:12  
113:25  
**qualms** 93:13  
**quantity** 104:17,  
18 105:12  
109:10  
**question** 5:15  
6:2 32:18  
47:25 61:9  
73:24 88:5, 14  
98:1, 22 99:13  
112:5  
**questions** 4:14,  
16 53:16 63:7  
101:1 105:25  
107:1 115:19  
**quickly** 96:4  
**quite** 9:10  
31:10 49:23  
55:1

< R >

**RAIL** 1:6 17:12,  
25 18:2, 4, 20,  
21 21:20 29:21  
58:22 79:13  
97:19, 20 113:22  
**railcars** 10:20

19:7 67:14  
**rails** 8:1  
**Railway** 11:16  
**rainy** 110:9  
**raise** 31:23  
**raised** 94:2  
**ramifications**  
106:5  
**ramped** 95:21  
**rate** 58:8  
**reached** 111:8,  
14  
**read** 4:5 29:13  
64:5 97:12  
**real** 67:6 76:23  
**realistic** 90:6  
**realities** 75:6  
**reality** 76:19  
**really** 16:14  
20:23 24:24  
25:8 55:13  
64:8, 19 66:25  
67:2 68:7  
106:12 111:15,  
18 113:11  
115:11  
**reason** 29:8, 17  
41:25 47:14  
86:3 106:16  
112:19  
**reasonably** 20:6  
**recall** 17:20, 23  
21:6 25:6  
37:17 38:2, 5,  
19 41:23 42:5,  
16 43:2, 7, 14  
56:11, 24 57:16  
68:5 69:15  
81:25 84:19  
85:10 86:25  
87:21  
**receivable** 5:20  
**receiving**  
103:20 104:9  
**RECESS** 62:1  
**recognize** 7:6  
**recollection**  
43:25 44:14  
48:7 49:21  
50:14 55:21  
56:5 61:5  
**record** 4:5  
29:12 42:11  
**recorded** 116:11  
**redo** 97:7

**redone** 82:14  
83:7  
**reduces** 110:14  
**reduction** 95:24  
**refer** 45:24  
**reference** 80:6  
100:12  
**referencing**  
88:11  
**referred** 45:12,  
25  
**referring** 14:10  
100:8  
**refine** 72:6  
**refused** 16:3  
90:10 111:25  
114:25  
**regarding** 72:25  
107:6  
**regime** 47:23  
**regression** 83:4  
**regular** 55:21  
56:8 57:1 81:3  
**regulatory** 13:16  
**relate** 69:1  
**related** 43:23  
44:1 114:21  
**relating** 53:16,  
17  
**relationship**  
11:9 68:17, 23  
93:20, 24 101:2,  
20, 24 103:8, 10,  
15 104:6  
**relatively** 17:14  
**relevance** 21:8  
**relevant** 21:17  
**relief** 90:11  
**relocate** 16:4  
**reluctant** 99:18  
**remainder** 45:19  
**remember** 51:3  
56:5 63:7  
69:10 91:5  
**remotely** 1:15  
**repeat** 83:9  
**report** 14:14  
**reported** 14:17,  
18 61:15 80:15  
**Reporter** 10:4  
60:12 75:12  
116:4  
**Reporter's** 24:4  
29:10 116:1

**reporting** 6:17,  
21  
**reports** 52:13  
**representative**  
50:19  
**representatives**  
91:23 95:11  
102:7  
**request** 55:8, 19  
86:25 107:5  
**require** 33:6  
83:20  
**required** 5:25  
7:23 13:18  
18:9 26:13  
27:15 33:1  
41:8, 19 43:19  
65:18 70:5 71:6  
**requirement**  
13:16 17:16  
43:15, 17 49:14,  
15 66:17 75:4,  
17, 25 76:13  
**requirements**  
10:12 13:10, 13,  
14, 15, 16, 19  
17:7, 17 18:5  
36:21 43:11, 13,  
20 49:3, 5 64:3  
65:6 67:2 68:9  
70:22 73:22  
74:6 100:2  
113:2  
**requires** 71:1  
**requiring** 92:22  
**rescue** 34:16  
**resources** 12:3  
**respect** 16:8  
17:2 67:17  
76:21 92:22  
99:23 106:8  
**respects** 56:18  
**respond** 63:9  
**responded** 40:4  
**response** 102:14  
**responsibilities**  
11:24 13:4  
**responsibility**  
10:23 12:14, 18  
13:22 15:23  
108:2  
**responsible**  
10:16 11:7, 8  
12:2 13:7

61:13 93:20, 24  
107:20, 23  
**responsive**  
40:12, 15  
**resubmit** 104:3  
**result** 23:22  
35:12 58:4  
**resulting** 112:25  
**RESUMING** 62:2  
**retest** 96:9, 11  
**retire** 9:13  
106:13, 14  
**retired** 6:14  
57:4 106:12  
**retransmitted**  
78:5  
**retrofit** 83:2, 8  
96:8, 10 98:9,  
11, 18  
**retrofits** 81:14,  
25 82:6, 10, 12  
84:21 96:25  
97:1  
**retrofitted** 83:7  
**re-tunneled** 36:5  
**reveal** 82:4  
**revealed** 82:20  
**revenue** 33:8  
37:14 86:5  
89:8 91:15  
98:10, 13  
**reverting** 80:6  
**review** 5:7  
50:12, 15, 16, 23  
51:18, 19 52:7,  
24 53:12, 13  
59:10, 12, 13  
63:23 104:4  
**reviewed** 63:21  
**reviewing** 51:10  
52:3, 4 54:3  
**rightfully** 23:13  
**rigorous** 47:22  
50:7  
**rigorously** 49:17  
**risk** 112:10, 13,  
18 113:11  
**road** 40:10  
58:12 110:12, 13  
**robust** 34:3, 12  
35:1 40:7  
46:14, 16 49:6  
113:3  
**Roland** 2:12

**role** 6:6 9:1, 25  
11:21, 22, 24  
15:17 16:3  
63:22 111:2, 4  
**roles** 10:2  
14:15  
**rolling** 7:17 8:5  
9:24 11:6  
12:15, 19, 22  
17:10 19:14  
32:7 53:5  
54:25 55:14  
56:20 57:6, 9,  
14 88:9, 12  
98:24 107:21  
**Ron** 63:12  
**Rosenberg** 2:12  
**Rothstein** 2:12  
**roughly** 25:12  
49:15 88:16  
**route** 79:24  
**RPR** 116:3, 19  
**RSA** 87:1  
107:8, 10  
**RTG** 55:6  
64:25 91:19  
92:5, 6 103:2, 4  
108:5  
**RTG's** 69:1  
107:17  
**run** 34:24 47:3  
**running** 32:21,  
23, 24 33:7, 11,  
14 35:7 37:13  
95:21 97:16, 19  
99:21 100:12  
  
< S >  
**safe** 34:3 83:3  
113:24  
**safely** 73:12  
**safety** 30:24, 25  
31:2 34:1  
72:18 74:19  
83:23 84:7, 18  
98:10, 19 114:10  
**sarcastic** 94:24  
**satisfied** 115:12  
**scaled** 101:10,  
11  
**Scarborough**  
29:20, 21  
**scenario** 23:6  
83:13  
**scenarios** 34:1,  
16 83:2 87:13  
**schedule** 20:8,  
9 23:12 38:2, 6  
40:2 43:22  
58:1, 9 59:3, 4,  
17 60:1, 5, 8, 17  
61:21 66:3, 6, 8  
85:12 87:10  
93:2 96:21  
104:1, 2, 3  
110:6, 7, 9  
**scheduled** 23:21  
**scheduler** 59:2  
**schedules**  
23:18, 19 87:6,  
8, 12 92:16  
**scheduling**  
58:25 60:23  
61:11 66:15  
92:15  
**scratch** 26:18  
**screen** 7:2, 4  
15:9  
**seat** 83:17, 18  
**Secondly** 73:10  
96:5  
**seconds** 24:12  
**Section** 5:12, 25  
6:2  
**security** 114:3  
**segment** 21:9,  
10, 11 23:2  
33:17 35:23, 24,  
25 36:7, 8 38:13  
**segmented** 21:5  
**segments** 21:7,  
8 23:3 33:12  
35:16 36:9  
38:15  
**selected** 17:11  
**selections**  
64:17 66:5  
**sense** 28:7  
94:9  
**separate** 58:21  
**separation** 79:4  
**September**  
20:22, 23  
**sequencing**  
40:25  
**serial** 54:23  
**seriously** 72:21,  
22  
**service** 17:13,  
14 30:18 33:9  
37:14 46:23  
86:5 89:8  
91:15 97:12  
98:10, 13  
100:21, 23  
**service-proven**  
24:2, 11 25:25  
27:11, 13, 14  
47:21 74:1, 10,  
11 77:3, 4, 8, 10  
**set** 19:1 39:15,  
21 116:6  
**setup** 19:11  
**share** 99:18  
**shared** 5:2, 8  
**sharing** 99:14  
102:25  
**shift** 58:3, 6  
**shopping** 97:20  
**short** 9:14  
22:24 45:3  
100:14  
**shortened** 23:15  
**Shorthand**  
116:4, 13  
**show** 67:8  
**showing** 60:2  
**shows** 59:18  
**side** 14:25  
15:1 69:24  
110:21  
**signalling** 7:24  
8:16, 17 12:17,  
23 28:3, 7, 23  
30:4 32:7 53:5  
77:4 98:25  
107:22  
**significant** 35:2  
**significantly**  
35:11 74:3  
**similar** 25:13, 16  
**simply** 83:16  
**simulate** 34:25  
46:22 47:2  
**simulated** 99:9  
**simulator** 82:23  
**simulators**  
33:23  
**sinkhole** 20:16,  
17, 25 21:15  
23:7, 22 24:20  
35:12, 13, 24  
36:4 37:11, 19,  
25 38:16 76:25  
86:23 88:7, 9,  
15, 19 93:6  
102:2, 4, 14, 20  
**sinkholes** 90:16,  
17  
**sir** 7:5 15:6, 20  
74:8  
**sit** 53:13 68:20  
**site** 55:3  
**sites** 39:17  
**sitting** 88:21  
**situation** 25:16  
34:7 38:20  
82:7 96:12  
**situations** 40:11  
**size** 21:19  
32:15  
**SkyTrain** 11:19  
29:22 77:14  
**slack** 110:5  
**slide** 36:12  
**slippage** 59:22  
**slowly** 22:17, 19  
**smoke** 73:1  
**SNC-Lavalin**  
6:9, 23 8:23  
58:15 62:15, 18  
63:11 91:24  
95:11  
**software** 19:17,  
24 31:1, 5, 6  
33:24 34:2, 3  
82:18, 21, 25  
83:12, 13 85:8  
96:10 97:7  
**software-based**  
30:10  
**solemn** 4:9  
**solid** 20:10  
**somebody** 57:8  
96:15 97:20  
**somewhat**  
21:17 43:14  
**sorry** 11:12  
24:6 26:24  
29:4 37:6  
41:24 59:11  
70:15 72:16  
75:21 81:1, 19  
98:1 99:12  
115:17  
**sort** 14:15  
**sorted** 98:2  
**space** 114:2  
**speak** 38:23  
78:3  
**speaking** 51:2,  
5 63:19 115:17  
**specialized**  
109:2  
**specific** 31:22,  
24 38:9 45:16  
46:8 48:1, 4  
53:3 54:10  
64:12 79:15  
**specifically**  
24:18 63:19  
69:17 70:2  
**specification**  
17:20 27:16  
70:6, 21 71:6,  
15 79:16, 18  
**specifications**  
18:23 27:22, 24  
71:12 72:25  
73:22  
**speed** 17:14  
27:24 30:13, 14  
71:17 78:20  
79:5 84:1, 2, 6  
**spend** 51:10  
52:1 115:1  
**spent** 7:15  
10:14 108:20  
111:17  
**Spirit** 25:22  
27:10 28:15  
**spoke** 29:24  
47:16 55:4  
**spoken** 13:24  
**sporadically**  
105:1, 2  
**squeezes**  
110:15  
**staff** 102:12  
104:12, 13  
**Stage** 6:6, 13,  
19 8:18 21:20  
**standard** 54:23  
100:15, 24  
**Standards**  
17:25 18:2, 16  
**standing** 114:11  
**standpoint** 18:3  
23:1 32:11  
101:21 113:10  
**start** 6:6 21:9  
22:4, 20 45:4  
112:20

<p><b>started</b> 4:7 6:9 10:2, 6, 11 20:21, 23, 25 36:12 56:23, 25 58:5 93:3 <b>starting</b> 57:3 63:21 82:1 <b>starts</b> 21:3 22:15, 18 <b>state</b> 27:13, 14 113:21 <b>statements</b> 116:9 <b>state-of-the-art</b> 9:7 <b>States</b> 10:11 39:4 52:10 105:5 <b>static</b> 22:15 <b>statically</b> 22:3 <b>station</b> 36:6 59:19 <b>stations</b> 74:24 79:5 80:20 108:10 <b>status</b> 37:22 51:11, 14, 15 52:7 54:9 59:4 60:2 103:13 <b>stay</b> 106:15 <b>stayed</b> 8:13 <b>Stenographer/Tra nscriptionist</b> 2:19 <b>stenographically</b> 116:11 <b>step</b> 32:12 <b>stock</b> 7:17 8:5 9:24 11:6 12:15, 19, 22 17:10 19:14 32:7 53:5 54:25 55:14 56:20 57:6, 9, 14 88:9, 12 98:25 107:22 <b>Stockton</b> 62:16 <b>stop</b> 73:10 <b>stops</b> 73:6 <b>story</b> 9:14 22:24 <b>straightforward</b> 83:20 <b>strap</b> 84:10 <b>stray</b> 69:20</p>	<p><b>strictly</b> 43:23 44:1 <b>strong</b> 106:21 <b>strongly</b> 102:17 108:23 <b>structural</b> 18:3 48:23 49:1 <b>structure</b> 14:14 49:5 <b>stuff</b> 64:23 105:7, 23 <b>stymied</b> 35:25 <b>subactivities</b> 86:12 <b>subcontract</b> 12:4 61:9 65:10 69:4, 22 70:3 75:5 79:17 <b>subcontractor</b> 86:15 <b>subcontracts</b> 61:1 62:6, 8 63:18 64:11 68:2 <b>subject</b> 48:2 80:19, 22, 24 <b>submission</b> 13:13, 15 <b>submitted</b> 7:10 60:17 <b>subordinates</b> 13:6 <b>subsequent</b> 105:23 <b>subsequently</b> 8:11 40:17 64:16 66:7, 10 <b>substantial</b> 18:10 49:16 91:5 <b>substantially</b> 58:8 <b>Subway</b> 11:3 <b>successful</b> 50:10 69:21 76:8 108:24 109:22 <b>successfully</b> 40:8 41:22 <b>sufficient</b> 67:19 96:6, 20 98:4 104:11, 13 109:9 <b>suitable</b> 111:1 <b>Superliner</b> 11:1</p>	<p><b>supervising</b> 64:8 <b>supervisory</b> 7:25 30:20 <b>supplier</b> 12:17, 23 <b>supplier's</b> 105:6 <b>supply</b> 10:8 34:4, 5, 6 57:19, 21 58:4, 9 <b>support</b> 102:22 <b>surpassed</b> 103:24 <b>suspension</b> 18:11 46:13, 15, 17, 20, 21 47:1, 2, 10 48:7, 11 <b>sustain</b> 48:13, 17 <b>system</b> 7:23 9:7 11:15, 16, 20 13:21 16:10, 12, 15 22:7 25:18 28:7, 8, 23, 24 29:2, 21, 22, 23 30:1, 4, 7 31:19 32:7 33:18, 19 34:8 48:12 71:2 72:18, 19 74:11, 23, 24 75:1, 7 77:5, 6, 8, 9, 11, 14, 15, 25 78:2, 20, 23, 24 79:1, 2, 3, 7, 13 84:17, 18 85:5 88:17 94:20 95:10, 12 98:12, 25 106:24 107:22 109:2, 16, 21 <b>systems</b> 7:18, 19, 20, 21, 22, 24, 25 8:1, 7 9:4, 14 11:18 12:20 13:22 14:1, 8 15:18 16:5, 6, 14, 21 17:5 22:10, 25 24:19 25:13 30:21 32:14 33:2, 3, 5, 8 34:11, 19 54:25 55:15 56:15 57:6, 9 93:16 94:7 98:6 104:22</p>	<p>105:15 107:20 108:1, 11, 19, 23 109:8 110:1 111:6 <b>system's</b> 23:5 95:6 <b>systemwide</b> 21:13, 16 33:12, 15 34:18 35:6, 14, 20 36:10 37:12 85:5 99:10 <b>&lt; T &gt;</b> <b>T-1</b> 11:3 <b>table</b> 115:1 <b>takes</b> 96:11, 16 <b>talk</b> 14:7 59:25 62:5 90:3 100:4 <b>talked</b> 9:22 38:22 68:1 95:17 107:21 <b>talking</b> 16:18 37:3 38:8 40:21 72:11 77:2 81:4 110:20 <b>task</b> 86:19 <b>team</b> 109:6, 8, 15 111:23 <b>teams</b> 112:13 <b>tear</b> 35:2 47:8 <b>technical</b> 14:1 15:1 51:6, 21 61:17, 19 113:10 <b>technically</b> 69:8 <b>Technician</b> 2:20 <b>technicians</b> 39:11 <b>technological</b> 32:10 <b>technologies</b> 16:15 <b>technology</b> 17:6 18:15 19:5, 18, 19, 21 23:25 24:10 27:18 28:19 29:6, 7, 18, 19 39:8 40:6 41:8, 10, 18 42:2, 21, 22, 24 75:2 77:10, 11, 17, 19, 21 78:11, 13 79:9 80:7 113:3</p>	<p><b>temperature</b> 48:18 <b>temperatures</b> 17:19 <b>tend</b> 5:16, 17 <b>tension</b> 89:18 <b>tenure</b> 20:16 <b>terms</b> 11:21, 22 13:3 15:13 21:2 25:21 27:18, 23 28:15, 22 29:3 32:2, 4 41:16 45:17 49:2 50:2, 4, 5, 6 52:6 57:13 60:19, 22 62:22, 24 63:21 64:11, 15, 17 66:8 67:16 77:10 78:4, 16 79:9, 24 80:8 81:6, 8, 12 85:14 90:9 92:16, 25 101:2 104:19 107:19 112:5 <b>test</b> 22:3, 5 23:15 33:20, 21 34:5, 22, 24 35:16, 21, 22 38:15 44:25 46:18, 19 47:1 52:12 82:23, 24 83:1 94:19 105:6 <b>tested</b> 22:8, 9 34:21 38:4 49:7, 17 74:18 83:24 84:3, 4, 7, 18 <b>testing</b> 21:9, 14, 16, 19 22:6, 7, 12, 14, 15, 16, 17 25:1, 3, 12, 17 32:3 33:12, 13, 15, 18, 22, 24 34:4, 10, 19, 20 35:4, 5, 6, 11, 14, 18, 19, 20 36:10 37:10, 12, 22 38:8, 9, 12, 13, 18, 23 44:17 45:4, 7, 17, 21 46:2, 3, 4, 6 47:11, 12, 15, 23 48:2 49:8, 10,</p>
--	---	--	--	--

20 50:7 54:3, 4,  
6, 10, 11, 12, 13,  
19, 23 57:15  
82:1, 3, 13, 20  
83:4, 7, 9, 21  
84:24 85:5, 19  
88:16, 20, 23  
89:7 93:4, 7  
95:19, 24 96:2  
97:5, 7 98:3, 5  
99:5, 11 106:6  
112:8

**tests** 23:1, 4  
33:16, 19 45:25  
50:8

**TETREAULT**

1:7 2:9 3:4  
4:3, 5 6:5, 8  
7:5, 9, 15 10:1,  
6 11:13 12:1  
13:1, 5 14:11,  
17 15:2, 6, 11,  
15, 20 16:23  
17:2 21:25  
24:6, 13, 16  
25:7, 23 26:7,  
16 27:3, 6, 12  
28:2, 10, 17  
29:1, 5, 14 30:8  
31:21 32:1, 9,  
17, 23 35:20  
37:4, 8 38:1, 11  
39:1 40:18  
41:25 42:8, 11,  
19 43:6, 10, 25  
44:13, 19 45:20  
46:2, 5, 10, 12  
48:5, 9 49:22  
50:24 51:3, 7,  
19, 23 52:21  
53:6, 24 54:16  
55:5, 23 56:1  
57:2, 18 59:1,  
10, 13 60:4, 10,  
14 61:2, 6, 12  
62:9, 14 63:3,  
23 64:14 65:15,  
21, 23 66:9, 16  
67:22 68:7  
69:7 70:8, 14,  
16, 20 72:15, 17  
74:8 75:10, 14,  
22 76:15 77:9  
80:2, 12 81:2,  
10, 16, 21, 24

82:15 83:11  
84:22 85:3, 13  
86:10, 15 87:2,  
4, 11, 24 88:13  
90:12 91:20  
92:18 93:12  
94:10, 13 95:8  
96:1 98:7 99:3,  
19, 25 100:9, 13,  
20 101:6 102:3  
103:4, 21  
104:10, 18  
105:18 106:11  
107:3, 9, 12, 15,  
18, 24 108:3, 7,  
18 109:7 110:2  
111:3 112:17  
113:15, 18  
115:11, 16

**Tetreault's** 15:8  
**textures** 64:18  
**Thales** 8:15  
12:18, 23 13:8  
19:18, 21 20:5  
28:3, 7, 10, 20  
29:6, 8, 18, 25  
31:11 52:22  
53:17 58:14, 25  
59:24 60:22, 25  
61:8 62:6  
63:19 65:3  
69:4, 11 70:5,  
21, 24 71:3, 13  
75:18 76:23  
77:6 80:4  
85:11 86:4  
87:22 98:25  
99:15

**thankful** 109:14,  
22  
**thanks** 32:17  
115:7  
**theoretical**  
96:22 99:7, 8  
**theoretically**  
71:21 99:3, 4  
**thing** 55:25  
92:17 97:8, 24  
**things** 14:25  
15:1 25:20  
36:11, 12 37:24  
58:5 87:15  
93:8 99:16  
114:2

**thinks** 94:20

**third** 14:6  
21:12 35:25  
36:7 50:14  
74:21  
**thought** 37:7  
91:9 93:1  
102:9 103:10,  
13, 14 106:17  
**thousands**  
85:25 112:23  
**threat** 80:5  
**three-inch** 97:19  
**throws** 97:20  
**time** 4:14 6:11,  
18 11:10 21:19  
22:25 23:10, 16  
31:19 37:21, 24  
38:10, 21, 25  
39:19 41:19  
42:4 45:10  
53:10 55:9  
56:10 57:17  
58:5, 10 63:13  
69:8, 25 70:1,  
25 72:8, 9  
74:21, 22 76:20  
79:6 80:4 81:7  
82:8 84:20, 22,  
23 85:11 86:2,  
16, 18, 21 89:3,  
7, 21 90:19  
92:5, 6, 25 93:4,  
5, 9 94:3 96:3,  
6, 11, 16, 20  
97:4, 15, 22  
99:17 100:6  
101:16 105:1,  
17 106:4  
108:20 110:5, 8,  
10, 12, 13  
113:11 114:18  
116:6, 7, 10

**timeframe** 71:7  
72:13  
**timeline** 21:2  
70:17 71:4, 7  
98:20 100:2  
**timelines** 44:22  
68:14 88:9  
**times** 37:17  
49:4 55:24  
56:2 74:25  
105:18  
**timing** 64:12, 14  
79:16

**today** 31:16  
85:10  
**today's** 4:6, 8  
**tool** 44:21  
**tooling** 19:12  
39:16, 17 41:12  
**top** 32:19, 20  
41:17  
**topic** 42:15  
**Toronto** 11:3  
29:19  
**totally** 70:9, 10  
**touched** 68:25  
85:9 115:9  
**toxicity** 73:1  
**track** 35:18  
74:14  
**tracks** 22:19  
**traditionally**  
19:16

**train** 19:16, 20  
27:2 28:3, 8, 9,  
11, 12, 14, 19  
30:9, 10, 23  
31:6, 15 33:21,  
22 34:9 39:10  
41:15 51:15  
73:6, 7, 10  
74:11, 15 77:4  
79:9 82:6 97:18  
**training** 19:12  
40:6 41:11, 20  
**trains** 97:15  
**transaction** 12:8  
**transcribed** 4:17  
**transcript** 4:18,  
22 5:1, 7, 8, 11  
116:13  
**transfer** 39:7, 8  
40:6 41:8, 10,  
18 42:2, 16  
43:19, 21 113:3  
**transferred** 8:11  
10:9 11:11, 13  
42:25 43:8 44:4  
**transferring**  
19:4  
**transit** 7:16, 18,  
20, 23 8:5, 10  
9:4, 7, 14, 16, 18  
10:25 16:10, 12,  
15, 21 17:9  
21:18 45:2  
56:15 57:12  
72:24 75:24

**translation** 41:19  
**transparent**  
103:10 104:5  
**Transportation**  
8:15, 21 10:7,  
22 49:25 73:5  
**trap** 84:11  
**travel** 74:25  
**treated** 57:11  
**trial** 5:21 32:21,  
23, 24 33:6, 11,  
14 35:6 37:13  
95:21 99:21  
100:12  
**trip** 79:5  
**trucks** 102:20  
**truly** 86:22  
106:12 108:18  
**trying** 51:3  
67:23 79:8  
90:1 108:21  
**TTC** 11:3  
**tune** 49:13  
**tunnel** 73:6  
**Turkey** 11:15  
25:15  
**turn** 94:22  
**turned** 110:25  
113:19, 20  
**Turner** 14:4  
39:22 61:14, 20  
63:25 76:17  
80:14  
**turning** 70:3  
79:14  
**turnover** 114:5  
**two-day** 53:12  
**twofold** 89:9  
**two-hour** 53:9  
**type** 28:9, 24  
45:21 46:3, 4, 6  
47:11, 15, 22  
48:2 54:19  
92:17 110:10  
**types** 65:19  
**typical** 65:18  
69:22

78:3, 23, 24  
79:1, 2, 7, 13  
93:16 94:7, 14  
95:5, 10, 12  
103:9 104:22  
105:15 106:24  
111:6  
**translated** 41:19  
**transparent**  
103:10 104:5  
**Transportation**  
8:15, 21 10:7,  
22 49:25 73:5  
**trap** 84:11  
**travel** 74:25  
**treated** 57:11  
**trial** 5:21 32:21,  
23, 24 33:6, 11,  
14 35:6 37:13  
95:21 99:21  
100:12  
**trip** 79:5  
**trucks** 102:20  
**truly** 86:22  
106:12 108:18  
**trying** 51:3  
67:23 79:8  
90:1 108:21  
**TTC** 11:3  
**tune** 49:13  
**tunnel** 73:6  
**Turkey** 11:15  
25:15  
**turn** 94:22  
**turned** 110:25  
113:19, 20  
**Turner** 14:4  
39:22 61:14, 20  
63:25 76:17  
80:14  
**turning** 70:3  
79:14  
**turnover** 114:5  
**two-day** 53:12  
**twofold** 89:9  
**two-hour** 53:9  
**type** 28:9, 24  
45:21 46:3, 4, 6  
47:11, 15, 22  
48:2 54:19  
92:17 110:10  
**types** 65:19  
**typical** 65:18  
69:22

**typically** 25:11  
28:25 30:2  
32:16, 24 33:1,  
5 46:24 47:12  
51:24, 25 52:23  
53:8 82:9, 22  
83:8 97:2, 4  
98:18 100:16,  
20, 22 101:8  
**typos** 5:7

< U >  
**U.S** 41:9 104:25  
**U/T** 3:15  
**UK** 51:25  
**Ultimately** 36:9  
37:14 42:18  
44:5 57:15  
91:20 99:16  
111:2 112:6, 17,  
18 114:17  
**unbelievable**  
58:20 102:15, 21  
**unbelievably**  
106:21  
**unchanged**  
78:12  
**underestimated**  
41:7 108:19  
**undergo** 44:17  
**understaffed**  
104:11  
**understand**  
12:24 14:13  
15:13, 16 23:23  
26:1 30:11, 12,  
13, 15, 16 31:5,  
7 40:15 70:22,  
24 71:1, 17  
79:17, 21 80:10  
82:12 94:17, 19,  
25 104:8, 14  
108:15  
**understanding**  
72:4 95:5  
103:2 114:19  
115:3  
**understood**  
54:18, 25 57:8  
95:9 104:21  
106:5 107:23  
**undertaken**  
3:10 75:8  
81:14 84:21

**UNDERTAKINGS**  
3:13  
**underwriting**  
107:17  
**unfolded** 64:7  
**unfortunate**  
76:24  
**unique** 45:12  
79:7  
**United** 10:11  
39:4  
**unrealistic** 70:10  
**untypical** 85:24  
**unusual** 82:10  
86:21  
**updates** 60:11,  
15, 16  
**upfront** 39:21  
**upgraded** 77:25  
**upset** 91:8  
**upsetting** 91:11  
**Urban** 8:9

< V >  
**validation** 44:17  
112:8  
**value** 67:7  
**valued** 106:21  
**Vancouver** 6:25  
11:20 29:22  
77:14  
**various** 8:5  
10:1, 24 11:6,  
10, 19 16:21  
34:12 80:10  
83:1  
**vehicle** 17:11,  
12, 17, 18, 24  
18:4, 5, 8, 10, 14,  
23 19:15 22:3,  
4, 6, 10, 13, 14,  
20 24:1, 10, 17  
25:21, 25 26:1,  
5, 8, 12, 17, 20  
27:10 28:4, 21  
30:1, 2, 4, 7, 13,  
19, 22 31:2, 17,  
25 39:10 40:8,  
23 41:2 43:17,  
18 44:24 46:14  
47:7, 13, 20  
48:1, 4, 24, 25  
49:12, 17 54:4,  
19, 21 59:18  
60:7 70:23

71:8, 23, 25  
72:1, 2, 24  
73:20, 23 74:1,  
3, 9, 10, 16 77:4  
78:3, 10, 14  
79:10 80:21  
82:7, 19, 24  
83:1, 23, 24  
94:21 97:11  
99:10  
**vehicles** 13:18  
18:20 19:2, 22  
22:2 28:25  
33:20 34:23  
38:3, 4 39:5  
41:16 42:17  
45:22 48:13  
51:15 52:10  
54:1, 7, 25  
55:14 57:5  
66:22 67:10, 21  
69:13 88:21  
112:6, 23  
113:21, 22  
**ventilation** 48:21  
**venture** 6:17  
12:6 91:22  
108:5  
**verification**  
69:14  
**verified** 69:17  
**VERITEXT**  
116:18  
**Vermont** 10:10,  
14  
**versed** 104:20  
**versus** 74:2  
**Vice-President**  
6:22 8:12  
62:17 111:11  
**Videoconferenci**  
**ng** 1:14  
**view** 23:20  
32:8 50:13  
51:16 55:10  
56:7 65:17  
67:4, 18 75:4  
77:6 93:15  
**viewed** 20:19  
**Virtual** 2:20  
24:5 29:11  
**visit** 53:7, 9  
111:16  
**visits** 52:19

55:3, 8, 19 56:22  
**Visualize** 32:19  
**Vitae** 3:4 15:10  
**voltage** 34:9  
**voluntarily** 6:14  
  
< W >  
**wait** 36:3, 4, 5  
**walk** 52:8  
55:11 56:9  
68:21  
**walking** 52:2  
**walk-through**  
53:12  
**wanted** 58:17  
67:5 72:17  
89:16, 19  
106:13, 14 109:5  
**wants** 110:21  
**water** 90:17, 22,  
23 91:1  
**wear** 35:2 47:8  
**website** 4:23  
**week** 81:5  
**weekend** 9:9  
**weeks** 56:10, 23  
**well-known**  
74:19 77:13  
**west** 21:5 88:18  
**Whyte** 6:18  
108:21  
**W-H-Y-T-E** 6:18  
**wide** 35:18  
97:17 98:20  
**wind** 84:10  
**winterize** 17:17  
**winterized** 17:18  
**wire** 69:13, 16  
**witness** 5:13,  
16, 19 105:6  
**wonderful** 18:19  
**words** 12:7  
20:3 22:3 81:3  
110:6  
**work** 8:19, 21  
9:11 23:5  
31:10, 11, 13  
40:20 41:1  
52:7 57:22  
59:6, 23 61:16  
68:12 76:6  
79:20 80:10  
90:8 103:17  
**worked** 14:21  
36:14 49:24

56:17 76:17  
106:22  
**working** 20:23  
36:25 87:14  
89:2, 15  
**works** 57:6  
**workstations**  
41:13  
**world** 9:4, 16  
18:22 29:23  
50:2 77:15  
**worldwide** 77:12  
**worthiness** 49:2,  
3, 8  
**would've** 22:11  
**wrench** 20:13,  
18 76:24  
**wrong** 27:19  
36:12 93:9  
105:9  
**wrongfully**  
23:13

< Y >  
**yard** 38:14  
**yeah** 15:24  
25:12, 16 49:16  
85:4, 8 87:13  
93:17 94:10, 15,  
24 107:15  
**year** 15:25  
55:24 56:2  
66:20 72:10  
73:18 101:13  
106:14, 15  
**years** 6:15  
7:16 9:12  
34:25 42:13  
45:1 46:22, 23  
49:25 67:15  
102:15 111:12  
**York** 39:23 42:6

< Z >  
**Zoom** 1:14