Ottawa Light Rail Commission

Matthew Slade on Thursday, May 5, 2022



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6	OTTAWA LIGHT RAIL COMMISSION
7	OLRT CONSTRUCTORS - MATTHEW SLADE
8	May 5th, 2022
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14	Held via Zoom Videoconferencing, with all
15	participants attending remotely, on the 5th day
16	of May, 2022, 2:00 p.m. to 6:05 p.m.
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1	COMMISSION COUNSEL:
2	Christine Mainville, Co-Lead Counsel Member
3	Mark Coombes, Litigation Counsel Member
4	
5	PARTICIPANTS:
6	Matthew Slade: OLRT Constructors
7	Manu Chowdhury, Paliare Roland Rosenberg
8	Rothstein LLP
9	
10	
11	ALSO PRESENT:
12	Helen Martineau, Stenographer/Transcriptionist,
13	Elizabeth Deasy, Virtual Technician
14	
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| --- Upon commencing at 2:00 p.m.

MATTHEW SLADE: AFFIRMED.

CHRISTINE MAINVILLE: So Mr. Slade the purpose of today's interview is to obtain your evidence under oath or solemn declaration for use of the Commission's public hearings. This will be a collaborative interview, such that my co-counsel, Mr. Coombes, may intervene to ask certain questions. If time permits, your counsel may also ask follow-up questions at the end of the interview.

The interview is being transcribed and the Commission intends to enter the transcript into evidence at the Commission's public hearings, either at the hearings themselves or by way of procedural order before the hearings commence. The transcript will be posted to the Commission's public website, along with any corrections made to it, after it is entered into evidence. The transcript, along with any corrections made, will be shared with the Commission's participants and their counsel on a confidential basis before being entered into evidence.

You'll be given the opportunity to

1 review your transcript and correct any typos or other errors before the transcript is shared 3 with the participants or entered into evidence. 4 Any nontypographical corrections made 5 will be appended to the transcript. 6 And finally, pursuant to section 33(6) 7 of the Public Inquiries Act 2009, a witness at 8 an inquiry shall be deemed to have objected to 9 answer any question asked of him upon the ground 10 that his answer may tend to incriminate the 11 witness, or may tend to establish his liability 12 to civil proceedings at the instance of the 13 Crown or any person. 14 And no answer given by a witness at an 15 inquiry shall be used or be receivable in 16 evidence against him in any trial or other 17 proceeding thereafter taking place, other than a 18 prosecution for perjury in giving such evidence. 19 And as required by section 33(7) of 20 the Act, you are advised that you have the right 21 to object to answer any question under section 5 22 of the Canada Evidence Act. 23 Okay? 24 MATTHEW SLADE: Yes. 25 Great. CHRISTINE MAINVILLE: Could

1 you start by explaining your role in Stage 1 of 2 Ottawa's LRT? 3 MATTHEW SLADE: Sure. So my 4 involvement began in late 2017, remote from the 5 project, from my employer EllisDon. And then I 6 got involved formally in the project early in 7 2018 when I was appointed Assistant Director. 8 And since then I've had various roles -- well, I 9 became Project Director when Rupert Holloway 10 left. And then later on I became an Advisor to 11 Rideau Transit Maintenance, and I'm currently an 12 alternate board member of Rideau Transit 13 Maintenance. So I sit in all the Board 14 meetings. 15 CHRISTINE MAINVILLE: And is that 16 since -- following RSA that you've been an 17 alternate board member for RTM? 18 MATTHEW SLADE: Yeah. It's been about 19 the last 12 months. 2.0 CHRISTINE MAINVILLE: And then -- when 21 did you start advising RTM? Was that following 22 revenue service? 23 MATTHEW SLADE: About a year after 24 It was when -- I suppose I revenue service. 25 took a role there doing that as a strategic

1 advisor when RTG was asked to prepare a 2 remediation plan. 3 CHRISTINE MAINVILLE: So sometime in 4 2020? 5 MATTHEW SLADE: Yes. 6 CHRISTINE MAINVILLE: And when you 7 said you became Project Director for OLRTC --8 well I don't know if you mentioned OLRTC --MATTHEW SLADE: Yes, it was OLRTC. 10 CHRISTINE MAINVILLE: Yes. As 11 Systems' Director and Project Director that was 12 with OLRT Constructors? 13 MATTHEW SLADE: Correct. 14 CHRISTINE MAINVILLE: And when you 15 became Project Director, you said when 16 Mr. Holloway left, was that January 2019. 17 No, it was later than MATTHEW SLADE: 18 that, it was -- it was -- I think it was around 19 June 2019, from memory. 2.0 CHRISTINE MAINVILLE: And actually why 21 don't we bring up your resume because we have it 22 there as July 2019. Do you recognize this as 23 your resume? 24 MATTHEW SLADE: Yes. 25 So if you go to CHRISTINE MAINVILLE:

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1
   the second page we have you as changing from
   Systems' Director, if you go a bit further down,
3
   to Project Director in July 2019.
4
              MATTHEW SLADE:
                              Correct.
5
              CHRISTINE MAINVILLE:
                                    And did you
6
   replace anyone when you became Systems'
7
   Director?
8
              MATTHEW SLADE:
                              There was a change in
9
   the organization structure at OLRTC at that
10
   time, but there wasn't anyone there prior to me
11
   with that job title.
12
                                     So it says here
              CHRISTINE MAINVILLE:
13
   you became Systems' Director in April 2018, but
14
   prior to that you were Rail Director of Systems
15
   and Infrastructure, if we go further down to
16
   page 3?
17
              MATTHEW SLADE: For EllisDon, yes.
18
              CHRISTINE MAINVILLE: For EllisDon.
19
              MATTHEW SLADE: That's who I work for.
20
   They're my employer.
21
              CHRISTINE MAINVILLE:
                                     So you were then
22
   involved in various projects not just --
23
              MATTHEW SLADE: Correct. I look after
24
   all of their transit work across Canada.
25
              CHRISTINE MAINVILLE:
                                     Okay. So that's
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1
   why you said as of late 2017 you became
   tangentially involved in the Ottawa project, but
3
   only formally involved when you became Systems'
4
   Director?
5
              MATTHEW SLADE:
                              Correct.
6
              CHRISTINE MAINVILLE:
                                     Okav.
7
              MATTHEW SLADE: So I had a role within
8
   EllisDon that had Ottawa in my portfolio of
9
   work, but I wasn't formally on the project until
10
   I was appointed Systems' Director.
11
              CHRISTINE MAINVILLE: And so what kind
12
   of advice or input were you giving from 2017 --
13
   September 2017 to April 2018 in your --
14
              MATTHEW SLADE:
                             So I was tasked my
15
   boss at the time, Stephen Damp, who was a member
16
   of the executive committee for OLRTC, to
17
   participate in the executive committee meetings
18
   and to run an off-project review of the state of
19
   the project on behalf of EllisDon.
2.0
              CHRISTINE MAINVILLE: And did your
21
   input there, because your role was Rail Director
22
   Systems and Infrastructure, what did that review
23
   relate to? Did it relate to anything in
24
   particular on the OLRT project?
25
              MATTHEW SLADE: Schedule, mainly.
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1 CHRISTINE MAINVILLE: And then you 2 worked prior to that for Alstom? 3 MATTHEW SLADE: Yes, in the United 4 Kingdom. 5 CHRISTINE MAINVILLE: And there you 6 were Operations Director, Systems and 7 Infrastructure? 8 MATTHEW SLADE: Yes. 9 CHRISTINE MAINVILLE: Can you tell me 10 a little bit about what that role entailed? 11 MATTHEW SLADE: So within Alstom they 12 have different sort of internal organizations, 13 I'll call them. So whilst here on this project 14 that we're discussing today they're obviously a 15 vehicle supplier, which is a large part of their 16 They also have another part of their business. 17 business which is systems infrastructure, 18 associated with transit, responsible for their 19 works within the U.K. and Ireland that were not 20 vehicle related, so they were related to transit 21 Whether that was fixed infrastructure, 22 whether that was signaling, electrification, 23 power supply and distribution, anything that 24 wasn't a vehicle, essentially, whilst it still 25 interfaced with a vehicle.

1	CHRISTINE MAINVILLE: Okay.				
2	MATTHEW SLADE: So I had projects from				
3	up in Scotland and Glasgow, I had				
4	electrification programs. I was had a				
5	portfolio of work for the systems fit-out of the				
6	crossrail project in central London.				
7	So anything that Alstom had as an				
8	ongoing system project fell in my portfolio for				
9	operations.				
10	CHRISTINE MAINVILLE: Focused on				
11	operations, right. Okay.				
12	And you have a significant amount of				
13	other rail experience?				
14	MATTHEW SLADE: All of my working				
15	career has been in transit, 20 plus years.				
16	CHRISTINE MAINVILLE: And in terms of				
17	your educational background, are you and				
18	engineer?				
19	MATTHEW SLADE: No.				
20	CHRISTINE MAINVILLE: What's your				
21	educational background?				
22	MATTHEW SLADE: I'm a building				
23	surveyor, which probably doesn't translate to an				
24	occupation here in Canada, I would say. It's				
25	very close to engineering but it's not				

1 engineering. 2. CHRISTINE MAINVILLE: Okay. Got it. 3 We can file this as the first exhibit. 4 EXHIBIT NO. 1: Curriculum vitae of 5 Matthew Slade. 6 CHRISTINE MAINVILLE: Having worked 7 for Alstom before, and based on the rest of your 8 experience, do you have a view as to whether the 9 rolling stock model used in the Ottawa project 10 was service proven? 11 MATTHEW SLADE: So I would say that --12 I'm going to have to try and explain this I 13 think. 14 CHRISTINE MAINVILLE: Sure. 15 MATTHEW SLADE: So the Citadis 16 vehicle, as a platform, which is what they call 17 it, is generally a proven vehicle. And if 18 you -- I don't know what the statistic is 19 currently, but when I was at Alstom one of their 20 bold claims is that there was 2,000 Citadis 21 vehicles in service around the world. So there 22 are a lot of Citadis vehicles. 23 But that's like saying there are 24 however many million Jeep Wranglers there are on 25 the road. There are lots of them but they're

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1
   not all the same. So whilst it may look the
   same the components inside it may be very
3
   different.
4
              And the Citadis spirit is a
5
   first-of-type, so I would classify it as a
6
   prototype vehicle for here.
7
              CHRISTINE MAINVILLE: As a prototype
8
   vehicle?
              MATTHEW SLADE:
                             Yeah.
                                      This was the
   first time that vehicle had ever been built or
10
11
   put into service.
12
              You wouldn't find another -- you will
13
   now, there are some other Citadis Spirit being
14
   built in North America, but there aren't any
15
   other vehicles that are identical to this
16
   anywhere else in that fleet of 2,000 vehicles
17
   around the world.
18
              CHRISTINE MAINVILLE: So they were the
19
   first of the Citadis Spirit line?
2.0
              MATTHEW SLADE:
                              Correct.
21
              CHRISTINE MAINVILLE: And so, even
22
   though there's always, I take it, a certain
23
   degree of customization required for every
24
   project, this is a bit more than that?
                                             There is
25
   a new sub model?
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1 MATTHEW SLADE: Essentially, yes. 2 It's -- you know, there are some common 3 components in there. Like I said, it looks the 4 same from the outside, but once you get into the 5 guts of it, you know, the actual bits that make 6 it work and make it go, a lot of those are 7 unique. 8 CHRISTINE MAINVILLE: Do you recall 9 what in particular is unique about it or new? 10 MATTHEW SLADE: The list is very, very 11 I couldn't obviously list everything. I 12 mean, some of the things that I would say that 13 make it unusual from other Citadis vehicles, for 14 start the voltage that it operates at is 15 1500 volts, whereas the majority of them run at 16 750 volts. As a result of that -- a lot of the 17 traction equipment and electrical equipment, 18 which make up things that make it go, are 19 different. 20 And a number of the other key assembly 21 items are also new and novel to this vehicle and 22 they're not widespread across the Citadis 23 family. And that could be major components such 24 as traction motors, brakes, bogeys, door 25 mechanisms, all manner of components.

1 I would think -- I would think if you, 2 and I don't know how many thousand components 3 there are in a vehicle, but if you -- if you 4 worked it out as a percentage as to how many 5 were unique to the Citadis Spirit I would think 6 it's probably over 50 percent. 7 CHRISTINE MAINVILLE: Okay. And what 8 informs the voltage, is that the speed at which 9 the trains have to go? 10 MATTHEW SLADE: No. So this is quite 11 unusual. There's not many 1500 volt systems 12 operating. I'm only aware of two in North 13 America, this one and I think Seattle operates 14 at 1500 volts as well. 15 One thousand five hundred volts in 16 Ottawa is primarily because NRCAN, National 17 Research Canada, have -- and now I'm going to 18 get out of my own realm of technical knowledge. 19 They have a system in Ottawa that monitors, 20 essentially, the magnetic field of the earth, 21 and if it had operated at 750 volts it may well 22 have disrupted that measuring equipment. 23 So there was, as far back as I want to 24 say 2012, 2013, NRCAN wrote to the City of 25 Ottawa expressing their concern and the

likelihood of interference from the vehicle and
the system, and asked the City if they would
help them relocate their monitoring equipment to
a new location, which the City declined.

So there was some to-and-fro between

NRCAN and the City, and then a result the solution was to change the voltage of the vehicles.

CHRISTINE MAINVILLE: And what kind of implications did that have for the project? Did it make it more complex or risky in any way?

MATTHEW SLADE: It changed a large number of components on the vehicle and it changed the design for the traction supply. It didn't change it because it wasn't determined at that point.

It was known from the outset that they would operate at 1500 volts, at the point at which design started. But it did mean that the design of the vehicles and the design of the traction power supply system was not what you would deem to be a normal supply for a rail system of this nature.

CHRISTINE MAINVILLE: Was there anything about the vehicle requirements, in this

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1
   case, that made the work more challenging, or
2
   anything particular about the vehicle
3
   requirements?
4
              MATTHEW SLADE: I think from my
5
   perspective you may or may not be aware there
6
   was a Canadian content clause in the contract,
7
   it was maybe 25 percent, something like that.
8
   Which in itself I understand, you know, I think
9
   it's a good idea to support Canadian industry
10
   and everything else. I have no issue with that.
11
   But obviously there are then implications on
12
   supply chain for components.
13
              And when you are supposedly picking a
14
   proven vehicle that comes from a family where
   there's 2,000 vehicles of this type around the
15
16
   world, and then you're looking at maybe changing
17
   your supply chain for what is a small fleet of
18
   vehicles, because the initial contract was for
19
   34 vehicles, to then change the supply chain
20
   introduced challenges, I would think.
21
              CHRISTINE MAINVILLE:
                                    And were
22
   there -- did it lead indeed to certain
23
   challenges on this project, to your knowledge,
24
   the supply chain?
25
                              Well, yes and no.
              MATTHEW SLADE:
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1 think we probably weren't aware at the time when it was being designed and assembled that that 2 3 might cause an issue. But certainly some of the 4 issues that we've had with the vehicle and its 5 reliability, since it's been in service, has 6 been with specific items that were procured 7 locally as a result of that requirement. 8 Whereby if -- and -- and the voltage. 9 And if it had been maybe 750 volts, and with 10 their consistent European or global supply chain 11 you may not have had those issues. 12 CHRISTINE MAINVILLE: Can you give me 13 an example of what pieces or parts? 14 MATTHEW SLADE: So particularly we had 15 issues with something called a "line inductor" 16 which goes on the roof of the train, and also 17 with the APS, which is the auxiliary power 18 supplies, both of which were sourced in North 19 America, whereas they're normally sourced in 20 Europe. And they're normally designed for 21 750 volts not 1500 volts. Both those components 22 have had, I would say, a fairly significant 23 impact on the reliability of the vehicle and the 24 performance of the vehicle. 25 CHRISTINE MAINVILLE: Any other

1 implications of the Canadian content? They had 2 to assemble the vehicles in --3 MATTHEW SLADE: Yeah. You know, 4 assembly is a big part of it. So going back to 5 Alstom, from my time in Europe, the vehicles are generally assembled in assembly plants, 6 7 factories, which Alstom generally refers to as 8 "centres of excellence", depending on what model 9 of vehicle is being assembled where. 10 The Citadis vehicles are generally 11 produced in mainland Europe, in France and 12 Spain. 13 So, you know, where they're assembled 14 on a regular basis, daily basis by people day-in 15 day-out and that is their job to assemble 16 trains, so they're highly skilled in doing that. 17 Assembling them in Ottawa obviously 18 resulted in new staff, new facility, a facility 19 that wasn't optimized for assembly but was --20 designed and optimized for maintenance. 21 And a workforce that were, I quess, 22 taught on-the-job training essentially rather 23 than coming from a skilled manufacturing or 24 assembly background. 25 And I don't want to belittle Ottawa,

1 but Ottawa is a City of government and official-type jobs. There aren't as many manual 3 labour jobs or labour-based jobs as there would 4 be, for instance, as here in Mississauga where I 5 am today. 6 CHRISTINE MAINVILLE: So there was a 7 challenge in terms of finding the skilled 8 labour? MATTHEW SLADE: Yeah. 10 CHRISTINE MAINVILLE: Are you aware of 11 the vehicle requirements being based on U.S. 12 standards as opposed to European? Do you recall 13 anything about that? 14 MATTHEW SLADE: Not off the top of my 15 head. 16 CHRISTINE MAINVILLE: What about 17 Thales' signaling system? Are you able to say 18 whether that was a standard system for them? 19 MATTHEW SLADE: It's generally 20 referred to as the "Seltrac system". It's --21 I'm not going to say it's common but it's a 22 well-established system, a bit like the Citadis 23 is well established. 24 Obviously it is designed and modified 25 for each system, depending on how many stations

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1
   you have, how many tracks you have and what
2
   vehicles you have. But the overall architecture
3
   of the system, the core of the system is fairly
4
   common, and it's been in existence for quite
5
   some time and it's used extensively around the
6
   world.
7
              There was nothing there that was
8
   wildly unusual.
9
              CHRISTINE MAINVILLE: And did they
10
   have to create a new design?
11
                              Yes.
              MATTHEW SLADE:
                                     It was bespoke
12
   for Ottawa, like I said, based on the vehicle
13
   and the requirements of the stations and the
14
   design of the alignment, et cetera. But it
15
   wasn't -- I wouldn't say there was any
16
   significant deviation from their norm.
17
              CHRISTINE MAINVILLE: Do you know
   whether this was the first time that an Alstom
18
19
   LRT was being integrated with Thales' signaling
20
   system?
21
                               I am -- I would like
              MATTHEW SLADE:
22
   to say I'm about 90 percent certain it's the
23
   first time Seltrac system has been put into a
24
   Citadis vehicle.
25
              CHRISTINE MAINVILLE: And did that
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1 create any particular challenges on this 2 project? 3 MATTHEW SLADE: There were some 4 challenges, not insurmountable. I think the 5 biggest challenge was actually on physical 6 space, on where the equipment would physically 7 fit inside the vehicle; and then where the wiring would run to and where the external 8 9 aerials would be mounted, that kind of thing. 10 But the biggest issue was actual, 11 physical space, which we overcame. It took a 12 while but we overcame with changing the design 13 of brackets and things like that. But it didn't 14 actually change the physical core equipment of 15 the system, it was mainly brackets and the way 16 things bolted into the track. 17 CHRISTINE MAINVILLE: As Systems' 18 Director, was that in respect of -- well, were 19 you involved or responsible at all for system 20 integration? 21 Depends on how you MATTHEW SLADE: 22 define "responsible". So when I arrived most of 23 the system integration -- the system integration 24 I guess falls into two categories. You have the

design phase, which is the key part where you're

2.0

figuring everything out on paper and understanding which systems are going to talk to which systems, and how they're going to interact and work out how they're going to relate to one another. And then I guess the latter part is testing and validating that those interfaces work.

But in theory, I guess loosely, they both kind of fall -- fell under my remit. There was an Engineering Director on the project when arrived, Roger Schmidt, and he had an Integration Director that worked for him called Jacques Bergeron, and they both loosely reported to me.

The design was well under way and when I arrived I wasn't going to interfere with too much of that. That wasn't really my remit coming on board. So they carried on doing what they were doing with regards to that.

I probably worked far closer with Jacques than I did with Roger. And when Jacques retired I replaced Jacques with a gentleman by the name of Joseph Marconi, who is still on the project now working for OLRTC. He looks after the vehicles predominantly and the interface of

1 the vehicles with the Thales system. 2. I looked after the Thales subcontract 3 when I came on board. I had Dr. Sharon Oakley, 4 who looked after the Alstom contract. 5 still there at OLRTC and still managing that. 6 I had a contract manager that worked 7 for me managing Thales. I had a couple of those 8 because a couple of those came and went. And then I also hired in some external 10 experts to provide support when we had specific 11 issues. 12 CHRISTINE MAINVILLE: And so what 13 we're talking about here is the integration 14 between the rolling stock and the signaling 15 system, correct? 16 MATTHEW SLADE: Yeah, and all the 17 other systems as well. 18 CHRISTINE MAINVILLE: Okay. So Roger 19 Schmidt and Jacques Bergeron were for 20 responsible for those -- not responsible but 21 were looking after --22 MATTHEW SLADE: They were managing it 23 at the design phase. 24 CHRISTINE MAINVILLE: At the design 25 phase.

1 MATTHEW SLADE: And Jacques went 2 through to testing commissioning but he was 3 predominantly on the vehicle. 4 CHRISTINE MAINVILLE: Jacques was? 5 MATTHEW SLADE: Yeah. 6 CHRISTINE MAINVILLE: So -- and Roger 7 Schmidt then worked for OLRTC? 8 MATTHEW SLADE: Correct. He was the 9 Engineering Director responsible for all of the 10 design, whether it was designing stations or --11 all of the design scope fell under Roger and he 12 had various discipline leads that managed the 13 different scopes. 14 And then the designer had a systems' 15 integration lead as well, Keith Brown. 16 CHRISTINE MAINVILLE: Keith Brown? 17 MATTHEW SLADE: Yeah. Who was at SNC 18 and he's now at Mott MacDonald, I believe. 19 CHRISTINE MAINVILLE: So isn't --20 what's the division of scope there then as 21 between OLRTC and the RTG engineering joint 22 venture. 23 MATTHEW SLADE: So, yeah, EJV were 24 essentially a subcontractor to OLRTC. So Roger 25 would have managed that subcontract. And then

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1
   on the -- I don't know who was the lead at the
2
   time on the EJV side, but certainly when I was
3
   involved Keith Brown was the lead guy
4
   responsible for the integration.
5
              I know you've obviously received a
6
   huge amount of documents from us. One of the
7
   documents that should be of interest is
8
   something called a "spider diagram" which shows
9
   all the interfaces between all the systems.
                                                  And
10
   Keith is the author of that diagram and was
11
   responsible for mapping out how all the systems
12
   would talk to one another.
13
              CHRISTINE MAINVILLE: So he was
14
   with -- Keith was with EJV more specifically?
15
              MATTHEW SLADE:
                               Yes.
16
              CHRISTINE MAINVILLE: So was Roger
17
   Schmidt with EJV as well or no, he was with --
18
              MATTHEW SLADE:
                              No.
                                    Roger was OLRTC,
19
   he managed a subcontract that was with EJV.
2.0
              CHRISTINE MAINVILLE: But in terms of
21
   the overall systems integration, did that
22
   responsibility lie with EJV more specifically,
23
   or OLRTC?
24
                               I think it lay with
              MATTHEW SLADE:
25
          I think they were defined in their
   EJV.
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1 contract as the system integrator. They were 2 responsible for designing all of the interfaces. 3 And then they were also responsible for writing 4 all the test documents, all the test procedures 5 that we executed to validate and evidence that 6 everything was working as it should be. 7 basically closes the circle on the design. 8 So they would take the requirements 9 out of the contract; they would design to those 10 requirements; the design would get approved; 11 they would issue construction drawings and then 12 they would issue test reports or test procedures 13 that would then be executed by my testing 14 commissioning team; and then they would sign off 15 on the results that came from the -- my field 16 team of doing the testing commissioning. 17 CHRISTINE MAINVILLE: And did the EJV 18 have any involvement in the rolling stock and 19 signaling system integration? 2.0 They did. Keith Brown MATTHEW SLADE: 21 did specifically, we sat in numerous meetings he 22 and I to look at how the train would behave in 23 different situations with regards to interfaces 24 with other systems.

The train doesn't just interface with

1 the signaling system, and the signaling system 2 doesn't just interface with the train. Tt. 3 interfaces with traction power, fire alarms, 4 tunnel ventilation, guideway intrusion, the list 5 is long. 6 CHRISTINE MAINVILLE: So EJV was 7 looking at those interfaces, but do you know --8 was there some lack of clarity or dispute, to 9 your knowledge, in terms of who was responsible 10 for the -- specifically the integration between 11 the rolling stock and the signaling system? 12 MATTHEW SLADE: I don't know. 13 CHRISTINE MAINVILLE: You don't know? 14 MATTHEW SLADE: No. I don't know if 15 there was a formal dispute in that, no. 16 CHRISTINE MAINVILLE: So was it your 17 understanding that that specific integration was 18 part of EJV's scope? 19 MATTHEW SLADE: Yes. 2.0 CHRISTINE MAINVILLE: And so you 21 believed it to be discharged, that 22 responsibility, primarily by Keith Brown? 23 MATTHEW SLADE: Yes. 24 CHRISTINE MAINVILLE: Are you aware of 25 challenges being encountered on that front of

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1
   systems -- of the integration between Thales'
2
   system and Alstom's train?
3
              MATTHEW SLADE:
                             Nothing out of the
4
   ordinary. There was -- I think generally my
5
   reflection on how that all went was it went -- I
6
   think it actually went pretty well.
7
   different -- I wouldn't have expected it to have
8
   been any better or any worse than how it was.
9
              There was a few issues here and there
10
   along the way, as you get when you get complex
11
   systems like this. But, yeah, it was nothing
12
   out of the ordinary, I wouldn't say, or nothing
13
   that wasn't manageable or -- I'm not saying that
14
   you can predict specific things but it went
15
   probably as I would have expected it to.
16
              CHRISTINE MAINVILLE: And of course
17
   you weren't there prior to 2018 so you wouldn't
18
   know what, if any, early planning was done on
19
   this piece?
2.0
              MATTHEW SLADE: I can't answer that,
21
   no.
22
              CHRISTINE MAINVILLE: To what extent
23
   would you have been overseeing the manufacturing
24
   of the rolling stock?
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              MATTHEW SLADE: Very loosely.
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on.

1 was all delegated to people within my team. Τ 2 didn't get involved in it very much. 3 vehicles, when I arrived on the job, were in 4 various different states of assembly. 5 vehicles were finished and some were close to 6 being finished and being tested, but most of 7 that I left down to vehicle experts and people within the vehicle team who were -- Jacques was 8 9 heavily involved with that, Sharon was heavily 10 involved with that. A gentleman who worked for 11 me, Jean-Louis Ozorak was involved with that. 12 Later on he was involved with that more --13 actually probably post-RSA rather than before 14 RSA. 15 But Alstom were the experts so they 16 would report to us on a weekly basis, and Sharon 17 would produce production progress reports every 18 week, still does. 19 So, yeah, it was just a case of 20 overseeing what was being done. I wasn't 21 actually on the shop floor looking at the 22 assembly and challenging anything that was going

CHRISTINE MAINVILLE:

say OLRTC, beyond you, had oversight over that

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But you would

1 manufacturing? 2. MATTHEW SLADE: Yeah. It was a 3 subcontract so it was down to OLRTC to, you 4 know, keep an eye on that contract and make sure 5 the contract was executed. 6 CHRISTINE MAINVILLE: And when you 7 arrived in 2018 what is the new target RSA date, 8 if you recall? 9 MATTHEW SLADE: I was involved in that 10 before I arrived. 11 CHRISTINE MAINVILLE: Okay. 12 MATTHEW SLADE: So I was involved --13 that was part of what I was doing. 14 CHRISTINE MAINVILLE: Right. 15 MATTHEW SLADE: From January 2018 to 16 March, April time was taking that off-project 17 review that I did, and looking at the schedule 18 and looking at identifying what a revised RSA 19 date would look like. 2.0 CHRISTINE MAINVILLE: And what did it 21 look like? 22 MATTHEW SLADE: I think it ended up 23 being published as a November 2nd date, 24 something like that. 25 CHRISTINE MAINVILLE: Okay.

1 MATTHEW SLADE: So -- but, you know, 2 there's -- we did lots of workshops and 3 scheduling work to get the date. I think we 4 originally, we all at OLRTC, in the end proposed 5 an October date and the City asked for it to be 6 a 2nd of November date. 7 CHRISTINE MAINVILLE: Was that because 8 they didn't think October was realistic? MATTHEW SLADE: Yes. 10 CHRISTINE MAINVILLE: What do you 11 think of the November date? Was it a realistic 12 schedule? 13 MATTHEW SLADE: No. 14 CHRISTINE MAINVILLE: So can you tell 15 me about that and why it was put forward? 16 MATTHEW SLADE: So I think, from 17 memory, and I've been trolling back through some 18 emails. I think at the time when we did that 19 review we did something called a PERT analysis, 20 which is similar to a Monte Carlo simulation, 21 which gives you a probability of your end date. 22 So you build a schedule and then you 23 put it through a system that runs the program 24 several thousand times and gives you probability 25 rates of what the end date is likely to be.

it gives you a spread from the probability of a 50 percent chance up to -- it will never give you 100 percent because you can't guarantee anything.

And we ran that and it came out with various different dates obviously, and from there we looked at what mitigation measures could we put in place and what we could do to either improve the probability or improve the certainty of achieving a date.

And that's when, I guess at a Board level, a decision was made to target an October date, based on conversations that had been had in workshops with the key suppliers, Alstom and Thales.

We then ran some workshops with the City. And then at that point there was a view that November was the date that we should be targeting. But I'm pretty sure from the -- when we were running models, I think if you wanted to go somewhere around P90, or 90 percent probability of achieving a date I think it probably had a March 2019 date at that time.

CHRISTINE MAINVILLE: So in terms of probability -- so what would you say was -- was

1 there a chance that you could meet the 2 November 2018 date? 3 I think potentially. MATTHEW SLADE: 4 You know, in a utopian world I think -- you 5 know, none of us have -- none of us can predict 6 what's going to happen. And I think there was a 7 general view that we were -- I would say 8 post-sinkhole, so delays had already been 9 experienced, and what have you. 10 And we had spent, like I said, 11 workshops with Thales and Alstom in our offices 12 with their executives trying to look at the best 13 way of getting to the earliest possible 14 completion date. 15 And you have to -- when you're 16 building these schedules you can put a level of 17 contingency and risk into them, but obviously 18 the executives and the -- we'll say the parent 19 companies, don't want you to be too conservative 20 because, obviously, it's in our interest to be 21 finished as early as possible, especially when 22 we know we're going to be late. 23 So it's a balance. I could have put 24 lots of risk and contingency, and whatever else, 25 for unforeseeable things that were going to

1 happen in 2018 and 2019. And I could have put, 2 you know, I could have maybe put a 2020 date in 3 there, but it could never -- no one would ever 4 have accepted it, but we probably would have 5 beat it. So, you know, it's a fine balance and it's -- that's what project management is about. 6 7 CHRISTINE MAINVILLE: So at that point 8 in time it's more about setting -- well, is it 9 fair to say it's about maintaining a certain 10 level of pressure by not setting the date out 11 too far? 12 MATTHEW SLADE: Yes. If you tell 13 someone -- it's no different from high school 14 kids and telling them how long they've got to do 15 their homework, right? And you get the good 16 people that start straight away and spread it 17 out over time, and then you get the others that 18 panic and do it on the last day before the 19 deadline. 2.0 Unfortunately when you're building projects likes this you can't leave everything 21 22 until the last minute so it is progressive. But 23 you can't predict -- when you're predicting 24 something a year in advance you don't know 25 what's going to happen in that 12-month period.

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   All you can do is plan to the best of your
   knowledge, with the input from the experts that
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   are around the table, and come up with a -- an
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   answer that satisfies everybody, that it's a
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   level of acceptability, which is what we did.
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              CHRISTINE MAINVILLE: And so it was
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   effectively a schedule with, would you say, with
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   no running room?
              MATTHEW SLADE:
                              Correct.
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              CHRISTINE MAINVILLE: And that's an
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   executive-level decision? Or a Board-level
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   decision, as you say, in terms of how much
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   contingency you're going to provide for in the
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   schedule?
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              MATTHEW SLADE:
                               Yes.
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              CHRISTINE MAINVILLE: And so I take it
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   the City had some input into the date, or at
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   least in terms of moving it from October to
19
   November?
2.0
              MATTHEW SLADE: That was their
21
   decision.
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              CHRISTINE MAINVILLE: Did they have
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   input before OLRTC presented an October 2018
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   target date?
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              MATTHEW SLADE: So they -- so I guess
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a generic -- a sort of high-level view as to how it went.

So we -- a group of us from outside the project, we chose to do it -- or the Board chose to use people from outside the project so that people who are on the project can continue to be focused on the project. It's quite normal to do that because you don't want to distract people from their day job.

So we took a small group of people from outside of the project, from the parent companies, and took data, the existing schedule at the time from January, from the project team. And then we looked at the logic as to the sequence of activities, and we looked at the durations, and we looked at the manpower, number of hours, et cetera, days of the week. And then we did the same with Alstom and we did the same with Thales. And then we put Alstom and Thales in the room together and did a combined one to try and make sure we were all aligned on the schedules. We then ran a Monte Carlo simulation.

And then we brought the City into the discussions and presented to them a spread of

1 dates and identified where the risks were and 2 what we call "critical path" within the 3 schedule. And I'm pretty sure we wrote in the 4 end formally to the City with an October date by 5 the -- well, whether it was formally that may or may not have been by letter but certainly by 6 7 email. And we certainly got correspondence back 8 at the time by, email if not by letter, asking 9 for a November date, which was then what was 10 formally submitted via RTG to the City for 11 acceptance. 12 The City were involved. And they knew 13 we were doing the off-project deep dive into the 14 schedule. 15 CHRISTINE MAINVILLE: And based on 16 those discussions would they have understood 17 that this was a utopian schedule? 18 MATTHEW SLADE: Yeah. They knew it 19 had been run through a probability analysis and 20 they knew what the percentages were. So they 21 knew that it was what I would call a "stretch 22 target", right? It was going to be -- all the 23 stars had to align for that to work, right. 24 CHRISTINE MAINVILLE: Right. 25 MATTHEW SLADE: There wasn't a lot of

1 fact in it because we didn't have that, you 2 know, in our favour. 3 CHRISTINE MAINVILLE: And do you know 4 whether there were discussions either before 5 that or at that time about delay events, or 6 renegotiating the liquidated damages or anything 7 to minimize the impact of the delay on OLRTC? 8 MATTHEW SLADE: T wasn't involved in 9 any of those discussions, they may have occurred 10 but at the time I was just looking at schedule 11 so I don't know. They would have been a Board 12 decision, an RTG Board or OLRTC Board. It would 13 have been outside of what I was doing. 14 CHRISTINE MAINVILLE: And your 15 instructions then, I take it, were to figure out 16 what the earliest possible RSA date could be? 17 MATTHEW SLADE: Yes. 18 CHRISTINE MAINVILLE: And were you 19 involved in the subsequent scheduling changes in 20 terms of the new -- the further RSA target dates 21 that were devised? 22 MATTHEW SLADE: I was. I mean 23 obviously I was on project by then, but Rupert 24 was the Project Director, but those decisions 25 were -- we went through the same process,

1 workshops, analysis, and to work out what was or 2 wasn't achievable. Again, still taken with a 3 view with not too much contingency. 4 CHRISTINE MAINVILLE: And what was the 5 City's response to the delays to the RSA each 6 time? 7 MATTHEW SLADE: Well, obviously there 8 was tension, I think is a polite way to put it, 9 as a result of media and political pressure. 10 And then we were penalized for not hitting our 11 RSA dates, we were financially penalized as 12 well. 13 CHRISTINE MAINVILLE: So would you say 14 the pressure kept increasing in terms of meeting 15 RSA? 16 MATTHEW SLADE: Yeah, there was 17 pressure from all sides. I'm not going to say 18 that I wasn't under pressure from my own 19 organization as well. I mean, everyone wanted 20 to get finished. It was in no one's interest to 21 delay it at all. 22 There was, you know, an alignment that 23 the sooner we had it done the better for 24 everybody's sake, but not at any cost. 25 weren't cutting any corners or doing anything

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unsafe, or that wasn't agreed to or acceptable.

But, yeah, there was different pressures. There was political pressure from the client, and what have you. And there was some financial pressure there as well, and there was commercial and contractual pressure internally as well.

CHRISTINE MAINVILLE: Do you have any sense of what the financial pressure was like as a result of the delays on OLRTC?

MATTHEW SLADE: I think I would just classify it as significant. I'm not going to give you a precise number. I don't know what the precise number was.

all of the parent companies were essentially funding the job. We had -- every month we had what we call "cash calls", where it's a call back to the parent company to ask for injections of cash into the project to be able to pay our subcontractors and be able to carry on working, and those were not insignificant.

CHRISTINE MAINVILLE: And you tell me if you would have not had any involvement in this, but is there anything in that regard that

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you think the City should have responded to differently?

MATTHEW SLADE: I guess hindsight is a wonderful thing. There are lots of different ways to get the outcome that you desire. And this particular contract, this particular client were focused on penalizing, whereas there are other clients and other contractual mechanisms that work on incentivization.

Nothing to do with this job but generally I prefer incentivization. It was an industry conversation I was having earlier this week around that, where rather than penalizing someone to achieve an end date wouldn't you be better off to incentivize them, and if they don't meet it they don't get the incentivization? Six of one, half a dozen of the other. But certainly the behaviour in the relationship was very much around penalties.

CHRISTINE MAINVILLE: And I'll ask you more about that. But how do you incentivize in a way that's not penalizing? Because you can incentivize someone by threatening to penalize them?

MATTHEW SLADE: You can do it the

1 other way, right? You could turn around and say, Okay, your RSA date is the 2nd of November. 3 If you achieve that there's a commercial bonus 4 associated with that rather than a penalty. 5 You could -- you know, doesn't matter, 6 could be anything. Could be \$1 million, could 7 be \$10 million. 8 Knowing that we've already been 9 penalized with all of our damages that we were 10 paying, the City weren't (sic) funding the 11 project at that time, we were funding it. 12 would have been a potential mechanism to recover 13 some of those penalties. The scale of it is not 14 necessarily relevant, but incentivizing is no 15 different from giving a dog a treat, or 16 whatever, right? It's rewarding good behaviour 17 rather than penalizing bad behaviour it's just a 18 different method. 19 But we went down a regime of penalties 20 and that was that. That was the term of the 21 contract that we signed up to, but it was --22 there was no opportunity to revisit that or 23 rethink that, or look at different ways of 24 focusing all of us, including our

subcontractors, on how to get to the end date.

1 CHRISTINE MAINVILLE: And you just 2 made some reference to this, but is that 3 different from how you've seen other projects 4 being managed from the owner side? 5 MATTHEW SLADE: Yeah. Mainly in 6 Europe, to be fair. I haven't been in Canada 7 that long and most of my contracts here are 8 similar to the one that we had for Ottawa. 9 But certainly incentivization and --10 is -- I think is regarded more -- as a more 11 acceptable method, certainly back in Europe than 12 it is here. 13 CHRISTINE MAINVILLE: And do you have 14 any sense of what drove the City's approach on 15 Or who did? this? 16 MATTHEW SLADE: I guess I can make 17 sweeping generalizations. Behaviours are 18 learned, and the leadership form the top down 19 was clearly -- set the tone in all of the people 20 we were interacting with, at whatever level we 21 were interacting with, kind of followed that 22 tone of behaviour. 23 There were times where there was some 24 collaboration, but most of the time it was -- we 25 were generally being beaten with a stick.

1 think that just was a reflection of -- again, the pressure that our client was under from 3 their own management within the City. 4 I don't know how to describe it 5 really, but I guess -- it was never -- there was 6 never any consistency around partnership. 7 was consistency around contractual engagement 8 and the way we were treated. 9 Whilst it was supposed to be a 10 partnership there was only glimpses of that at 11 certain times when it suited people for there to 12 be a partnership arrangement. 13 CHRISTINE MAINVILLE: And when you 14 said your client had pressure from above, are 15 you referencing, for instance, John Manconi as 16 the General Manager having pressure from the 17 political sphere or --18 MATTHEW SLADE: Yeah, I think so. think -- I think it flowed down from the Mayor 19 20 and from Council and Transit Commission, media. 21 Certain individuals in the client side were far 22 easier to deal with. The City Manager was 23 generally understanding and acceptable and more 24 reasonable to have a conversation with.

But it was -- you know, even just

1 saying that, just thinking about the 2 communications that we had and the way in which 3 it was done, it was -- having to reach out to 4 that sort of level of individual -- and they'll 5 probably say the same. They'll probably say 6 that the fact that that level of individual had 7 to get engaged with us is -- should never ever 8 have got to that position, but it did. 9 CHRISTINE MAINVILLE: You mean the 10 high level executives having to --11 MATTHEW SLADE: Yeah. Whether it was 12 the Mayor or our CEOs or -- you know, the level 13 of management time and effort that got put into 14 it, especially when you recognize that RTG is 15 made up of three companies, OLRTC is made up of 16 three companies, you've got CEOs from both 17 Boards. 18 When we'd go and see the Mayor there 19 would be 20 people in the room from CEO level, 20 some of whom might have flown in from Europe. Ι 21 mean, it was a significant cost and manpower and 22 energy for -- it should never, ever have got to 23 that stage, but it did. 24 Was this prior CHRISTINE MAINVILLE: 25 to RSA?

1 MATTHEW SLADE: Yes. 2. CHRISTINE MAINVILLE: So before there 3 were issues in terms of breakdowns and 4 derailments, so during construction. 5 MATTHEW SLADE: Yeah, I'm still 6 talking about OLRTC. 7 CHRISTINE MAINVILLE: Yeah. 8 MATTHEW SLADE: So I'm talking 9 probably in and around July 2019. 10 CHRISTINE MAINVILLE: So as a result 11 of the delays and the performance of the trains 12 at that point in time, would that have been a 13 factor? 14 MATTHEW SLADE: It would have been a 15 There was -- the trains had a huge 16 amount of retrofits that were required at that 17 time and they were still finishing off the 18 assembly and testing of the last few trains and 19 retrofit was starting. And there was, you know, 20 a huge amount of pressure from all sides to get 21 done. I guess it gets difficult when the end is 22 in sight but it still seems a long way away. 23 But, yeah, we had -- the level of 24 meeting and involvement at those levels to get 25 through those discussions was intense.

1 CHRISTINE MAINVILLE: And what was 2 being conveyed by the Mayor or the City at that 3 point in time? 4 MATTHEW SLADE: I think they had 5 frustration about how it looked on them as 6 individuals partly, but also they were concerned 7 about I guess, rightly or wrongly, what the 8 world, or certainly Canada's view was of Ottawa. 9 They were forever telling us that 10 they're the capital and this is very much in the 11 public eye. And it was in the public eye, I 12 guess, because they put it in the public eye. 13 But -- yeah, it was -- the pressure was immense; 14 it still is. 15 But it certainly -- I've not 16 experienced anything like that before, where the 17 City has been so involved and the project has 18 been so politically driven. I've worked on some 19 big jobs, which are political, but this was to 20 another level. 21 CHRISTINE MAINVILLE: And do you know 22 whether RTG or OLRTC was publicly announcing new 23 RSA target dates? 24 MATTHEW SLADE: We would never do it 25 publicly. All of our communications went

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   from -- they went from OLRTC to RTG, RTG to the
   City, and then the City would generally issue a
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   memo to Council, and at that point it would go
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   into the media.
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              CHRISTINE MAINVILLE: And was the City
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   making the new target dates public as they
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   evolved?
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                              Most of the time, yes.
              MATTHEW SLADE:
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   There was no secrets anywhere and I'm not
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   suggesting there should have been, but, yeah, it
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   was -- you know, we were front-page news
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   throughout July and August every single day when
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   there was what I would regard as far more
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   serious things occurring in the city that were
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   newsworthy, yet we were front-page news every
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          It felt like everyday, it probably wasn't
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   every day but it certainly felt like every day.
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              And that just adds pressure as well
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   and it changes morale and behaviour.
                                           It was a
20
   difficult environment.
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              CHRISTINE MAINVILLE:
                                     So at that point
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   in July is everyone aiming towards to August
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   30th RSA date?
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              MATTHEW SLADE:
                              Yeah.
                                      We were heavy
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   focused on -- so we were focused on getting to
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1 substantial completion, which was -- we had a series of milestones in the schedule and in the 3 contract, substantial completion being the key 4 one at that time. Achieving substantial 5 completion meant that we could start trial 6 And then RSA came at the end of trial 7 running. 8 So, yeah, I mean, there was pressure, 9 like I said I had pressure from internal within 10 my business and from the Board to achieve 11 milestones, because we generally had financial 12 payments linked to them. 13 And there was pressure from the City 14 to achieve those, such that they looked good in 15 the media and everyone was getting to the end 16 game. 17 All these projects have pressures at 18 the end, I'm not for a minute saying that I 19 wasn't expect any, it's normal. And it was just 20 one step at a time and taking each day at a time 21 and getting to where we needed to get to. 22 CHRISTINE MAINVILLE: What's your 23 understanding of the biggest sources of delay on 24 the project?

MATTHEW SLADE:

I mean, obviously I

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1 touched briefly on the sinkhole that occurred before I arrived. That had set back the project 2 3 significantly. And the scope that I was 4 responsible for essentially, testing 5 commissioning and getting the job across the line, had been impacted by that dramatically 6 7 because construction was then out of sequence and testing commissioning was out of sequence 8 9 and was not going to be executed as per the 10 schedule. 11 And then we had -- the vehicles were 12 later than we were expecting them to be and they 13 were less reliable than we were expecting them 14 to be and that added considerable time at the 15 back end as well. 16 CHRISTINE MAINVILLE: So what was the 17 impact on the testing and commissioning schedule 18 and what did that compression look like, or how 19 was it -- how were you able to make it work? 2.0 So originally, if you MATTHEW SLADE: 21 go all the way back to probably to the RFP and 22

go all the way back to probably to the RFP and RFQ stage, and the schedule that was in the contract and what have you, it would have probably shown testing commissioning starting physically at one end of the job, starting at

either Blair or Tunney's, and working its way along the line all the way to the end. It's a linear job. You know, tower -- downtown -- towers downtown are vertical jobs, railways are generally linear jobs. And so you would start at one end and you would work your way and get to the other end.

As a result of the sinkhole, and everything that happened associated with that, we ended up essentially with two jobs. You had a job in the east and a job in the west and you had a hole in the middle, quite frankly, literally, to a certain degree.

And you think all of the ability then to test from one end to the other goes out the window. So you have to test half the job, or a third of the job at one end. And we had to figure out how we were going to get physically through the tunnel with a vehicle that was still in a stage of construction far less complete than the rest of the job and out to the west, and how we were going to actually get the west of the job connected to the east of the job.

And I don't just mean by rail, all of the communications -- all those systems that are

on the job, which are all significant, they all rely on cables and connections.

And when you have a gap in the middle we have to find a way of bridging that gap. So we ended up testing predominantly in the east to start and getting to a level of maturity there.

And while they were still working on the tunnel we found the earliest opportunity we could to get one train through the tunnel. We put some temporary cables through the tunnel. And then we put a second train through a couple of months later, such that we could test in the west.

And it wasn't until such time that the work in the tunnel was -- I would say probably about 85 percent complete that we could start testing in the tunnel, the tunnel is 2.5 to 3 kilometres long of track, which is not an insignificant amount of -- it as a quarter of the alignment.

And probably the hardest part of testing with the tunnel ventilation systems and some of the integrating systems that are there.

And it's the deepest part with the hardest access, so there are construction guys and girls

the rails.

to finish with the physical construction of the station with the architectural finishes and everything else.

I think the other thing that was a challenge was then managing people, managing time. It wasn't -- everything was -- had to be adjusted based on the result of the whole of the -- in the tunnel. It did have a significant impact.

CHRISTINE MAINVILLE: And why is it

important, particularly important to be able to run the whole line or every part of the track?

MATTHEW SLADE: There was a number of reasons for that. So the vehicle -- there are numerous tests that need to be done that run the entire system. Some of -- and when I say -- physically the entire length. Some of that was vehicle specific so we do -- when we're testing vehicles we do specific tests at speed and over the entire alignment to validate the behaviour of the vehicle and the way it interfaces with

So we do ride quality comfort tests, which essentially -- so that the travelling public get a smooth ride, so we have to do tests

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1 associated with that which you can't do until 2 you have the whole alignment and the whole line 3 speed. 4 We do what we call truck stability 5 tests that affects -- measures the amount of 6 lateral and vertical acceleration on the bogeys 7 of the train. 8 We do end-to-end journey times. 9 have performance requirements in the contract 10 that says how long it takes to get from one end 11 of the job to the other end of the job. 12 drivers, the actual -- what we call EROs, 13 electric rail operators. The drivers of the 14 trains have to be trained on the entire 15 alignment, they have to have route 16 familiarization so they know which stations are 17 next, where the signals are, where the 18 crossovers are, it's an extensive amount of 19 testing required. 2.0 And fail overtests with regards to the

And fail overtests with regards to the traction power, when one traction power substation shuts down does another one pick up?

I mean, the amount of tests that require the entire alignment are enormous. To give you a scale of it, I think on the entire

- job we probably executed around 40,000 tests.
- 2 And the amount that are required even just in
- the tunnel, or end-to-end come, into hundreds,
- 4 if not thousands.
- So, you know, even if -- if we hadn't
- 6 had that sinkhole and we hadn't had that gap in
- ⁷ the tunnel you probably could have taken a
- 8 considerable amount of time off that schedule.
- ⁹ The trains were still a little bit late, but we
- probably still could have got a long way ahead
- with a lot of the testing, even if we only had
- 12 two trains, or whatever.
- A lot of the testing of the signaling
- equipment was done in what they call maturity
- levels, maturity levels 0, 1, 2 and 3. A
- maturity level 0 you don't need any trains you
- | can just -- you're essentially testing
- 18 communications and wires.
- And when you get to maturity level 3
- you need 2 or 3 trains. You don't need the
- 21 entire fleet until you're ready for trial
- 22 running. So we could have got a long way ahead
- or finished a lot earlier if we hadn't had the
- 24 sinkhole.
- 25 CHRISTINE MAINVILLE: So when did you

1 have access to the full line for running the 2 trains? 3 MATTHEW SLADE: We put those first two 4 trains through the tunnel -- I'm trying to think 5 when it was now. The first two probably went 6 through in, I want to say April time 2018 we put 7 the first one through, and then a couple of 8 months later probably the second one. And then 9 they started testing out at that end. 10 So the actual full connectivity 11 through the tunnel probably wasn't until spring 12 of 2019, that full line speed. I would have to 13 check. I can't tell you off the top of my head. 14 CHRISTINE MAINVILLE: And so I take it 15 there was far less ability to test the full 16 reliability of the system ahead of revenue 17 service than you normally would have had? 18 MATTHEW SLADE: I think that's fair to 19 I mean, reliability testing generally 20 comes afterwards, right? The testing that we're 21 doing is that everything actually works. You're 22 not testing its reliability probably until trial 23 running, or after trial running when you would 24 then start to see reliability growth. 25 And I guess the other hot topic that's

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   part of this is the soft opening that never
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   happened. Well, it did happen but it didn't
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   happen.
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              CHRISTINE MAINVILLE: And we'll get to
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   talking about that. But wouldn't the fact of --
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   even if you're testing on the full line to --
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    just to pass those tests, wouldn't that
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   contribute to some of the running time that you
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   would gain to sort of debug --
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              MATTHEW SLADE:
                              Right. So we did do
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          We made a conscious effort with Thales,
   that.
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   like I said.
                  So we had maturity level 0 through
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   to 3 and we made a conscious decision, which was
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   not part of the original plan, we took a
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   conscious decision to get to maturity level 3 as
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   quickly as we could out in the east of the job,
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   sort of Blair end of the job, such that Thales
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   could -- because generally if you're testing --
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   we have five zones on the job, five signaling
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   zones.
            If you could test zone 5 and debug it
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   all the way up to maturity level 3, any of the
22
   bugs you find in those different maturity levels
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   they're going to be replicated in the other
24
   zones.
25
              So we knew that -- we took an approach
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1 to test as intensely as we could in one zone to help Thales with software development, debugging 3 and everything else, such that we knew that we 4 could then rectify or predict what we might see 5 in the other four zones. So we did do that 6 and -- but again, it would have been -- it would 7 have been easier if we had more of the alignment 8 at the time, but we did change our testing 9 approach to make sure -- to increase our 10 certainty as to what the end result was going to 11 be. 12 CHRISTINE MAINVILLE: Well, let me 13 phrase it this way, and we'll talk about the 14 reliability growth and trial running stage, but 15 just in terms of the earlier testing, or full 16 integration testing, I suppose you would call 17 it, running the full line. 18 MATTHEW SLADE: Uhm-hmm. 19 CHRISTINE MAINVILLE: Would -- if 20 there had been an ability to do more of that, 21 could that have impacted the ultimate 22 performance of the system or reliability of the 23 system down the road? 24 MATTHEW SLADE: I don't think it would 25 have made a dramatic difference. The things

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   that we were picking up during testing and
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   commissioning were small items here and there
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   and they were very specific to geographic
   locations. So you might find when the train
4
5
   pulls in to the station you might get views on
6
   CCTV cameras and stuff. You might get that and
7
   you might go, that camera needs adjusting or
8
   certain bits and pieces.
9
              Obviously the integration with the
10
   tunnel ventilation system couldn't happen until
11
   the tunnel section because there isn't any on
12
   the rest of it. So there was certain things we
13
   couldn't do. But I don't think getting -- I
14
   don't think getting access to the entire
15
   alignment earlier would have changed the
16
   reliability or the performance of the system, it
17
   just would have got you to the end date earlier.
18
              CHRISTINE MAINVILLE: So when that was
19
   completed would you have then been at the
20
   pre-trial running phase?
21
              MATTHEW SLADE:
                              Yes.
22
              CHRISTINE MAINVILLE: And what does
23
   that look like?
24
              MATTHEW SLADE:
                              So you can't go into
25
   trial running until all of your testing
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1 commissioning is complete. The trial running is 2 not part of testing commissioning, it's 3 afterwards. So you test and commission all your 4 systems, you validate that they all work. 5 you complete all those test procedures, they get 6 sent off to those engineers that design them and 7 they all get validated and signed off. 8 And at that point we could apply for 9 substantial completion. With a positive 10 response on substantial completion we were then 11 able to commence trial running. 12 And trial running, essentially, 13 crudely, is operating the system to a timetable 14 that replicates how the system would operate in 15 revenue service. So it's the same as it runs 16 today but without any passengers. So it's --17 there's no passengers but it's just essentially 18 exercising the system on a daily basis, 19 mimicking daily service to ensure that it can 20 perform as it should do in revenue service. 21 CHRISTINE MAINVILLE: And what about 22 pre-trial running? 23 MATTHEW SLADE: Pre-trial running was 24 a matter of a few days I think. We didn't spend

a huge amount of time in pre-trial running.

1 Whilst we submitted for substantial completion 2 obviously the City and the independent certifier 3 take some time to assess that as to whether or 4 not we had achieved substantial completion. And 5 during that period we undertook what we called 6 "pre-trial running" which was exactly that, it's 7 trial running but without any -- I mean, we --8 without any pass/fail criteria, it's exactly the 9 It was a mock exam, shall we say. Just a 10 couple of extra days on the front of trial 11 running without all of the eyes and the tension 12 and the heavy weight of being scored. 13 CHRISTINE MAINVILLE: And would you 14 say that the trains seemed ready for trial 15 running, or the system seemed ready? 16 MATTHEW SLADE: I would say that -- I 17 would have to say on paper yes, on the basis 18 that all the systems had passed all necessary 19 tests and the vehicles were all tested and 20 passed all the necessary tests, but their 21 reliability was probably quite a way short of 22 where we were hoping they would be at that 23 point. 24 CHRISTINE MAINVILLE: And what kind of 25 issues were you seeing on the trains at that

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1
   point?
2.
              MATTHEW SLADE: It was varied across
3
   all of the different systems that built up the
4
   train. We had brake system issues, we had
5
   computer based issues, we had traction power
6
   issues, it was various across key parts of the
7
   City -- of the vehicle systems. Yeah, it was
8
   numerous bits and pieces here and there
9
   depending on what vehicle it was and --
10
              CHRISTINE MAINVILLE: And was the City
11
   fully involved at that point in time?
12
              MATTHEW SLADE: Yeah, 100 percent.
13
              CHRISTINE MAINVILLE:
                                    They were aware
14
   of all these issues going on?
15
              MATTHEW SLADE:
                              Yes.
16
              CHRISTINE MAINVILLE: And why was a
17
   decision made to go into trial running at that
18
   point in time?
19
              MATTHEW SLADE: Well, it was the next
20
   step on the schedule. I mean, I can't remember
21
   off the top of my head -- I think -- well they
22
   had obviously made a public announcement that
23
   the independent certifier and the City had
24
   awarded substantial completion.
25
              They had publicly told the City that,
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1 and the media that, essentially that commenced 2 the trial running period. So they had made a 3 public statement to that effect. 4 And they also had essentially given 5 them, the Transit Commission, a high-level view as to what trial running was going to entail. 6 7 And, therefore, everyone got their calendar out 8 and predicted when the railway was going to 9 So there was -- it was out there. 10 think the City was not minded to pause or hold 11 or do anything else, it was full steam ahead. 12 From our side as well we didn't tell 13 them not to do it, right? 14 CHRISTINE MAINVILLE: And was it a 15 City decision in fact or was it not OLRTC that 16 was in charge of when trial running would take 17 place and other steps in the process? 18 MATTHEW SLADE: I think we certainly 19 told the City that it was our intention to start 20 trial running as soon as we got substantial 21 completion. And the City were on board with 22 that, right? 23 We were -- at no point did anyone -- I 24 don't think there was ever a formal letter that 25 says, we will start on such-and-such a date.

1 And I don't think there was ever, you know, 2 anything back saying, Don't. And I don't think 3 there was ever a point where anyone said -- or 4 even questioned whether we were ready, I don't 5 think, from either side. I don't recall that. I don't remember -- I don't recall any 6 7 emails or sitting in any meeting saying, I'll be 8 ready. We'd been counting down to that with 9 pretty much daily meeting with the City. And it 10 was general consensus that as soon as we got 11 substantial completion we would start trial 12 running. 13 14 CHRISTINE MAINVILLE: So it was more 15 like, as soon as we can get to the next step 16 let's get to it? 17 The end goal was MATTHEW SLADE: Yes. 18 to open the railway. The thought of not doing 19 it -- not, not doing anything but, you know, the 20 expectation was everyone keeps going. We had 21 We were moving in a positive way. momentum. 22 CHRISTINE MAINVILLE: And am I right 23 that at substantial completion is when the minor deficiencies list was devised? 24 25 MATTHEW SLADE: Yeah. The minor

1 deficiencies list was a document that was 2 ongoing. But part of the substantial 3 completion, the independent certifier validated the minor deficiency list and then there was 4 5 a -- under the contract there's a financial 6 penalty associated with those, that you then 7 claim that money back as you close those 8 deficiencies out, the holdback, in essence. 9 CHRISTINE MAINVILLE: And aside from 10 the independent certifier, did the City have to 11 agree to those items remaining outstanding? 12 MATTHEW SLADE: Yes. And, aside from 13 the minor deficiency list, I think we also had 14 a -- like a -- I'm going to call it a "critical 15 RSA list" that we agreed with the City, between 16 RTG and the City and OLRTC, of specific --17 because the items on the minor deficiency list 18 could be closed out after RSA, but we had a list 19 of items that we took off of there that we all 20 agreed needed to be dealt with before RSA. 21 And I can't tell you how many was on 22 the list off the top of my head, but certainly 23 there was a dozen to twenty critical items that 24 we agreed needed to be addressed before service 25 availability. And that was documented and put

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1
   into a contractual document at the end between
2
   the City and RTG.
3
              CHRISTINE MAINVILLE: And were they
4
   all completed before RSA or did some make it to
5
   the term sheet?
6
              MATTHEW SLADE: Some made it to the
7
   term sheet.
8
              CHRISTINE MAINVILLE:
                                     So initially the
9
   City's expectation is that these needed to be
10
   done?
11
              MATTHEW SLADE:
                               Yes.
12
                                    Which one -- do
              CHRISTINE MAINVILLE:
13
   you recall which key items were initially on the
14
   critical pre-RSA list that got deferred
15
   ultimately?
16
              MATTHEW SLADE:
                              The ones that ended up
17
   in the term sheet or the ones that got deferred?
18
              CHRISTINE MAINVILLE: That ended up in
19
   the term sheet.
2.0
              MATTHEW SLADE: Certainly the on-board
21
   CCTV, the cab CCTV on the vehicle. I think the
22
   number of vehicle -- I don't know if that was on
23
   the list at that the time. Certainly that's the
24
   one that stands out for me. I can't remember
25
   now what they all were.
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1 A lot of them got closed off in 2 A lot of them were documentation that 3 got closed, like the bill of sales for the 4 vehicles, the engineering safety assurance case, 5 the occupancy certificate for the building, the 6 fire safety plans. 7 And there were some related to the 8 vehicle, like the on-board CCTV. Vehicle cab 9 doors might have been on there that got deferred 10 to the term sheet. Yeah, I can't recall off the 11 top of my head. 12 CHRISTINE MAINVILLE: Were there 13 issues with test procedures and test results 14 missing around that point in time, or the City 15 not having them, or they had not been produced? 16 MATTHEW SLADE: Not that I'm aware of. 17 We had sat down regularly with the independent 18 certifier and my testing manager, Steve Nadon, 19 and went through all of the tests. 20 recall any test procedures being outstanding at 21 that point. 22 CHRISTINE MAINVILLE: Would you have 23 had any interaction with people from Parsons? 24 MATTHEW SLADE: Yes. 25 CHRISTINE MAINVILLE: And do you

1 recall them asking for a lot of the documentation about the testing and 2 3 commissioning? 4 MATTHEW SLADE: N_{Ω} 5 CHRISTINE MAINVILLE: Do you know 6 whether they had insight or were able to gain 7 insight into what had been completed and to what 8 level? MATTHEW SLADE: Parsons specifically? 10 CHRISTINE MAINVILLE: Uhm-hmm. 11 MATTHEW SLADE: I only dealt with one 12 individual from Parsons. No, no, two 13 individuals I think, and they would have had 14 access to all that information, or they could 15 have asked for it if they -- but I don't 16 remember either of them asking for anything that 17 they thought was missing. 18 CHRISTINE MAINVILLE: Who are the two? 19 Do you recall? 2.0 MATTHEW SLADE: Mike Palmer and Glen 21 McCurdy. 22 CHRISTINE MAINVILLE: Do you recall 23 whether the City ultimately received all of the test results and -- to their satisfaction and 24 25 the test procedures and requirements?

1	MATTHEW SLADE: They had them all
2	before substantial completion. They wouldn't
3	have signed substantial completion without them.
4	CHRISTINE MAINVILLE: So this was not
5	something that was reflected on one of the
6	deficiencies lists?
7	MATTHEW SLADE: Not that I'm aware of.
8	CHRISTINE MAINVILLE: Do you recall
9	seeing reliability reviews from Alstom? And
10	would the City have had access to those?
11	MATTHEW SLADE: Yes.
12	CHRISTINE MAINVILLE: And those set
13	out the issues that the trains were
14	encountering, I take it?
15	MATTHEW SLADE: Yes.
16	CHRISTINE MAINVILLE: Were you part of
17	RAMP? Or I guess you attended RAMP meetings?
18	MATTHEW SLADE: I did.
19	CHRISTINE MAINVILLE: Can you tell me
20	what the tenor of those discussions were as the
21	parties were approaching trial running and then
22	RSA?
23	MATTHEW SLADE: So they were good
24	meetings generally. It was trying to think
25	how often we had them. I think initially they

were monthly and then they ended up being weekly, and I think they were probably ad hoc when they were more than weekly.

So we had -- we would -- what's effectively still known as the "RAMP room" down at OC Transpo's offices, and there would probably be at least 20 people in the room, maybe more; 20 to 30 people in the room, depending. And they would be -- the RAMP report was owned by OC Transpo and they would report on readiness on a red, amber, green type scoring mechanism against what -- I can't remember how many it was, 40-odd key things that needed to be done for them to be satisfied that they were, as in their term, "ready for rail". And we would go through that.

The City would kind of present and then OLRTC, RTG and quite often we took Alstom and Thales with us depending on what we were covering. And sometimes we even took very specialist people out of our more junior team, shall we say, like someone that was a specialist in a particular system if we knew that it was going to come up as a topic. And they might not sit through the whole meeting, they might sit in

1 an adjacent room and get called in to talk at a 2 point in time. 3 But John Manconi ran those meetings, or kind of chaired them with Michael Morgan and 4 5 the rest of the team, and the City's consultants were in there and myself, Peter Lauch and 6 7 representatives from my team and the 8 subcontractors. And we would cover everything 9 from training, media, testing, commissioning, 10 vehicle performance, maintenance. 11 maintainer was in there, RTM were in there as 12 well. Yeah. It would cover off everything with 13 regard to being ready to go into service. 14 CHRISTINE MAINVILLE: And what were 15 the discussions around the level of concern, if 16 there was any, about the performance of the 17 vehicles? 18 MATTHEW SLADE: There was a lot of 19 concern from all parties, including us. And I 20 think it was the kind of why we had Alstom in 21 the room as well. So we had a fair amount of 22 frustrations with our subcontractor. 23 The City would ask for information and 24 we would struggle to get it from Alstom, so it 25 just became easier to take Alstom to the

1 meetings and get them to answer the questions 2 directly, or at least let the City ask them the 3 questions and then see how they would react or 4 how they would respond. 5 And I think -- I mean, to be fair, 6 even Alstom brought some of their own supply 7 chain into some of those meetings. I remember 8 being in meetings where they had the door system 9 supplier and the brake system supplier there to 10 provide answers directly to the City as well. 11 Again, not something I've ever 12 experienced before but it's what the City 13 wanted. 14 They had a huge thirst for knowledge 15 on all this stuff, I quess with regards to 16 getting to a point of certainty. 17 But it also had -- you get to a point 18 where there's a distinct lack of trust, I guess, 19 where the City wouldn't believe whatever we were 20 telling them. 21 But the City often, as well, generally 22 thought they could help with some of those 23 things, so it was a two-way conversation. 24 Some of those meetings were very

tense, very heated on some subjects.

1 sometimes, depending on what it was and what was 2 coming up, certainly I would arrange to have 3 pre-meetings with the City's consultants. knew there was a difficult conversation coming 4 up I often found it easier to have a pre-meeting 5 6 with their consultants to get their -- to gauge 7 their feeling on a topic, and to either get 8 their support to be able to encourage the City 9 to listen to what we were saying, or to 10 understand how the City would respond depending 11 on how we pitched certain things. 12 So I used their consultants as a bit 13 of a sounding board and that worked pretty well. 14 I had a good relationship with them but it 15 was -- the thirst for knowledge was immense, 16 absolutely immense. 17 CHRISTINE MAINVILLE: And was that 18 mostly at the end or was it throughout in terms 19 of the City's oversight of the construction 20 work? 21 MATTHEW SLADE: I would say it was 22 throughout, and I think that was full -- and I 23 don't know when it started because it was 24 probably like that when I arrived. I don't know 25 whether it started with the sinkhole or

1 whatever, but certainly there was a -- I'm going 2 to say a lack of trust from the City's part. 3 And the feeling was that whenever we 4 were suggesting anything or telling them 5 anything they kind of -- the feeling was as 6 though we were doing it for our own advantage 7 rather than -- and to the detriment of the City. 8 They were very, very defensive and 9 didn't necessarily see that we were taking 10 decisions or proposing things for the good of 11 the project. They thought it was for our own 12 benefit, which made it very challenging. 13 wasn't -- I quess going back to where we were 14 earlier, those meetings were not very 15 collaborative and it didn't feel much like that 16 we were all -- we did all want the same outcome 17 but we weren't always working together to get 18 there. 19 CHRISTINE MAINVILLE: Do you think 20 the -- well, do you know of anything that may 21 have contributed to the lack of trust? 22 MATTHEW SLADE: I actually don't. 23 don't know where that came from. And it was 24 different at different levels. You know, there 25 are certain people in the City where we had

25

1 really, really good relationships, and there was others where it was clear there was a distrust 3 or -- and I don't know where that came from but 4 it was there before I arrived. 5 And I'd like to say I worked really 6 hard to try and get rid of it and to work 7 collaboratively. And I think -- it sounds a bit 8 arrogant but I probably did that better than 9 other people. I have a lot of people there at the City that I still talk to and have a good 10 11 relationship with. 12 If we had carried on fighting the way 13 some of those conversations were going we 14 probably still wouldn't be in service now. 15 CHRISTINE MAINVILLE: Could the lack 16 of trust have had to do with, in part, the 17 schedules and the City not trusting the -- the 18 OLRTC schedule and when RSA would be achieved? 19 MATTHEW SLADE: I mean, possibly. 20 the -- like I said at the very beginning of 21 this, the City were involved in that scheduling. 22 So they can't say, Oh, it was a complete shock, 23 because it wasn't. I think they were -- they

were unhappy obviously. They're the client.

They wanted it by a certain date and it wasn't

coming by that date. And I can understand there being a displeasure with that. But with regards to that being a reason for trust, that would be unfair, in my opinion, because they were involved in all of that scheduling work that was going on.

CHRISTINE MAINVILLE: And would you say they had a good sense of what was realistic or not in terms of when --

MATTHEW SLADE: Yeah. There are emails there from John Manconi saying, We don't think your October RSA date is realistic, use a November date. So that was the City's opinion.

They had done an assessment and looked at it. They were on the job as much as we were walking around. They can see. And I'm not saying that they're that naive that they didn't know what they were looking at. But they knew, and they knew in those RAMP meetings where we were and where we weren't and what was achievable and what wasn't achievable, maybe not down to the finite detail of some of the stuff. But they had enough advisors and good advisors and consultants giving them advice. They can't say that they weren't prepared, they just can't.

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   It was in the media right? The media knew,
2
   everybody else knew. It wasn't a secret.
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              CHRISTINE MAINVILLE: We'll take a
4
   break here, so let's just go off record.
5
                  RECESSED AT 3:37 P.M.
6
                  RESUMED AT 3:52 P.M.
7
              CHRISTINE MAINVILLE: Do you recall a
8
   period where OLRTC either didn't have a fully
9
   integrated schedule that was being produced, or
10
   there was some commentary that it was not a
11
   fully mitigated schedule, commentary in
12
   particularly by the independent certifier?
13
              MATTHEW SLADE:
                              No.
14
              CHRISTINE MAINVILLE: Do you recall
15
   there being caveats on the schedule?
16
              MATTHEW SLADE: I do from early in
17
   2018 when we moved the RSA date. I think at
18
   that point there was a caveat on the covering
19
   letter with the schedule --
2.0
              CHRISTINE MAINVILLE: And so what was
21
   that about?
22
              MATTHEW SLADE: I might get this wrong
23
   because my recollection is not perfect, but I
24
   think it was about variations from the City with
25
   regards to architectural finishes.
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1 CHRISTINE MAINVILLE: And was the RSA 2 data basically subject to these potential 3 additional delays? 4 Yeah, I think so. I MATTHEW SLADE: 5 think any of -- yeah, I would certainly think 6 the end date was caveated based on -- I know we 7 received in -- I want to say in July of 2018, a 8 whole series of variations from the City, or we 9 had them confirmed or finalized around that 10 time. 11 From the top of my head I can't 12 remember what they all were, but the one that 13 sticks is the architectural ceiling in 14 Parliament station, which might actually have 15 been -- now I've said that it might have been 16 one of those items that was on the -- not 17 necessarily on the term sheet but on the RSA 18 list that -- as being one of the things that we 19 identified would struggle to be done by RSA. 2.0 I don't know whether you've been to 21 the station, it's an impressive ceiling and it 22 was a huge amount of money for a ceiling. 23 And it was -- the whole procurement 24 process, because it was bespoke, was slow. So I 25 think -- that's the only one that sticks in my

1 head at the time as being a caveat, but it might 2 have been linked to all those other variations 3 that were kicking around then; there was a few. 4 They were all either architectural or 5 hardscaping, stuff like that, landscaping around 6 the outside of stations and things like that, 7 from memory. I can't --8 CHRISTINE MAINVILLE: So they didn't 9 necessary preclude the RSA date that was set out 10 in the schedule itself? Or -- well, to the 11 extent that they could have been waived. But if 12 they had been accounted for would they 13 necessarily have pushed back the RSA date? 14 MATTHEW SLADE: I think that's the 15 whole point, (a), those variations hadn't been 16 finalized with the City and we didn't know what 17 impacts they were going to have, because they 18 required subcontracts and they were 19 architectural, artistic subcontracts that we 20 didn't have control over. 21 So it's very much a case of, based on 22 what we know at this point in time that's the 23 date. But there's all this stuff that we know a 24 bit about but isn't -- until we have a contract 25 signed with a supplier that says, We can achieve

1 that date, there was risk to the date. So I 2 think -- that's my recollection. 3 CHRISTINE MAINVILLE: So it was about 4 items that were outstanding and then -- you were 5 waiting on, at least in terms of information, 6 but not necessarily about past events that there 7 was a commercial dispute about potentially 8 impacting who was responsible for the delay? 9 MATTHEW SLADE: Yeah, no. I don't 10 think that was -- I don't recall that. I only 11 recall it as being a result of variations that 12 had not yet been finalized that had the 13 potential to impact the end date. 14 CHRISTINE MAINVILLE: Okay, got it. 15 Do you recall when the decision was 16 made to reduce the number of vehicles from 15 to 17 13 in terms of what would be used during certain 18 peak hours during service operations? 19 MATTHEW SLADE: I think that was all 20 done as part of the term sheet, as part of the 21 RSA negotiations. I recall there being an item 22 on that list, being two additional trains, or 23 whatever, and there was an agreement to reduce 24 to 13 vehicles, I think. I think that's what my 25 recollection is anyway.

1 CHRISTINE MAINVILLE: So it wasn't 2 before trial running? 3 MATTHEW SLADE: No. 4 CHRISTINE MAINVILLE: And do you 5 recall ever seeing the City's go/no-go list? 6 MATTHEW SLADE: If that's different 7 from what's in the RAMP meeting then I don't 8 recall. I remember having -- I don't know if 9 you call it qo/no-qo but the RAMP traffic light 10 items were -- I thought -- I would classify as a 11 go/no-go. If there's a separate document they 12 call a "go/no-go" I'm not aware of that. 13 CHRISTINE MAINVILLE: But basically 14 the no-go items being items that would prevent 15 them from going into RSA? Or that they would 16 say were critical, from their perspective, to 17 going into revenue service. Is that what you 18 understood this list to be? The one you have in 19 mind at least? 2.0 MATTHEW SLADE: Yeah. It was the RAMP 21 report, which essentially said everything that 22 they saw as being a requirement to going into 23 service. 24 CHRISTINE MAINVILLE: Right. 25 MATTHEW SLADE: But I think we called

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1
   it the "RAMP report". If there's something
2
   specifically called a "go/no-go list" I'm not
3
   aware of that.
4
              CHRISTINE MAINVILLE: A "RAMP report"
5
   you called it?
6
              MATTHEW SLADE: Yes, from the RAMP
7
   meetings we talked about before the break. We
8
   used to have the RAMP meetings with the City,
9
   and they had a RAMP report, which was a series
10
   of probably 40 slides in a slide deck, and they
11
   had red, green or amber dots beside them if they
12
   were trending for good or not.
13
              But I'm not aware of something
14
   specifically called a "go/no-go list".
15
              CHRISTINE MAINVILLE: No, I think
16
   we're talking about the same thing.
17
              Do you recall any items on there that
18
   made it on to the term sheet or that were not
19
   completed?
2.0
              MATTHEW SLADE: No, I can't recall.
21
              CHRISTINE MAINVILLE: You can't
22
   recall?
23
              MATTHEW SLADE:
                              No.
                                    Too long ago I'm
24
             I'm sure I can go back and read them
   afraid.
25
   all and refresh my memory, but off the top of my
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1 head, no. 2. CHRISTINE MAINVILLE: So, for 3 instance, 34 trains in terms of the vehicles --4 MATTHEW SLADE: Yes. 5 CHRISTINE MAINVILLE: Was that 6 ultimately -- were there ultimately fewer than 7 34, given the reduction from 15 to 13, or did 8 that not impact? MATTHEW SLADE: So I suspect the RAMP 10 report probably always showed 34, I don't think 11 that probably ever changed. The contract 12 requirement was to provide 34 vehicles. 13 Irrespective of how many were in 14 service there was a contract requirement to 15 provide 34 vehicles. 16 And I think we ended up -- the term 17 sheet certainly had two additional vehicles on 18 it, because two of the Stage 1 vehicles were not 19 able to go into revenue service and they are 20 still not in revenue service. We ended up 21 taking two from Stage 2. 22 But I don't recall when they dropped 23 from 15 vehicles to 13 vehicles. I think that 24 must have been part of the term sheet as well. 25 The term sheet probably had 13 vehicles and it

1 probably also had in there a clause about 2 coupled trains. Because all of it -- all the 3 trains are made of two-car consists now. 4 Whereas the original plan was to run single car 5 consists on a weekend, but we still run doubles. 6 The original CHRISTINE MAINVILLE: 7 plan was to run singles on the weekend? 8 Only on the weekends. MATTHEW SLADE: 9 Only on Saturdays and Sundays. 10 CHRISTINE MAINVILLE: And why are two 11 being run instead? 12 MATTHEW SLADE: For reliability 13 reasons. 14 CHRISTINE MAINVILLE: So I'm just 15 trying to see whether the reduction from 15 to 16 13, in terms of how many trains needed to be 17 made available for certain periods of time, 18 would that have impacted the number of trains 19 being delivered in terms of the 34? 2.0 MATTHEW SLADE: No. 21 CHRISTINE MAINVILLE: So did -- were 22 34 vehicles delivered? RTG just didn't need to 23 run as many during peak periods? 24 MATTHEW SLADE: Yeah. 25 CHRISTINE MAINVILLE: So let's talk

about any discussions that there were about a soft opening. Were there any?

MATTHEW SLADE: There were. There were. It was raised a few times at different stages in the project. The first one was probably fairly early on in -- when I was on project in 2018, probably in the late spring, early summer of 2018 where we talked about the potential of -- it's still classified as a soft opening, in essence a partial opening, maybe opening from Blair to U Ottawa because of the issue with the tunnel.

And saying, you know, you could -offering the City, look, you could run six
trains on a loop between Blair and U Ottawa and
get the system up and running and open, and get
the public familiar with it, and get the
operators and the staff familiar with it; and
that would have given you some reliability
growth. But there was no appetite for that
whatsoever, which I kind of understand. But
it's not uncommon to do that sort of thing.

And then later -- later on, I can't remember when, it was probably -- probably in the winter of 2018 into 2019, we had a

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1 discussion in one of those -- it was in the RAMP room but I don't know if it was actually in a 2 3 RAMP meeting. And I related -- I talked to them 4 and recommended to Mr. Manconi that we have a 5 soft opening, which at that time I was 6 recommending, still the whole alignment but 7 reduced hours, such that we would have more 8 maintenance hours available. And that was 9 flatly refused as well.

But that conversation was also supported by Tom Prendergast of STV, he was supportive of a soft opening at that time as well. But the City were adamant that they didn't want a soft opening.

And we also talked there and then about their desire to cut the buses off so quickly, which we also suggested was not probably the best course to take, but they still decided to do it.

And after that it wasn't raised again after that because it was just -- they were adamant to such an extent that it wasn't something that was open to discussion. It just -- it was so badly received by them that it would have been a very brave person, someone

1 much braver than me, to raise it as a potential 2 solution. 3 CHRISTINE MAINVILLE: Why was it --4 what part of the response was so --5 MATTHEW SLADE: Well, just so adamant. 6 It was almost like I was like -- to even have 7 the audacity to raise it as a suggestion. 8 was so negatively received. 9 And on the basis that it was seen that 10 we were taking advantage, or we were the ones 11 that were going to benefit, "we" being OLRTC 12 from RTG were going to be the ones benefiting 13 from it and that the City would -- it would be 14 perceived that the City were cutting us a break. 15 That seems to be a kind of recurring 16 theme with a lot of the conversations. 17 to -- that language is even used sometimes in 18 Transit Commission. Like they say, oh, you 19 know, the Commissioners or the Council will say, 20 you're giving RTG or OLRTC a break. It was very 21 much this attitude that we -- like I said 22 before, this regime of penalties and sternness 23 as to how we were treated. 24 Did they -- anything that you raised, whether it would be of benefit to everybody it 25

1 was still shut down. But that was shut down 2 with I guess such strength that it was just --3 it was not something that I was going to table 4 and upset Mr. Manconi with again. That was it. 5 CHRISTINE MAINVILLE: Did he ask for 6 more details or for a specific plan? 7 MATTHEW SLADE: No. There was no 8 appetite for that whatsoever. I'm pretty sure 9 at the time that I wrote an email to my CEO here 10 giving him my advice and suggesting that that 11 was the best thing to do, in the hope that he 12 might, at the CEO level, be able to have a 13 conversation with someone, but I don't think 14 that that ever occurred. 15 CHRISTINE MAINVILLE: Which CEO is 16 Do you mean at EllisDon? that? 17 MATTHEW SLADE: Yeah. 18 CHRISTINE MAINVILLE: Was there any 19 expectation that there would be no deductions or 20 no financial consequences to --21 MATTHEW SLADE: It never even got that 22 far of a discussion. It was just -- it was a 23 unanimous "no". It was just -- there was no 24 entertaining any level of conversation about 25 anything on that topic.

1 CHRISTINE MAINVILLE: And when you say 2 Mr. Prendergast was supportive, what did he 3 express to you, do you recall? 4 MATTHEW SLADE: I can't recall 5 verbatim but he was of the opinion -- he 6 supported it. He agreed that a soft opening 7 would make a lot of sense and that it was in the 8 best industry practice to do something of that 9 nature. And again, and that wasn't something 10 that -- he talked to Tom off-line about stuff. 11 It just came out in conversation and he was 12 supportive of it at the time as well. And we 13 hadn't -- again, we hadn't discussed any details 14 about what it looked like. I had a view in my 15 head as to what it would look like, but we 16 hadn't -- we hadn't had any discussion. 17 I was hoping that that would be the 18 opening point to say, Go away, work on it with 19 Tom and come back with a proposal to the room as 20 to what that could look like, but it was just 21 shut down immediately. 22 CHRISTINE MAINVILLE: And was there --23 in terms of the discussion about cutting off the 24 buses so quickly, was the plan at that point in 25 time to run parallel bus service for three

1 weeks, or do you recall what it was? 2. MATTHEW SLADE: I think the duration 3 of how long they were -- I think they had 4 already -- they had predetermined -- it wasn't 5 the three weeks that was predetermined, it was 6 the fact that they had, for want of a better 7 term, laid-off -- given notice to 350 drivers that they would be losing their job. And I 8 9 quess -- so that date at which they were going 10 to be terminated was fixed. 11 The fact that there was a three-week 12 overlap -- the date at which we would go into 13 service wasn't known at that point. It just 14 happen to be that it ended up being three weeks 15 before that. It could have ended up one week 16 before, I guess. You can argue we were lucky 17 with three weeks, or if we had achieved RSA 18 earlier it might have been four weeks or five 19 weeks. 20 But I think the termination date was 21 agreed on based on contracts for OC. I'm not 22 privy to that information because that's 23 OC Transpo. Cutting off those buses was, yeah, 24 a wrong decision.

CHRISTINE MAINVILLE: And was it

1 always expected that service operations would 2 begin immediately after or very shortly 3 thereafter the RSA date? 4 MATTHEW SLADE: No. That was a 5 surprise to us. I'm going to get my dates wrong 6 just because I can't remember, but we -- at the 7 point of which we had, I quess, got to the end, 8 or near enough to the end of trial running, "we" 9 being RTG and OLRTC, certainly Peter and I were 10 asked to take councillors, dignitaries, whatever 11 you want to call them, for a train ride along 12 the entire alignment, culminating with an 13 extraordinary Council meeting at the Town Hall. 14 At which point -- which we weren't aware of. 15 Well, we knew they were going to announce the 16 opening date at that meeting but we didn't know 17 what that date was going to be. 18 So it was a complete surprise to us 19 when they announced it. So they announced -- I 20 want to say it was the 14th of September was the 21 date they announced. And I think they announced 22 that at the end of August, I want to say the 23 30th of August, or thereabouts. 24 And that was a complete shock to us 25 because not that long before the City had issued

1 a letter notifying RTG of their -- the service level that they were going to service at, and in 3 that letter it suggested that they would go into 4 service in Q4 of 2019, and obviously October is 5 not -- September, sorry, is not in Q4. So it 6 was a shock and it was quick. 7 Mr. Manconi always said he needed four 8 weeks to get ready for service and there they 9 were announcing a date that was two weeks away. 10 So he had been in the media saying he 11 needed four weeks. He's been at Transit 12 Commission, announced on the media in an 13 interview, and then we were in City Hall and 14 they said, We're going to open on the 14th of 15 September; and we were slightly shocked. 16 CHRISTINE MAINVILLE: And do you know 17 why he said he needed four weeks initially? 18 What needed to be done? 19 In that four weeks MATTHEW SLADE: 20 they planned -- I don't know categorically but 21 their plan was to, obviously, continue to run 22 service without passengers, to familiarize their 23 staff, to get what they called their 24 "ambassadors" there. They put a bunch of -- I'm 25 going to call -- they called them "red vests",

1 platform staff, station staff out on the alignment and get them familiar with the system 3 to help with passenger interaction. 4 They had a whole number of things they 5 wanted to get ready, emergency services and 6 special constables, and all that sort of stuff. 7 That was my understanding of what they wanted 8 four weeks for. And then they made this 9 announcement making it only two weeks. 10 CHRISTINE MAINVILLE: And you don't 11 know what led them to ultimately choose two 12 weeks? 13 MATTHEW SLADE: No. We were unaware 14 of the 14th of September date until we sat in 15 that room. 16 CHRISTINE MAINVILLE: In terms of 17 suggesting reduced hours on the whole allotment 18 in, I think you said the 2018, 2019? 19 MATTHEW SLADE: Uhm-hmm. 2.0 CHRISTINE MAINVILLE: You said in 21 order to get more maintenance hours. What was 22 the concern there? Why did you believe more 23 maintenance hours were needed? 24 MATTHEW SLADE: So like I said, soft 25 openings are commonplace. It originates from

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the restaurant industry actually where they had soft openings, where you generally -- to get everything bedded in and settled in you would provide a more limited access to the service.

And normally with transit systems the way you would do that is you would either avoid peak hours, so instead of the trains running from 5 a.m. until midnight you would probably run, say, eight o'clock in the morning, so you miss most of the morning peak, and run until 3:00 or 4:00 in the afternoon so you don't have the huge pressures of commuter hours. And just run for that period. Which means then you also get extended hours outside of that to do, I say maintenance, but you get -- the maintainer and the constructor would get hands-on time to clear up those deficiencies that are on the minor deficiency list, and to ensure that everything is bedding in as you would expect it to and deal with maintenance.

So that gives you more hands-on, physical time to the assets, whether that be trains or the physical infrastructure assets.

And it gets your staff more familiar with everything. It give you an opportunity to

see if any of those systems are wearing or behaving abnormally from how you might expect them to. And it's -- I would say it's generally seen as good practice.

And even with, I say, experienced or seasoned transit agencies when they open up new systems they still use soft openings. And in this situation where you had -- everything was new and everybody was new -- even more reason to do it, and we didn't.

CHRISTINE MAINVILLE: Was anything planned for originally, or at least earlier on, in terms of a bedding in period or more burn-in time ahead of RSA? Was there any plan for that?

MATTHEW SLADE: No. I mean the vehicles had a burn-in requirement based on mileage, kilometrage [sic], which they all covered. And, in fact, when we went into service those vehicles had a high mileage on them when they went into service, probably far higher than a lot of fleets go into service with, which is a good thing.

But, no, there wasn't any view -- I guess we didn't know when they were going to go into service. And it was completely in the

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City's control and gift.

So our contract basically ran up until revenue service availability. But service commencement was completely -- the date of which it goes into service is 100 percent the City's decision. We had no control over that. As long as we were contractually done RSA, the time that it took them to go into service commencement was completely in their gift. They could have take a week, they could have taken six months. That was their decision and not a decision that we were party to or involved with.

CHRISTINE MAINVILLE: And in terms of raising a partial opening or reduced hours in 2018, 2019, was that informed in part by -- or at least in part by the issues that the trains were encountering?

MATTHEW SLADE: Part of it was down to that, but the majority of it was just down to good practice, industry best practice.

I think expecting it to be perfect straight out of the box was very naive, and that's why agencies have these soft openings.

It's -- even the most seasoned. The last one that I commissioned in the U.K., that actually

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- 1 went into service while I was still on the job, 2 was the East London line, which is owned by 3 London Underground, rail for London, now 175 4 years they've been running trains for and they 5 still insisted on a soft opening. So it's --6 it's not that it's -- there's no bad reason for 7 doing it. It's done for very good reasons. 8 the decision to not do that, I think, was 9 short-sighted. 10 CHRISTINE MAINVILLE: Is it fair to 11 say that you could do it one of two ways? You 12 could do more dry running, a longer burn-in 13 period but before any service operations, until 14 the system is debugged or runs pretty smoothly? 15 Or I guess you would call it your reliability 16 growth. 17 MATTHEW SLADE: Yes. 18 CHRISTINE MAINVILLE: Or you could 19 start earlier but more progressively. Would you 20 say either of those would work or there's a 21 preferred?
 - MATTHEW SLADE: Yes, both would work. Probably in reality I would probably -- if it was my choice I would do a blend of both, because the other key factor is the travelling

1 And it's all very well that you can run public. 2 these things backwards and forwards, but they do 3 behave differently when they have people on 4 Both from -- even if the doors are being 5 used, just opened and closed, opened and closed 6 by the driver, by the operator, versus a member 7 of the public, if they behave differently. 8 number of people in a vehicle and the weight of 9 the vehicle makes a difference. And just using 10 all the systems that aren't necessarily the 11 vehicle, escalators, elevators, telephones, fare 12 gates, it all needs bedding in. It's not just 13 the vehicles. The whole network needs bedding 14 in. 15 CHRISTINE MAINVILLE: So you would 16 always -- well, at least as a best practice you 17 would want some soft start to some extent? 18 MATTHEW SLADE: Yes. 19 CHRISTINE MAINVILLE: And fair to say 20 here there was neither? Neither the soft start 21 or any --22 MATTHEW SLADE: Correct. 23 CHRISTINE MAINVILLE: And what would 24 you have expected to see in terms of pre-RSA, 25 burn-in period or dry running that there wasn't?

1 MATTHEW SLADE: So I think we probably 2 could have done more pre-RSA to get more bugs 3 out of the vehicle, but then we were also faced 4 with the vehicle supplier telling us that they 5 were -- this was all minor stuff and not really 6 an issue, et cetera, et cetera. 7 But, you know, so, yeah, we could have 8 delayed it but it would have cost us. So we 9 were -- I was under pressure to get the thing 10 open. The City were pressurizing us to get 11 open. 12 So even those conversations would 13 never have been entertained either, whether that 14 was internally through my own organization or 15 through the client. It would have helped, 16 definitely, but it wouldn't have affected -- I 17 don't think it would have changed the way the 18 system performed. 19 CHRISTINE MAINVILLE: Why not? 2.0 MATTHEW SLADE: Because a lot of the 21 issues that we've had would never have been 22 identified as a result of doing that. 23 CHRISTINE MAINVILLE: And why is that? 24 MATTHEW SLADE: So some of those 25 issues are -- they either became apparent as a

1 result of time and season, or they became 2 apparent as a result of time and distance, and 3 some of them needed passengers because some of 4 them were, you know, door-related, or whatever. 5 You know, a lot of those inherently 6 you wouldn't -- no amount of testing would have 7 identified that those were potential issues. 8 But then even though -- even the issues, some of 9 them were -- I don't want to say major, 10 significant, but they were -- their significance 11 was compounded by the lack of experience of the 12 people that were operating the system. 13 So it wasn't necessarily the fact that 14 the issue occurred, it was the manner in which 15 the issue was dealt with that fundamentally 16 caused the perception of a poor system. 17 that make sense? 18 CHRISTINE MAINVILLE: Yes. Is that in 19 respect of the incidence response? 2.0 MATTHEW SLADE: Yeah, yeah. Not just 21 in time but the way in which they respond. 22 still have issues today -- touch wood, not 23 today. But we have issues from the last weeks 24 that are associated with similar issues that we 25 were having back in 2019, 2020, that back then

would have had a dramatic impact on the passengers and the ridership because of the way they were dealt with.

Whereas now, after two and a bit years or three years of experience, they are dealt with in a completely different way and it doesn't have the same impact. And you would have got -- by having a soft opening you would have had some of that.

And I was having the conversation -- I don't remember who I was talking to, someone from the industry, and they -- in essence we almost -- we got our soft opening kind of courtesy of COVID, I guess, where we ended up running less trains, having less ridership.

And you don't have to look now -- and that a clear example. The way in which they react now and the way in which the system recovers from an issue is exactly what you would have got -- maybe you might not have got as good as we are now, but you would have got into that a lot quicker with a soft opening.

CHRISTINE MAINVILLE: And do you think there was sufficient planning of that incident response and the interface between the

1 maintainers and the operators? 2. Definitely not. MATTHEW SLADE: 3 CHRISTINE MAINVILLE: And what 4 explains that? Was it a lack of time to fully 5 prepare? 6 MATTHEW SLADE: No. I don't think 7 it's time because they'd known for seven years 8 it was coming. We've been building it for a 9 long time so there was plenty of opportunity to 10 Maybe not to actually ride and know 11 physically until the trains were running 12 backwards and forwards. But there's enough 13 industry knowledge around, with the consultants 14 that the City has and whatever else, to have the 15 ability to know that they have to react. 16 I'm sure they have to react similarly 17 but different with their bus fleet when they 18 have a breakdown or an issue. I'm sure they 19 have a playbook that explains what you do in a 20 certain situation. 21 And they could have had that prepared. 22 They had enough consultants to give advice and 23 support and write that documentation and plan it 24 and practice it. And that's what I was 25 expecting them to do between RSA and service

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1 commencement. And I wasn't expecting that to be 2 only two weeks, but I was expecting them to be 3 able to use that time, which was in their gift, 4 to plan all of that and to execute it all and to 5 do drills and to practice. 6 And they did do some of that stuff, 7 but I don't think -- it's difficult when you're 8 not in the real-world environment, which a soft 9 opening still gives you the best of both. 10 yeah, I just think they were -- they were 11 overwhelmed with what they ended up with. 12 Which, I'm not going to say it was avoidable, 13 but the impact could have been lessened had they 14 spent more time getting ready. 15 We were -- RTG, OLRTC, we went through 16 substantial completion; we went through trial 17 running; we had the independent safety 18 assessment, the independent certifier that all

19 said, It's ready. It meets the requirements. 20 It's safe.

I don't know what measure was done at all, either internally or externally, of OC Transpo to say, Yes, you're ready as an organization. And I think -- and it might have happened, I don't know whether it did or it

didn't, certainly didn't have visibility. But
if it didn't happen then that's a big gap.

Normally when agency -- new agencies are setting up new infrastructure and new railways, if you look elsewhere around the globe, they will have what they call a "shadow operator" who will take the system from that trial running period and they will operate -- they're a seasoned team of operators who have done it in other locations. And they will operate and run that railway and help them write those rules of how to deal with issues.

And then the actual operator will sit next to them, learn, be mentored, coached and then at a point in time they would -- the shadow operator would start to drop away and the full-time operator would step in, and that's normally about six-month period.

Very common if you look at Dubai Metro or Riyadh, places like that where they're opening new railways in cities that don't currently have railways, that's a very common approach.

And maybe because they already had the O-Line there was a level of belief that they had

1 the ability to do this, but it's very, very 2 different from railway. 3 CHRISTINE MAINVILLE: Do you know if 4 they ever considered a shadow operator? 5 MATTHEW SLADE: I have no idea. Thev 6 should have done though. 7 CHRISTINE MAINVILLE: In terms of practice or failure incidents and incident 8 9 response time, was there not some of that done 10 during pre-trial running or trial running? 11 We did a couple of MATTHEW SLADE: 12 exercises. We did familiarization with the 13 emergency services about having paramedics 14 remove someone from a train, up the staircase or 15 escalator, out of the tunnel. We did tunnel 16 evacuation drills. We did the emergency 17 response type things, but I don't think they did 18 enough of service disruption type of events, 19 which is what we suffered from in the early 20 days. 21 I don't think they did enough of 22 switches, break failures, or stranded trains, 23 or -- I don't think they did enough of that. 24 And it's not just doing it once or twice, you 25 know, you look at the number of people that you

- need to run a railway 24/7 and cover shifts.
 The number of staff that OC Transpo have is
- enormous. And to get them all to go through
- 4 that and for it to become second nature, it's
- ⁵ like a military exercise. It's not something
- 6 that you can just learn from a book, or do once
- and then do it again. It's has to be
- 8 repeatable.

situations.

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- CHRISTINE MAINVILLE: And who was charged with devising the failure incidents, was that OLRTC or OC Transpo?
- MATTHEW SLADE: OC Transpo. I mean,

 OLRTC did do some because they had to

 demonstrate certain requirements in the

 contract, that the system could cope with those
 - So I think there was a -- I think there was a requirement that they had to be able to have a 15-minute headway with a switch out of use, or something like that. So we did certain things that we had to do to validate that we met the requirements in the contract, but the bulk of it was stuff that was down in OC Transpo's gift to do and should have been done post-RSA and before service commencement.

1 CHRISTINE MAINVILLE: Is it fair to 2 say that -- well, did the operators operate on 3 the full track in the winter prior to RSA? 4 MATTHEW SLADE: Yeah, I think they 5 did. 6 CHRISTINE MAINVILLE: Do you know what 7 planning was put into the interface between the 8 operator and RTM and OLRTC for operation 9 planning -- for service operations? 10 MATTHEW SLADE: OLRTC was not involved 11 in that. I mean the maintainer -- RTM, you 12 know, started to attend those RAMP meetings, I 13 can't remember when, probably six months before 14 revenue service, maybe a bit longer, maybe 15 between a year and six months. But the contract 16 with the maintainer, they weren't contracted to 17 do anything until RSA, which is also a 18 shortcoming in that regard. 19 So whilst they were ramping up and 20 getting ready the bulk of the maintenance work 21 is actually subcontracted to Alstom, for the 22 infrastructure as well as the vehicles. 23 certainly they were not ready for RSA. They 24 weren't ready for trial running. 25 And, I mean, the score cards and the

1 difficulties with trial running I would 2 attribute 95 to 99 percent of it with Alstom's 3 readiness or lack of readiness. And that was a 4 big issue that could have been dealt with 5 differently, but it was a difficult situation, I 6 believe, contractually with RTM and Alstom as a 7 subcontractor. 8 CHRISTINE MAINVILLE: And how could it 9 have been dealt with differently? 10 MATTHEW SLADE: So having their 11 contract commencement date as RSAD was, you 12 know, if it was set six months in advance or 13 even more, or whatever, and if it had a 14 certain -- if it had performance requirements 15 that were needed to be met in order to support 16 testing and commissioning and trial running, 17 then they might have been in a better position. 18 I think it was -- Alstom were -- are, 19 you know, a global leader in this industry with 20 a great global CV. If you read anything on the 21 Internet, if you read all their brochures this 22 is what they do. 23 But the team that they had in Ottawa 24 were inexperienced and probably not ready for 25 what came at RSA. And I think they were

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probably aware of that but they didn't address it, and they certainly didn't address it in a timely manner.

CHRISTINE MAINVILLE: In terms of the -- Alstom maintenance not being contracted to do anything before RSA, are you saying they didn't want to -- did they -- did they not prepare prior to RSA as a result of that? Is that what you're suggesting?

MATTHEW SLADE: Not the way I would have expected them to. We -- through my testing commissioning team, through Steve Nadon and everybody else, we invited them to come and participate in testing commissioning to get familiar with the equipment, even just geographically where it is either on the alignment or physically where it is in the station above a ceiling where equipment is and where panels are, and, you know, switches to turn things up on-and-off. And they -- we would ask them to come and participate and they wouldn't. It was like they're not -- you'd get a negative response from them saying, it's not in our contract to do that. We're not coming.

And they tried desperately to get them

involved because we could see that it was going to be a problem and that it was going to fall down as a result of that, but there was no appetite to participate much really. And then when things -- once it was in RSA there was a lack of urgency, there was a lack of resources and a lack of knowledge, still is to this day in some areas.

CHRISTINE MAINVILLE: Was there any resistance on Alstom's part, Alstom maintenance, to take ownership of the trains or the maintenance because of the work that remained to be done on them?

MATTHEW SLADE: They were -- the trains not so much, because obviously they were still building them, retrofitting them and everything else. And it was, you know, the -- what goes on in the train shed is completely 100 percent with them, not that anyone else was doing anything.

But certainly on the other assets, on the fixed assets, on the infrastructure -there's emails to and fro between myself, RTG,
RTM, the RTM Board saying, You need to get these
people out and involved and engaged; and they

wouldn't.
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And they ended up -- I think the -- some of the fixed assets they only begrudgingly took responsibility for on the first day of trial running, and that they regarded as early compared to their contract. So it was painful, very, very painful.

CHRISTINE MAINVILLE: And how did that inform RTM's position as to whether they were ready for RSA?

MATTHEW SLADE: I think, again, RTM were pretty naive at the time. And they just -- I guess they just felt that the contract was in place and that, at a point in time, Alstom would turn up the gas and get going and do what they were supposed to do. RTM didn't have the knowledge or the expertise to be able to do that, which is why it was subcontracted out. But the leadership, or lack of leadership at Alstom, just meant it didn't happen.

I think that the point of revenue service availability -- I think RTM and Alstom were lacking in leadership and ability and urgency.

I worked very hard to get RTM up to

speed, as an EllisDon employee and a shareholder in all of that, to try and get the RTM part of it in a better shape, but Alstom was and continues to be a real struggle.

CHRISTINE MAINVILLE: And how would that be managed at -- given that OLRTC and RTM have the same consortium partners, at RSA how would you deal with, Okay, the system may be ready to be transferred from OLRTC's perspective, but if RTM isn't ready there's going to be some penalties and deductions. So how is that tension managed?

MATTHEW SLADE: I got heavily involved in that, I guess. So I had -- things weren't going well during trial running, we all know that. And, like I said, a lot of that fell down to the Alstom part of the maintenance contract.

I raised the flag with my OLRTC Board members, and then I raised the flag internally within EllisDon to our RTM Board members. And the RTM Board members pretty much were in Ottawa full time throughout trial running. We were meeting with them and with Alstom every single day to try and get them to understand what needed to be done.

1 We had phone calls and meetings with 2 the CEO in Paris to try and get the level of 3 urgency up. The Mayor had him in -- fly in to 4 meet with him. We tried absolutely everything 5 but it was and it still is a struggle. 6 And I think that's -- well, there's a 7 number of reasons for it. We tried everything, 8 and we still do. And I think the executives 9 committees of RTM and OLRTC, I think they worked 10 well together at that time to get it into 11 And it took -- both Boards were pretty service. 12 much there full time, which is not normal. 13 CHRISTINE MAINVILLE: Both Boards? 14 MATTHEW SLADE: Of OLRTC and RTM. And 15 there's two Board members from each 16 organization, so six executive level people from 17 the companies in Ottawa. It's a huge amount of 18 effort. And a lot of that was the desire to get 19 it done. A lot of it was to help manage the 20 relationship with the City and to provide 21 support to all of us on the ground getting the 22 job done. 23 I don't think the organization was 24 ready. 25 CHRISTINE MAINVILLE: And was there

1 tension between Alstom supply and Alstom 2 maintenance? How did that relationship --3 MATTHEW SLADE: It wasn't really 4 visible. Alstom is a many-headed beast and you 5 never really knew who you were talking to and 6 which part of the organization, you still have a 7 bit of difficulty. It's just Alstom and you 8 don't know whether they're production, or 9 warranty, or maintenance, and you don't know who 10 they report to. The lines are very blurred. 11 Certainly there was tension between 12 RTM -- probably more so between OLRTC and Alstom 13 maintenance, because we could see that they were 14 the part that was going to prevent us from 15 getting to trial running through their lack of 16 ability to maintain the vehicles and the 17 infrastructure. 18 We had no relationship with them 19 contractually so we had to go OLRTC to RTM, and 20 then back down to Alstom. But most of the time 21 any communication went to Alstom's CEO in Paris, 22 or to Alstom country president in Canada/North 23 America, which ultimately went to production or 24 maintenance, it all fell in the same place. 25 But there were daily meetings, daily

phone calls, daily emails. There was a lot of pressure. There was help as well. We looked at all sorts of options as to how we could support or improve the situation, some of which the City didn't like.

I put together a team of people within OLRTC that were capable of doing infrastructure maintenance, not vehicle maintenance, and essentially getting them to fulfill the duties of the maintainer such that the infrastructure side of things was done. The City didn't like that at all. They sort of saw that as cheating on the trial running, as cheating on the exam, so to speak, because it was OLRTC that were doing the maintenance rather than RTM; so we got a stiff letter on that. But we -- it was all we could do to get them up to speed and to get them to learn. It's still an issue.

CHRISTINE MAINVILLE: What was the level of insight that the City had into the lack of preparedness on the maintenance front?

MATTHEW SLADE: They had a hundred percent visibility. They had complete visibility. We all sat in meetings together and discussed it. We had the regular -- whether it

was the RAMP meetings or whether it was the daily trial running meetings.

And then when things weren't going well it was the mandatory meetings that we got invited to, by Mr. Manconi and his team, to go and explain ourselves, as much as anything, which we all went to, and we took the supply chain with us as well.

CHRISTINE MAINVILLE: So do you have any insight into why -- how that informed the City's decision to proceed with opening the service if there was some awareness that maintenance wasn't ready? Do you know how that factored, if at all, into their decision-making?

MATTHEW SLADE: None. I'm not -- I don't -- wasn't party to any of their decision-making as to -- like I said, the date was a surprise as to when they were going to go into service, or the decision-making process they went to; or risk analysis of what the outcome might be of going in in a marginally-unprepared state, if they thought it was only marginal, maybe that was the case. But I'm surprised, based on the correspondence and the meetings that we had, that they didn't

1 foresee it as a significant risk. 2. But then I guess they probably saw it 3 as a -- we'll just penalize them, right? 4 There's a penalty regime in place. If it 5 doesn't run it's not the City that's going to 6 take the blame, right? It's the contractor 7 that's going to get the penalties and the pain and be held up in front of the Transit 8 9 Commission and the media. 10 CHRISTINE MAINVILLE: Would you say 11 that the maintainers were ready for normal 12 operations just not perhaps the enhanced needs 13 that this system had at opening? 14 I think even if the MATTHEW SLADE: 15 system had run flawlessly I think there was 16 still gaps and shortfalls in both in number of 17 resources and in certain skill sets. 18 But obviously if the system had been 19 faultless it would have been different, but then 20 they still would have been under-resourced and 21 had gaps, definitely. 22 CHRISTINE MAINVILLE: So in terms of 23 trial running, how did the maintenance scoring 24 Was it required to pass? work? 25 It was required MATTHEW SLADE: Yeah.

1 to pass, yeah. But there were certain things 2 that were, I guess, you know -- and the reason 3 we had failures on the days that we had failures 4 it wasn't just because of the trains. I mean, 5 there was a -- I'm pretty sure on the scorecard 6 there's a line that says "Maintenance 7 Practices", And I'm sure that that had "fail" 8 next to it quite a bit of the time. I remember 9 there being email correspondence from 10 Mr. Manconi about that being a factor and that 11 that was a key area to improve. 12 But I think some of it was compounded 13 by the way in which the City was participating 14 in trial running. But irrespective of how they 15 behaved or what they did I still don't think 16 Alstom were fully ready. 17 CHRISTINE MAINVILLE: And what were 18 the maintenance -- the failures in terms of the 19 maintenance practice? Was it the response time? 20 What was the issue really? 21 MATTHEW SLADE: Some of it was 22 response time, some of it was the ability to 23 close out work orders. But, again, that is 24 where the City kind of made things more 25 difficult by the manner in which they were

raising work orders. And the work orders they were raising was making it almost impossible to do what needed to be done.

There was various things but a lot of it was paperwork-driven. They weren't well drilled on their own processes and procedures. And a lot of it was paperwork-related or -- rather than actual physical, hands and tools and stuff. A lot of it was their ability to be able to comply with the requirements of the contract with regards to closing out paperwork even when they had done activities. They just weren't ready.

But the number of issues being raise by the City were artificially high.

CHRISTINE MAINVILLE: And we can go to the scorecards a bit later, but often there are maintenance failures but the day is a pass. So how does that work?

MATTHEW SLADE: Well, it would all depend on how -- on what the failure was. So you might have -- and I can't remember off the top of my head, it's a long time ago. But on some of those scorecards you'll find have got notes on the bottom of them and some of them

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don't. And some of those notes will explain why even if it comes across as a fail it might have been treated as a pass.

So, for instance, take CCTV cameras as an example. I can't remember how many CCTV cameras there are across the job, but there's probably close to a thousand CCTV cameras on the If one CCTV camera is not job, for instance. working and you get scored down with that; and if it's out of service for a prolonged period of time that it impacts the percentage, is it fair and reasonable that you failed your maintenance on the basis that someone hasn't gone and dealt with that CCTV camera? Especially when some of the comments relating to the CCTV camera might be, The glass was dirty on the front of the camera so the image wasn't crystal clear. It's not impacting the service or impacting -- if there's an incident and you need that image then you can argue that it's impacting it, but I think for the purposes of trial running and scoring it wasn't something that was necessarily something that would warrant failing a complete day for.

And even some of the things that --

1 and even if they went and fixed it, the way in which they might close the work order, or the 3 language, it might just be around paperwork that was deemed -- it would show it as a fail because 4 5 you hadn't done it in so many hours. 6 But, again, not necessarily fair to 7 fail a day based on something like that. 8 would all depend on what was being measured. 9 CHRISTINE MAINVILLE: And I take it 10 that was fairly subjective, or at least there 11 was some level of discussion around whether 12 something should --13 MATTHEW SLADE: Huge amount of 14 discussion. So trial running was -- it was 15 not -- there was no unilateral decisions or 16 anything like that. So there was -- there was a 17 team of people that would assess that level of 18 detail, that would assess it in the morning. 19 And that would be a cross-organization group of 20 people. I can't remember how many were in 21 there, maybe 10 or 12 people representing all 22 the organizations from OLRTC, RTM. And the 23 City, both OC Transpo and O-Train construction, 24 would review all that data. 25 And they didn't actually make a

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25

1 decision, but they would provide the data and 2 they would make a recommendation against the 3 criteria to the actual trial running team as to 4 whether or not they deemed it a pass. But they 5 wouldn't know how that would impact the whole 6 day because they weren't party to other parts. 7 So they were just scoring the bits for which 8 they were responsible for, and it came with a 9 recommendation. And they might turn around and 10 say it was a pass and yet the trial running team 11 might turn around and go, hmm, maybe it's a 12 fail; or vice versa. So ultimately it sat with 13 the trial running team. And the trial running 14 team, as you'll see from the signatories again, 15 had representation from all parties, the 16 independent certifier, RTG, OC Transpo, O-Train 17 construction, OLRTC and RTM. 18 And those meetings were all open-table 19 discussions where the data that was on the 20 scorecard was actually written up on a 21 whiteboard on the wall and was discussed. 22 line item was populated on to a whiteboard on

No one knew what the outcome of the day was until we got to that very last line and

the wall and discussed as it was populated.

it was all tallied up, and then it was transposed into an electronic form and the whiteboard was wiped clear.

Everyone was terrified about the media and the public getting hold of information so it wasn't -- the scorecards were not shared outside of that room.

The senior management were told whether it was a pass or fail, but they didn't even get to -- I got emails from my CEO and the Board asking for scorecards and they weren't given. I don't even think John Manconi got them, he was told if it was a pass or fail but he didn't actually get the data or the stuff behind it until we got into -- until we started getting into difficulties when they drilled down a bit more into it.

But I thought the whole process was -I thought the process was exceedingly good and I
thought it was very well executed and everybody
bought into it. And it -- you know, it was -- I
thought it was perfectly fair.

CHRISTINE MAINVILLE: And given that there were such struggles with the maintenance but that piece passed, what informs that? The

1 criteria for maintenance were not particularly 2 onerous? 3 MATTHEW SLADE: No, they were onerous. 4 And they probably were more onerous than they 5 needed to be. There was a level of -- I don't 6 know how to put it because a number of those 7 were failures, and it was those maintenance 8 things that actually caused the failures on the 9 day rather than -- they weren't treated lightly. 10 And it was recognized that it was an area that 11 needed improvement. So, you know, there was 12 focus and energy put into improving that 13 throughout the period. 14 CHRISTINE MAINVILLE: When it's not 15 just about adding up data, like the number of 16 kilometres run, but there's some level of 17 discussion about whether -- how much something 18 might weigh in the balance or not, what's the 19 level of engagement from the independent 20 certifier? 21 MATTHEW SLADE: A hundred percent 22 They're in the room the whole time. engagement. 23 Those meetings would -- we'd generally 24 try to make them fairly quick and punchy because 25 we were, you know, we all had stuff that we

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   wanted to get on and do as part of the trial
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   running. But some of those were fairly
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   protracted discussions about whether it was a
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   pass or a fail. And that's why the independent
5
   certifier was in there, that level of
6
   independence, and what have you.
7
              But it was a very -- I don't think any
8
   of those meetings -- none of them stick out as
9
   being contentious, or anyone trying to get a
10
   pass when it was a fail, or trying to get a fail
11
   when it was pass. I think it was very, very
12
   fairly done.
13
              And I think everybody that
14
   participated in those got an opportunity to have
15
   their say. And I don't think anybody that
16
   participated would say anything other than that.
17
   I'd be surprised if they did.
18
              If anybody felt that they were bullied
19
   or strong-armed into making something a pass
20
   when it wasn't, I'd be amazed, because it
21
   certainly wasn't raised during the time.
22
              CHRISTINE MAINVILLE: Let's go off the
23
   record.
24
                  RECESSED AT 5:00 P.M.
25
                  RESUMED AT 5:10 P.M.
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              CHRISTINE MAINVILLE: Do you know how
2
   the 12 consecutive days of trial running was
3
   initially interpreted, as it's reflected in the
4
   Project Agreement?
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              MATTHEW SLADE: Can you ask that
6
   again?
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              CHRISTINE MAINVILLE: Yes.
                                           The 12
8
   days for trial running, that's reflected in the
9
   Project Agreement, correct?
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              MATTHEW SLADE:
                              Yes.
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              CHRISTINE MAINVILLE: What was -- how
12
   was that interpreted and did that interpretation
13
   change?
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              MATTHEW SLADE: I don't know how to
15
   answer that.
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              CHRISTINE MAINVILLE: Let's start with
17
   how was it applied, ultimately. Like, it needed
18
   to be 12 days to pass?
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              MATTHEW SLADE: Yeah, it's in the
20
   trial running procedure. How it was
21
    interpreted? Like it was --
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              CHRISTINE MAINVILLE: Did it need to
23
   be 12 days in a row with a passing grade?
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              MATTHEW SLADE:
                              Yes.
25
              CHRISTINE MAINVILLE: And you prepared
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1 the trial running test procedure, correct, with 2 Will Allman? 3 MATTHEW SLADE: Yeah. I think there 4 was one written a long time before that 5 probably. Before I arrived there was probably 6 But, yes, it was then -- as we got nearer 7 to trial running it was -- there was several 8 versions of it before the one I wrote with Will. 9 It went through a number of iterations before it 10 got to there. 11 CHRISTINE MAINVILLE: So why did you 12 not rely on the first version or the earlier 13 version? 14 MATTHEW SLADE: The very early version 15 had, it actually had errors in it. And I think 16 as we had progressed through the project and 17 people had come and gone we reviewed it. 18 And the City had a consultant on 19 board, I don't know who he worked for, a guy by 20 the name of Russell Davies, who was brought in 21 pretty much to look at that. 22 And he and I spent a lot of time -- we 23 read the original document and we thought it 24 wasn't really -- it had errors in it and it 25 probably didn't achieve what it needed to

achieve. It was probably going to be difficult to apply and measure and everything else.

So we worked collaboratively to get it to place where, he, representing the City, and I were comfortable with it. And then that ended up, I guess, forming the document that Will and I prepared.

CHRISTINE MAINVILLE: And who is Will Allman?

MATTHEW SLADE: Will is -- at the time he worked for SNC Lavalin, he doesn't any more. He's self-employed and runs his own consulting business now.

He's another expat. He's another
Brit. And he came -- SNC made him available to
me before trial running to help with a few
things at project close-out. Things like, from
a management perspective, from managing things
like overseeing the training, the handover of
materials to RTM, the handover of documentation
to RTM.

All the sort of stuff that happens at the end of a close-out of a project, which often, unfortunately just the way projects go with people leaving when they see the end in

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sight, quite often those things are not done particularly well. And Will was a resource that was offered to me by the SNC Board to assist with that stuff.

So he came on board predominantly to do all that good stuff to do with hand-over. And as I got to know him I realized he's actually a hugely intelligent individual. knowing that trial running was going to be an enormous task, and I was still Project Director and doing everything else that involved that, I thought it made sense to bring him in as a pseudo-independent person to run that process, someone that didn't have, this is going to sound wrong, the baggage with the City and with RTM, and everything else, because he was still fairly He wasn't involved in those meetings at the RTG level or Board level, or whatever, but he was perfectly competent of operating at that level.

So I spoke to him about helping run that process and he was more than happy to do it. And I thought it would just -- again, where the City kind of felt that we were trying to -- occasionally there wasn't a lot of trust, I

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1 thought it would help build that trust by having someone specifically focused with doing that and 3 not involved with all of the other issues that 4 were going on on the job. 5 So that's how Will got voluntold to do 6 that role I quess. 7 CHRISTINE MAINVILLE: Would you say 8 that the reliability metrics provided for in the 9 test procedure were high enough that the 10 intention was to have -- as a result or as an 11 outcome, a system, that was running very 12 reliably. 13 Yes. So the metrics MATTHEW SLADE: 14 that were in -- I'm going to call it the 15 "original version" but it's not the original, 16 original version. That first version, when we 17 started trial running, the metrics were probably 18 higher than you would normally have them, and we 19 did that intentionally. And the primary reason 20 for that was to protect ourselves -- I say 21 "ourselves", our sister organization, RTM, for 22 want of a better phrase, against penalties for

So the metrics that are in there reflect the penalty regime that is in the

when they went into service.

1 payment mechanism to RTM for performance. 2 Originally it was lower than that. 3 obviously we didn't necessarily want to go into 4 service knowingly with something that was going 5 to fall short of the reliability targets within 6 the RTM performance metrics for their payment. 7 CHRISTINE MAINVILLE: Right. And is 8 that in particular the 98 percent AVKR average? MATTHEW SLADE: Yes. 10 CHRISTINE MAINVILLE: And so what then 11 changed for that to change? 12 MATTHEW SLADE: As you see from the 13 scorecards we had some good days and some bad 14 And, you know, trial running, the way it 15 was written obviously there's no time limit to 16 it, it's however long it takes you to achieve 17 those 12 days. But by that time, with the media 18 and the press and the City, everyone was banking 19 on a particular RSA date. 2.0 And as we were going through the 21 process it was clear we were going to blow that 22 RSA date, which, for my organization, would have 23 meant another million dollar penalty and a delay 24 to receiving the RSA payment, which was not an

insignificant amount of money. And from the

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   City perspective it would, obviously, not look
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   particularly good for them either to have missed
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   another date and to say, We're nearly there and
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   so close yet so far.
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              So I can't remember the exact date,
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   but obviously we had two bad days in the middle.
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   We were -- I would say RTG, RTM and OLRTC were
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   summoned down to OC Transpo's offices where we
9
   were told to revisit an RFI and a scoring
10
   mechanism from a previous version of the trial
11
   running document.
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              CHRISTINE MAINVILLE: And who at
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   OC Transpo initiated that discussion?
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              MATTHEW SLADE:
                              John Manconi.
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              CHRISTINE MAINVILLE: So the RFI was
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   one that was agreed upon in 2017, correct?
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              MATTHEW SLADE: 206, I think it was,
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   by number.
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              CHRISTINE MAINVILLE: So what were
20
   the -- well, tell me about the discussions that
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   ensued at that point?
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              MATTHEW SLADE: So I think at that
23
   time we were talking -- we were trying to find,
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   collectively, ways to get a pass that would get
25
   us to RSA.
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And there was various different discussions about how to protect the -- how do we get there? And the general view was, you're never going to get to 98 percent and that we'd set ourselves far too high a target. And like I said, we set that for a good reason.

And so there was discussions around what sort of pass is good enough that would satisfy everyone, at which point that RFI was raised.

And then we were told to go away and -- at the time I didn't even know that existed so that came up as a -- because it predated me, I guess.

So we took that away to go look at it, and look at what it meant, and obviously look at our scoring to date and look at how it would -- if we worked to that where -- we rescored -- not actually physically going and saying we were going to rescore everything, but just looking at the trends and looking at what it would have done.

And so it was suggested that we resubmit the RFI and the City would accept it.

And that would make the most sense to the City

1 for all parties, and we agreed to do that. 2. CHRISTINE MAINVILLE: And who made 3 that suggestion to submit the RFI? 4 MATTHEW SLADE: John Manconi. 5 CHRISTINE MAINVILLE: And was Troy 6 Charter involved in that discussion? 7 MATTHEW SLADE: Yes. There was lots 8 of people in the room. CHRISTINE MAINVILLE: Right. 10 MATTHEW SLADE: Troy Charter was in 11 the room, I'm pretty sure Michael Morgan was in 12 the room. John Manconi was in the room. 13 suspect Jocelyn Begin was in the room, myself, 14 Peter Lauch, Claude Jacob, Will probably was in 15 the room but he may not have been because I 16 tried to keep him outside of that stuff, for the 17 reasons I just mentioned. So I expect that's 18 who was there. There may have been someone from 19 STV as well, not 100 percent certain. 20 And so, yeah, so we -- we sent a 21 letter to RTG with the RFI, and RTG sent it to 22 the City and the City accepted it. The document 23 was rewritten and reissued and signed off -- I 24 can't remember, I want to say around the 30th of 25 July, somewhere around that date.

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              CHRISTINE MAINVILLE: And was there a
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   reason that RTG was to submit it to the City?
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              MATTHEW SLADE: All correspondence
4
   went through RTG.
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              CHRISTINE MAINVILLE: But I mean as
6
   opposed to -- given that the City had raised it
7
   in the first place why it was presented as
8
   coming from RTG or the project company?
              MATTHEW SLADE:
                             For audit purposes.
10
              CHRISTINE MAINVILLE: Because trial
11
   running is the responsibility of the project
12
   company?
13
              MATTHEW SLADE:
                              Yeah.
14
              CHRISTINE MAINVILLE: And aside from
15
   the AVKR requirement changing, I understand
16
   there were other changes resulting from --
17
                             Yes. I think it also
              MATTHEW SLADE:
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   changed to 9 consecutive days out of 12, from
19
   memory.
2.0
              CHRISTINE MAINVILLE: Or the best 9 of
21
   12 days?
22
              MATTHEW SLADE:
                               Yeah.
23
              CHRISTINE MAINVILLE: Was that in the
24
    2017 RFI?
               Or was that agreed upon separately?
25
                              No, I think it was in
              MATTHEW SLADE:
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   there as well. I would have to check but I
2
   think it was in there.
3
              CHRISTINE MAINVILLE: Was it at the
4
   same time that there was a reduction in the
5
   number of trains to be run from 15 to 13?
6
                             I can't recall.
              MATTHEW SLADE:
                                                Т
7
   seem to -- I remember doing an exercise
8
   off-line, just me and Will I think, looking at
9
   if you ran 13 instead of 15 do you still achieve
10
   your percentage and increase our risk of
11
              Because running 15 was proving a
   success?
12
   challenge but running 13 seemed to be more
13
   achievable. And I think we ran a small model to
14
   see what the impact was.
15
              But I can't remember when that changed
16
   and I can't remember how it was instigated, off
17
   the top of my head. I'd have to go back through
18
   emails and see if I could find something.
19
   genuinely cannot remember at this time how we
20
   went from 13 to 15, or the date on which that
21
   happened.
22
              CHRISTINE MAINVILLE: But I take it
23
   that meant reducing the scheduled amount of
24
   kilometres to be run on any given date?
25
              MATTHEW SLADE:
                              Yes.
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1 CHRISTINE MAINVILLE: And then was the 2 decision made at that same time to change the 3 number of trains needed for service operations 4 during peak hours to 13, or was that decision 5 taken at a different time? 6 MATTHEW SLADE: I think that was taken 7 at a different time. I think it was taken 8 But, again, I can't recall for a hundred later. 9 percent certainty when that was. 10 CHRISTINE MAINVILLE: So it may be 11 that originally the change was just for the 12 purposes of trial running, and then it was 13 ultimately decided that that would also be 14 reflected in the operations? 15 MATTHEW SLADE: Correct. I think 16 that's how it went. 17 CHRISTINE MAINVILLE: So in terms 18 of -- the original concerns that informed the 19 procedure you had devised about protecting RTM 20 and the subsequent penalties, I take it at that 21 point in time it was more important to reach 22 RSA, given the penalties and -- the penalties 23 that might be incurred by maintenance didn't 24 weigh as much in the balance? 25 MATTHEW SLADE: Correct. We were --

1 don't like the term but we were bleeding money 2 on -- from OLRTC, and the cash calls were 3 seriously hurting the parent companies and 4 everything else. So it was a case of, we're 5 better off stopping the bleeding on the OLRTC 6 side, and if it means we have to suffer a bit of 7 bleeding on the RTM side then so be it. 8 I think there was some corporate 9 discussions held at a point in time. Probably I 10 was not present for those, they were done at the 11 Board level. And, yeah, it was a decision made 12 that actually was probably the best thing to do 13 at the time. 14 CHRISTINE MAINVILLE: So there was an 15 understanding that there could be -- there was 16 an increased chance of performance issues or 17 reliability issues entering into RSA? 18 MATTHEW SLADE: It was done with a 19 full understanding of what the implications 20 were. 21 CHRISTINE MAINVILLE: To all involved. 22 including the City? 23 MATTHEW SLADE: Yes. 24 CHRISTINE MAINVILLE: That there would 25 be some added pressure on maintenance?

1 MATTHEW SLADE: Yes. 2. CHRISTINE MAINVILLE: Were there any 3 other changes that I haven't touched on already? 4 MATTHEW SLADE: I don't think so. 5 think those were the only two that I recall. 6 CHRISTINE MAINVILLE: So if there were 7 events during trial running that could impact 8 whether it was a pass day or not, right? Was it 9 dependent on the nature of the event? 10 MATTHEW SLADE: Probably. I mean, it 11 would depend on what it was. And, again, I 12 can't remember what they all were. 13 scorecards cover most of them, and certainly the 14 footnotes on -- they don't all have footnotes 15 but some of them do, will explain what the issue 16 was and why a decision was made to make it a 17 pass or a fail. 18 But like I said, I think -- I 19 generally think all of those meetings were fair. 20 I don't think there was any pressure to make a 21 day a pass when it wasn't a pass. I think it 22 was all done -- I think the method in which 23 those meetings were run and decisions were made 24 were completely appropriate. 25 CHRISTINE MAINVILLE: Okay. So there

weren't great disputes about whether some event
was -- should be a fail but --

MATTHEW SLADE: I think there was probably more debates in the morning meetings, which I didn't attend for that -- partly for that reason. You know, the people that attended the afternoon meeting, that were actually on the trial running committee, didn't attend the morning meetings.

I think the morning meetings were more contentious about looking at the raw data from the various different things. So from my team Steve Nadon sat in those, from the City it was Matt Peters and a few other people. I can't remember -- from RTM I think Tom Pate participated. They're sort of the next level down from the level that we were all at that were in the main trial running meeting.

And those meetings were supposed to be half an hour or so, but some of those meetings may have gone on for two hours or so because of healthy debate about what the number was.

And looking -- they would delve into work orders, they would open up the various different data systems that we used to capture

1 all the data and look at what's been entered, why it's been entered. They would review CCTV 3 footage, if they needed, of various things. They would pull what we call "play-back data" 4 5 out of the signaling system. So they would do 6 the lion's share of the work. 7 And I think the far harder 8 conversations were probably had that those 9 meetings in regards to whether it was a pass or 10 a fail. But, again, all of that -- that always 11 came out as unanimous as well by the end of it. 12 They wouldn't -- there wasn't anyone ever there 13 going, I don't agree with the decision. It was 14 always left where that data flowed up to the 15 next meeting with a consensus on the answer. 16 CHRISTINE MAINVILLE: So would they 17 quantify or qualify the nature of any given 18 event? Or was that also a determination -- was 19 it a shared determination about how much a 20 particular event should weigh in the balance? 21 Yes. I think they all MATTHEW SLADE: 22 reached a consensus. 23 So the outcome of those morning 24 meetings, a pack was distributed by OC Transpo

that had all of the back-up data in it that

1 supported their decisions. So that was 2 submitted on a daily basis. So all of the 3 back-up is there, it all exists, it was all 4 documented. It didn't make it -- it doesn't --5 it's not in that final IC determination on trial 6 running being complete, but it's all there, it's 7 all recorded and available. 8 CHRISTINE MAINVILLE: Was the IC 9 represented at that meeting, the morning 10 meetings? 11 I don't think so, but MATTHEW SLADE: 12 I could be wrong. I don't think so. I think 13 they only attended the afternoon meeting. 14 CHRISTINE MAINVILLE: And were they or 15 anyone else informed of the change to the 16 criteria, to the procedure? 17 MATTHEW SLADE: Yes. 18 CHRISTINE MAINVILLE: The morning 19 meeting people? 2.0 MATTHEW SLADE: I don't know if the 21 morning people -- morning meeting people were 22 aware of it. I don't remember. Certainly the 23 afternoon people were but I don't know if the 24 morning people were. 25 CHRISTINE MAINVILLE: It wouldn't have

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   informed their deliberations or their work?
2.
                              No, I don't think so.
              MATTHEW SLADE:
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              CHRISTINE MAINVILLE:
                                     So it's fair to
4
   say that people from Alstom, and otherwise, they
5
   wouldn't have been aware of the change in the
6
   criteria?
7
              MATTHEW SLADE:
                              No.
                                    Alstom weren't
8
   involved in it at all, from either of those
9
   meetings Alstom weren't represented.
10
              CHRISTINE MAINVILLE:
                                     Is there -- I
11
   take it -- I understand that Thales didn't
12
   participate in trial running.
13
                             They didn't have a
              MATTHEW SLADE:
14
   formal role but they were involved.
15
              CHRISTINE MAINVILLE: In terms of
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   responding to things that involved their
17
   systems?
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              MATTHEW SLADE:
                             We used them to
19
   review -- because of the way their systems
20
   worked you have to be trained and competent to
21
   pull back recordings and logs from their
22
   systems, so we used them for that. So if there
23
   was any anomaly from the day, or something
24
   happened and we wanted to see how it was
25
   responded to, or specific timeframes as to when
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1
   events happened, it was all recorded in their
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            So I would rely on their staff to do
   system.
3
   what we call "playbacks" and to pull up certain
4
   things that might have occurred, because it
5
   records everything.
6
              CHRISTINE MAINVILLE: Are you able to
7
   speak to how the term sheet then came about?
8
              MATTHEW SLADE:
                              I mean, I
9
   participated. My memory is not perfect on any
10
   of it, but we got to a point where essentially
11
   we had completed trial running and we were ready
12
   to file for RSA. And the view was you could --
13
   RSA was available but under certain conditions,
14
   which is then when the term sheet got drafted.
15
              CHRISTINE MAINVILLE: And was there
16
   any resistance from the City about some of the
17
   outstanding items?
18
              MATTHEW SLADE: Resistance from them?
19
   They wrote the list.
2.0
              CHRISTINE MAINVILLE: They wrote the
21
   list, they knew what was outstanding?
22
              MATTHEW SLADE: If there was any
23
   resistance it was probably from my organization
24
   rather than their organization.
                                     There was
25
   negotiations around it. I think -- not
```

1 necessarily on the items that were on the list, 2 more maybe about the weighting of those items. 3 CHRISTINE MAINVILLE: How would those 4 be weighted? 5 MATTHEW SLADE: Financially. 6 CHRISTINE MAINVILLE: Oh, I see. 7 Because -- yeah, if you were deferring something 8 you wouldn't be penalized for it if the City 9 agreed to it? 10 MATTHEW SLADE: Correct. And some of 11 the numbers that the City wanted to put against 12 those were unpalatable. 13 CHRISTINE MAINVILLE: And ultimately 14 there were negotiations and you arrived at a 15 consensus? 16 MATTHEW SLADE: Yeah. 17 CHRISTINE MAINVILLE: If that's not 18 quite right please do explain. 19 MATTHEW SLADE: No, you know, it's 20 probably right. 21 CHRISTINE MAINVILLE: Were there some 22 retrofits or things that needed to be done for 23 RSA at that time? 24 MATTHEW SLADE: To the vehicles? 25 CHRISTINE MAINVILLE: Yes.

22

23

24

25

1 MATTHEW SLADE: Yes. But I can't 2 remember what they were specifically. We had a 3 number of -- I can't remember whether they --4 some of them -- we had huge retrofits scheduled 5 from Alstom of things that needed to be done, 6 and we categorized them as before trial running, 7 before revenue service availability and after 8 revenue service availability. CHRISTINE MAINVILLE: Right. 10 MATTHEW SLADE: So there was some 11 retrofit activities that had to happen prior to 12 passenger service and some that were allowed to 13 happen post-passenger service. 14 CHRISTINE MAINVILLE: And one of them 15 I think was the brakes? 16 Yeah. MATTHEW SLADE: I mean we had 17 untold amount of issues with the brakes on the 18 vehicles, that's why I'm a little bit hesitant. 19 It depends on which item you're referring to. 20

It depends on which item you're referring to.

But we had -- like the brakes were a big issue on those vehicles. But obviously we wouldn't have gone into service if it wasn't safe to do so. But there was -- the number of retrofits associated with the braking system I found it was quite unusual, and quite difficult to

manage.

2.

So we went through a number of -- a number of brake retrofits, which is why I was -- I can't remember what order they came in or how many there were. We started off with -- we had a break caliper retrofit program, and then we had an HP, which is the hydraulic pressure unit retrofit. And I think we retrofitted the HP units three or four times. We had a number of issues around that specific component and we ended up -- "we" being OLRTC, ended up getting involved in that because Alstom weren't moving as quick as we needed them to.

CHRISTINE MAINVILLE: And was there then any need to test things again following these retrofits?

MATTHEW SLADE: Only certain things required testing again. I don't think the braking required testing. Certainly some -- whenever you unplug or replug certain bits of equipment on the train you have to go through a regression test or a redo of a PICO. So, yeah some of the trains didn't -- I can't remember off the top of my head. Some of the retrofits required a level of retest but none of the

1 retests were significant, shall we say. 2 were all things that you could have done in an 3 evening shift on the test track or something. 4 CHRISTINE MAINVILLE: And I take it 5 for the brake calipers there wasn't, from your 6 perspective, a need to recertify those? 7 MATTHEW SLADE: No. We went through a 8 process -- pretty sure Jacques Bergeron led the 9 The calipers, they did a charge on that one. 10 whole series of bench testing with the original 11 calipers and then the new calipers. And they 12 demonstrated, through however many cycles on a 13 bench, that the new calipers didn't have any 14 effect on the performance of the braking system, 15 such that there was no physical testing of the 16 vehicle required, and that they could just 17 replace one set of calipers with another set of 18 calipers. And that was all agreed to by Alstom, 19 OLRTC, the City and the City's consultants. 20 CHRISTINE MAINVILLE: Do you agree 21 that some of the deferred retrofits meant 22 exporting some additional constraints as well on 23 the operations and maintenance of the system? 24 MATTHEW SLADE: Uh... 25 CHRISTINE MAINVILLE: Even in terms of

1 the need -- or the competing needs for access, so the MSF and the trains? 3 Well, yeah. I think MATTHEW SLADE: 4 the sheer volume of retrofits that were required 5 was going to have -- the MSF is a maintenance facility, it was designed to be a maintenance 7 facility even if we used it as assembly 8 facility. 9 And obviously it was never envisaged 10 that you would go through the quantum of 11 retrofits needed at the same time whilst you 12 were trying to achieve service on a daily basis. 13 So there was definitely a competition for space, 14 a competition for movement of vehicles around 15 the yard, none of which was insignificant. 16 CHRISTINE MAINVILLE: Is it fair to 17 say also that the track priority, and other MSF 18 priority, was given to the retrofits, train 19 manufacturing people as opposed to maintenance, 20 for the most part? 21 MATTHEW SLADE: No. I wouldn't say 22 that's a fair statement. I think -- so retrofit 23 and maintenance it's both Alstom, and it goes to 24 two different arms of Alstom, whether it's 25 production or maintenance. But they -- the

1 request for moves in the yard were made by 2 Alstom, not by one part or the other part. 3 The moves are controlled by yard 4 control, and they're completely agnostic as to 5 who's making what request for what vehicle to go 6 They just, this may sound horrible, 7 they're just moving the trains around as they're 8 asked to. They're not making any priority 9 decisions over what vehicle goes where, when. 10 But obviously once we're in passenger 11 service, passenger service takes priority, it 12 has to because of the penalty regime. 13 And the retrofits were a production 14 issue that shouldn't -- you always go into 15 service with some retrofits, but the quantum 16 that we had and the scale of them was 17 significant. 18 CHRISTINE MAINVILLE: And in terms of 19 prior to RSA, the track and the trains in 20 particular being used for trial running and 21 other testing by OLRTC, did that impede RTM 22 and/or Alstom's ability to prepare for 23 maintenance. 24 No, because they MATTHEW SLADE: 25 weren't interested in preparing for maintenance.

Like, we tried. Like, you can lead a horse to water but you can't make it drink.

We tried, I don't know how many times, to get them involved. And I'm sure there's emails and meeting minutes where they just, you know, refused to do it. So there was never any competition for that.

I guess there was some competition for track access for testing, continuing to test trains, Stage 2 trains as well as retrofitted trains. But a lot of it was -- the issues we were having with the vehicles prior to revenue service was immense.

I brought specialists in from outside to help manage that and oversee it, and help me understand what was going on and why it was in the shape it was in.

OLRTC hired an organization called SENER, who are engineering consultants, I guess. I don't know how they advertise themselves. But they have a vehicle -- a specialist vehicle division. And we hired a gentleman by the name of a Mark Turner who is, it sounds awful, but he's another British person. He lives in Barcelona. He is ex-Alstom. He was a bogey

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2.0

specialist by profession.

And we flew him over and put him up in Ottawa for probably the best part of a year, I think, to help understand -- because he was so specialized and understood the -- he also understood the Citadis vehicles. We needed someone to get into Alstom's business, for want of a better term, and understand how we could resolve these issues.

And so he sat on -- I don't know the term, but we had these tiger (sic) teams that were set up for various different issues associated with the vehicle. And he sat and led most of those with the City's consultants, STV, and asked Alstom to try and get through all of the issues we had. It was a mammoth task.

I still use him. He's is a good guy and he understands this stuff better than a lot of people.

CHRISTINE MAINVILLE: Given the -everything that needed to be done in the lead-up
to RSA by OLRTC, would you say that it would
have impacted its focus on maintenance, to the
extent that OLRTC had to maintain prior to RSA?

MATTHEW SLADE: I think there was a

1 level of frustration. I don't think it impacted 2 OLRTC on schedule or anything like that. 3 spent a lot of time managing morale and staff. 4 Like, there was a huge -- there was a 5 huge drive to get it done and everyone -- the 6 level of proudness that the team had when we got 7 to substantial completion and started trial 8 running, to then see that eroded and to see the 9 lack of performance from RTM and Alstom was -- I 10 think it was more of a -- it was more of a 11 mental issue than a schedule issue for my team. 12 The frustration was immense, 13 absolutely immense. And, you know, they sat 14 there and they're like saying, We can do better 15 than this. Let us go do it. We'll get through 16 trial running if you let us go and do it. 17 there was a huge desire to do that from my team. 18 And they felt -- my team always had a 19 sense of urgency that Alstom still doesn't have. 20 And they -- I guess they lived it for such a 21 It's kind of -- it sounds awful but long time. 22 the railway is like a baby to them, and a lot of 23 them now work for RTM, which I'm proud of and 24 they're proud of. People like Steve Nadon, who 25 I now you've spoken to. He was my testing

commissioning manager, he's now the Maintenance Director there.

And the team that Mario has now put in place, the majority of them are ex-OLRTC because they care and because they have a sense of urgency. And it's -- you know, they genuinely want to system to perform because they know it can. And that's what's missing from Alstom, predominantly.

CHRISTINE MAINVILLE: Were there issues with spare parts following RSA? And I ask in part because you then were involved with RTM. So I don't know which hat you need to wear to answer that question.

MATTHEW SLADE: I wouldn't say per se there was an issue with spare parts. I think Alstom's managements of the inventory and knowing where parts are within the facility, it's a big facility, if you haven't been there. And their ability to find stuff and knowing what they've got, I don't think they've probably catalogued stuff very well.

We had a few challenges during vehicle production where they couldn't find components that had been delivered to them, that caused a

1 bit of friction. I still don't think they're 2. 3 particularly good at managing their inventory 4 and knowing -- you know, when they're running 5 low on stuff they don't automatically reorder 6 stuff. I mean, real basic --7 CHRISTINE MAINVILLE: Are you 8 referencing Alstom or RTM as well? MATTHEW SLADE: No, Alstom. 10 CHRISTINE MAINVILLE: Alstom. 11 MATTHEW SLADE: Yeah. RTM doesn't 12 carry a lot of spares. RTM's responsibility is 13 the facilities, and a lot of that is 14 subcontracting cleaning. It's not -- the 15 escalators and elevators, the parts are all part 16 of the contracts with Otis and Schindler, or 17 whoever. The majority of the spare parts are an 18 Alstom issue, whether it's infrastructure or 19 vehicles. 2.0 And I just -- I think they still -- I 21 think there was a misconception as to how 22 quickly it takes to order certain things. 23 think they were just not brilliant at managing 24 their inventory, but I'm not aware that anything 25 was missing. A few times OLRTC had to help out

1 because Alstom couldn't find or didn't have what 2 they need. Or they had poor maintenance 3 practices in place such that they needed a 4 higher volume of parts than they originally had. 5 CHRISTINE MAINVILLE: And you came in 6 on an advisory basis to RTM after about a year 7 of operations, correct? 8 MATTHEW SLADE: Yes. I mean, I had 9 always been in the background. I never left the 10 project. Although my CV says I left the project 11 I never let go of it completely. 12 Whether I was still in a role at OLRTC 13 or providing advice and support to RTG and RTM 14 as an EllisDon, you know, responsible for the 15 transit business, I never fully left. I left 16 far very brief period, the period that's on my 17 CV when I went to Crosslinx as the Systems 18 Director there. 19 But then we had the need for support 20 back at RTM and that's when I went back in as a 21 strategic advisor. 22 CHRISTINE MAINVILLE: And what did you 23 see needing improvement? What did you advise 24 them to do to improve the --25 I mean, fundamentally MATTHEW SLADE:

there's a remediation plan, which I'm sure you have somewhere in your thousands of documents to go through, that a few of us were pulled in. It was myself and a guy called Raphael, who is an ACS employee, General Manager of Maintenance at Crosslinx. We went in to pull that document together and identify all the areas that needed addressing.

And I guess -- I mean, I got involved because I had a good relationship with the City and I had a lot of knowledge of the job, so it was the right thing to do.

And it was a case of trying to get everything back on an even keel. So we prepared that remediation plan with our supply chain, including Alstom and RTG and the City. It was a collaborative kind of document that got agreed to.

And then Steven Nadon at the time was still at OLRTC. We seconded him out of OLRTC in to RTG to manage the execution of that work, because RTG is a small organization, it's only three or four people really. And they didn't have someone who was a project manager, per se, who had the time or ability to do that. So we

1 seconded Steve into that role to execute the 2 works that were in the remediation plan. I got 3 heavily involved with that and the shutdowns, 4 and the work that was executed during that 5 period. 6 And then I can't remember when it was 7 specifically, I would have to go back through my 8 calendar, but within my own organization, within 9 EllisDon, it must have been just at the 10 beginning of COVID at the first -- during that 11 March of 2020 it must have been I guess. 12 EllisDon -- I was part of their civil division, 13 which was obviously responsible for constructing 14 and building of the transit work. 15 transitioned into the -- what we call our 16 services business, which is why I ended up on 17 the Board of the maintenance organization that I 18 now sit in the facility part of the business, 19 still responsible for all of that transit. 2.0 CHRISTINE MAINVILLE: Were there any 21 clear gaps just in terms of procedures, 22 protocols that you saw at RTM? 23 MATTHEW SLADE: It wasn't so much 24 procedures and protocols, I think a lot of that 25 stuff was in play. Some of it might have needed

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a bit of improvement but it wasn't bad.

I think the main issue was the fact that a lot of stuff hadn't been done that was supposed to be done. A lot of the maintenance work had not been done as it had been prescribed.

So I think -- and I'm talking about infrastructure maintenance, which falls under Alstom. A think lot of issues that were on the remedial plan were a result of lack of or inappropriate maintenance of those assets. And, again, that was predominantly my view, down to lack of resources and lack of knowledge and experience on Alstom's part.

CHRISTINE MAINVILLE: Did the issue with the work order and the City putting quite a bit of pressure on that system, did that subside after trial running?

MATTHEW SLADE: I can't remember when it subsided. It was after trial running but I can't remember when.

It was at a point in time where at the time the City were able to obviously -- they were running what was called the "Help Desk", and then that transitioned to RTM relatively

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   swiftly, but I can't remember what the timeframe
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         But that -- at that point it changed a
3
   little bit because they didn't have control of
4
   what was going on. But they still -- I think
5
   they still to this day still input a huge amount
6
   of work orders into the system.
7
              And I know you know the way they
8
   apportion those work orders to the penalty
9
   regime, or the penalty regime to those work
10
   orders is still matter of dispute.
11
              CHRISTINE MAINVILLE: Are you aware of
12
   negotiations that began with RTG on this
13
   issue -- or RTM?
14
              MATTHEW SLADE: I'm aware they began,
15
   but at that point in time I wasn't involved.
16
   But I know it's -- it was a topic of discussion
17
   and then it kind of faded away, and now it's
18
   back being a topic of discussion, and I know
19
   it's all subject to dispute.
2.0
              CHRISTINE MAINVILLE: And does this
21
   approach, or the City's approach to the work
22
   orders, does that take away some of the focus of
23
   RTM or Alstom on things that impact service
24
   reliability?
25
              MATTHEW SLADE: Yeah, I think it does.
```

1 I think -- it's a very, very difficult environment there now as a result of that. I 2 3 think -- it goes back a bit, I guess, to the conversation we had earlier on about penalty 4 5 regime versus incentivization, and what have 6 So there's -- RTG, RTM and Alstom require 7 money to be able to put trains out to service. 8 And as soon as you penalize them and there's 9 issues that need fixing, and then there's less 10 money to use to fix it, it's a vicious circle. 11 But I think the whole process is -- it 12 hasn't helped with relationships. There's been 13 a lot of tension around it. I think it's got a 14 little bit better. We got to a point where we 15 said, Okay, just stop. 16 But it's more about the relationship 17 as much as anything. Obviously cash is 18 important, but the relationship around that 19 whole process and the way the penalties are 20 being applied to things that -- I mean, you can 21 argue it's subjective and you can say, yes, we 22 signed up to the contract. But I don't think 23 anyone envisaged the contract would be applied 24 the way it's being applied in such a punitive 25 way.

1 CHRISTINE MAINVILLE: And I know we're 2 just about out of time. I just wonder if you're 3 able to speak to whether any of the issues that 4 later surfaced, were they related to Thales' 5 signaling system or integration, system 6 integration? 7 MATTHEW SLADE: Are you talking 8 about --CHRISTINE MAINVILLE: Breakdowns in 10 particular, or the derailments, although I don't 11 think that the derailments did, correct me if 12 I'm wrong. 13 No. So I think we MATTHEW SLADE: 14 had -- we had some -- you know, after revenue 15 service we went through some software upgrades 16 from Thales; and there will be more to come. 17 It's an evolving system because of Stage 2 and 18 other works that are ongoing. 19 But as a result of some of the 20 performance issues that we saw there was a need 21 to upgrade some of the Thales software. 22 wasn't the fact that the Thales system was 23 causing the breakdowns. 24 I'll try and give you an example, if I 25 We had -- one of the task force tiger team can.

things that we put together, something that we struggled with a little bit in the early days was what we call EBs, which are emergency brake applications, which then result, generally, in getting flat spots on the train wheels.

And we were having probably more emergency brake applications than you would expect to have. So we set up a team of people, including the City and the City's consultants, to look -- and external, third-party consultants that we had on board from JBA and again from the UK. Started looking at the number of EB events, the triggers, the causes, et cetera, et cetera. And whilst the -- some of the EBs were applied via the Thales system, it might have been a result of an input from another system.

As an example, we have what we call GIDs, guideway intrusion detection systems, on the end of the platforms, which is there to detect if a member of the public or anyone steps off the platform and onto the guideway, either in front of a train or not in front of a train, it will cause the train -- or trigger a signal in the signaling system, the Thales system,

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which would then apply the emergency brakes on the train.

So it might have been that we had, for instance, a sensitivity issue with the GIDs, which would then trigger an EB on the train. It would manifest itself as an EB triggered by Thales, but the initial trigger point would have been a third party system from -- GIDs is from a company called Molinari.

But I wouldn't say that there were specific issues with the Thales system that affected service. There were certain integrations between different systems that were -- that had performance issues, but they weren't necessarily all Thales driven. Some of them -- the Thales is a brain, it takes information, some of it came from the train. The train would say -- there would be an issue with the wiring in the train that might make the Thales system do something. And a lot of the time it gets reported as a signaling issue because in the cab of the train what the driver sees, the same as your dashboard on your car when you see the "check engine" light come up, it comes up on a screen that says "Thales" on

it, because it's a Thales screen, which will tell you, you have a fault on the train, or whatever. And the driver's report, via radio to the control room, I have an issue. Or, My Thales screen is telling me this. So it would generally be reported as a Thales issue, even though what it's reporting on is a completely different system.

So I think the Thales system has actually been as reliable as I would expect it to. I think it's performed damn well. I don't think we've any true signaling issues. We've had a few issues relating to the maintenance of the Thales system, which is down to Alstom still. But overall I think it's performed as expected. And I think those various task forces that we've set up have identified solutions to issues that have proven that it was not all down to Thales. Some of that — some of those EBs have gone as a result of software rewrites, some of it as a result of the systems, and partly down to how OC Transpo operates the system.

CHRISTINE MAINVILLE: I know we have another session scheduled with you, to the extent we need it. So maybe we'll go off

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1	REPORTER'S CERTIFICATE
2	
3	I, HELEN MARTINEAU, CSR, Certified
4	Shorthand Reporter, certify;
5	That the foregoing proceedings were
6	taken before me at the time and date therein set
7	forth;
8	That the statements of the presenters
9	and all comments made at the time of the meeting
10	were recorded stenographically by me;
11	That the foregoing is a certified
12	transcript of my shorthand notes so taken.
13	Dated this 5th day of May, 2022.
14	Martines
15	CA Martiner
16	
17	PER: HELEN MARTINEAU
18	CERTIFIED SHORTHAND REPORTER
19	
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