

Ottawa Light Rail Commission

Michael Morgan
on Thursday, April 21, 2022



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OTTAWA LIGHT RAIL COMMISSION
CITY OF OTTAWA - MICHAEL MORGAN
APRIL 21, 2022

--- Held via Zoom Videoconferencing, with all
participants attending remotely, on the 20th day
of April, 2022, 8:30 a.m. to 12:32 p.m.

1 COMMISSION COUNSEL:

2 Christine Mainville, Co-Lead Counsel Member

3 Mark Coombes, Litigation Counsel Member

4

5 PARTICIPANTS:

6 Michael Morgan: City of Ottawa

7 Peter Wardle and Jesse Gardner: Singleton

8 Urquhart Reynolds Vogel LLP

9

10 ALSO PRESENT:

11 Helen Martineau, Stenographer/Transcriptionist,

12 Laila Butt, Virtual Technician

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1 --- Upon commencing at 8:30 a.m.

2 MICHAEL MORGAN: AFFIRMED.

3 CHRISTINE MAINVILLE: Mr. Morgan, the
4 purpose of today's interview is to obtain your
5 evidence under oath or solemn declaration for
6 use at the Commission's public hearings.

7 This will be a collaborative interview
8 such that my co-counsel, Mr. Coombes, may
9 intervene to ask some questions. If time
10 permits, your counsel may also ask follow-up
11 questions at the end of the interview.

12 The interview is being transcribed and
13 the Commission intends to enter this transcript
14 into evidence at the Commission's public
15 hearings, either at the hearings, or by way of
16 procedural order before the hearings commence.

17 The transcript will be posted to the
18 Commission's public website along with any
19 corrections made to it after it's entered into
20 evidence.

21 The transcript, along with any
22 corrections later made to it, will be shared
23 with the Commissions' participants and their
24 counsel, on a confidential basis, before being
25 entered into evidence.

1 And you'll be given the opportunity to
2 review your transcript and correct any typos or
3 other errors before the transcript is shared
4 with the participants or entered into evidence.

5 Any non-typographical corrections made
6 will be appended to the transcript.

7 And finally, pursuant to section 33(6)
8 of the Public Inquiries Act 2009, a witness at
9 an inquiry shall be deemed to have objected to
10 answer any question asked of him or her upon the
11 ground that his or her answer may tend to
12 incriminate the witness or may tend to establish
13 his or her liability to civil proceedings at the
14 instance of the Crown or of any person. And no
15 answer given by a witness, at an inquiry, shall
16 be used or be receivable in evidence against him
17 or her in any trial or other proceedings against
18 him or her thereafter taking place, other than a
19 prosecution for perjury in giving such evidence.

20 And as required by section 33(7) of
21 the Act, you're advised that you have the right
22 to object to answer any question under section 5
23 of the Canada Evidence Act.

24 Okay. So with those terms, I'll start
25 with asking your position. On the positions you

1 held, and I know there were a couple, in respect
2 of Stage 1 of Ottawa's LRT?

3 MICHAEL MORGAN: So the first position
4 I held when I joined the City of Ottawa was
5 Director of Rail Operations. And in that role,
6 I had responsibility for mobilizing a team that
7 would ultimately become the group of light rail
8 operators as well as mobilizing a team that
9 would become the contract oversight team. As
10 well, I provided some input on behalf of OC
11 Transpo to the design review process and to
12 regulatory reviews and safety reviews as part of
13 the Stage 1 normal practice of design
14 submissions and feedback from the owner. So
15 that was my preliminary position.

16 I then moved on to Director of Rail
17 Construction in 2019 where in that role I had
18 responsibility for mobilizing a team to look
19 after construction of Stage 2, which included
20 expansion of the Stage 1 Belfast Yard, expansion
21 of the Confederation Line Fleet, integration
22 with the Stage 1 systems, and a variety of kind
23 of touch points with the Stage 1 activity.

24 In the beginning of 2019, I was
25 assigned the task of -- given the additional

1 responsibility for the Stage 1 completion, Stage
2 1 project, so that was added to my portfolio and
3 I led the completion of that portfolio through
4 to revenue service availability.

5 And I continued to be the City
6 representative on that file and continue to work
7 through a variety of commercial contractual
8 issues on the Stage 1 project.

9 CHRISTINE MAINVILLE: And in -- was it
10 January 2019 you became, I think, the Director
11 of RIO, replacing Mr. Cripps.

12 MICHAEL MORGAN: Yeah. At the time,
13 my title stayed the same, I was still the
14 Director of Rail Construction, so I basically
15 had the Stage 1 project added to my portfolio
16 and was still leading the Stage 2 work, which
17 was just in -- at that point, would have been in
18 final throes of procurement, but we were getting
19 ready to start construction on Stage 2 that
20 summer. And so I added Stage 1 project to my
21 portfolio taking over from Steve Cripps, who was
22 retiring.

23 PETER WARDLE: I think, Mr. Morgan,
24 you indicated you became Director of Rail
25 Construction in 2019, is that right?

1 MICHAEL MORGAN: No. July 2017 is
2 when I moved over and took over the Stage 2
3 program.

4 PETER WARDLE: I think that makes
5 sense.

6 MICHAEL MORGAN: Yeah.

7 CHRISTINE MAINVILLE: And the
8 portfolio that's added in 2019, isn't it
9 effectively Director of RIO, of the Rail
10 Implementation Office?

11 MICHAEL MORGAN: Effectively. That
12 team got roped into or wrapped under my
13 portfolio.

14 CHRISTINE MAINVILLE: Got it.
15 You swore an affidavit in the context
16 of litigation between the City and RTG, correct?

17 MICHAEL MORGAN: Yes.

18 CHRISTINE MAINVILLE: And I'll just
19 put it up on the screen so you recognize it.
20 This one was sworn February 8th, 2022, if that
21 sounds right?

22 MICHAEL MORGAN: Okay. Yes.

23 CHRISTINE MAINVILLE: Do you recognize
24 that affidavit?

25 MICHAEL MORGAN: Yes.

1 CHRISTINE MAINVILLE: And just for the
2 record, it is at -- beginning at page 23 of
3 document COW0114565. And you adopt the content
4 of that affidavit as remaining true today?

5 MICHAEL MORGAN: Yes.

6 CHRISTINE MAINVILLE: So we'll just
7 want that filed as part of your examination.
8 That'll be the first exhibit.

9 EXHIBIT NO. 1: Affidavit of Michael
10 Morgan, sworn February 8, 2022.

11 CHRISTINE MAINVILLE: We can take it
12 down. I won't ask you any specific questions
13 about it at this time.

14 I also want to bring up your resume.
15 Thank you for providing that. Well, perhaps you
16 can just give us a brief synopsis of your
17 experience in rail and background.

18 MICHAEL MORGAN: Sure. So I graduated
19 with a degree in electrical engineering from the
20 University of Victoria. After I graduated, I
21 joined Bombardier Transportation as a design
22 engineer working on the SkyTrain Millennium,
23 which was an expansion of the SkyTrain, to add a
24 number of stations through Burnaby. So I worked
25 on that project looking after radio systems,

1 integration with the vehicle systems, fibre
2 optic systems, a variety of systems on that
3 project for a number of years. And when that
4 project was wrapped up, then I relocated to -- I
5 was re-assigned to the JFK Air Train Project in
6 New York where I worked on that project for
7 approximately a year doing a variety of, again,
8 radio integration, testing, commissioning --
9 commissioning activities at JFK International
10 Airport.

11 There was a -- I did leave, kind of,
12 the rail sector briefly and worked in the
13 utility sector for a little bit of time before
14 rejoining Bombardier Transportation at JFK
15 Airport in the operation and maintenance phase.

16 So that was a design, build, operate,
17 maintain contract with the Port Authority in New
18 York and New Jersey. Bombardier, at the time,
19 had the responsibility for customer service,
20 facilities management, track, infrastructure,
21 vehicles, service delivery on a daily basis.
22 There was also a series of overall programs
23 underway, 500,000 kilometre overhaul, which was
24 part of my portfolio, so a series of activities
25 there.

1 From there, I was assigned to a
2 project in South Korea, restart of a driverless
3 light rail system in Yongin that was --
4 basically it was shut down temporarily, due to
5 commercial issues, and I was sent back as part
6 of a restart team to recommission that system
7 and put it back into service.

8 From there, I relocated to Australia
9 to work on the Gold Coast Light Rail Project
10 which was a -- the first project -- the first
11 phase of that project on the Gold Coast where I
12 was responsible for testing, commissioning of a
13 system, delivery of the vehicles, commissioning
14 the catenary of the track, the vehicles, the
15 signals, communication systems. Getting that
16 system into service, so I was there for
17 approximately two years before joining the City
18 of Ottawa.

19 And then the City of Ottawa, as I
20 mentioned, Director of Rail Operations to start,
21 Director of Rail Construction Program in 2017,
22 and then taking over the Stage 1 project in
23 2019.

24 CHRISTINE MAINVILLE: Thank you. I
25 have a couple of questions relating to the first

1 page of your resume in respect of your time with
2 the City of Ottawa. In the third paragraph,
3 beginning key "areas", you mention there, as
4 part of your responsibilities, advancing the
5 City's Claims Avoidance Strategy. I just wonder
6 whether you could tell me what that is?

7 MICHAEL MORGAN: So it's -- in Stage
8 2, you know, we're just trying to be as
9 collaborative as possible with the two
10 contractors and the contractors, as is typical
11 over the course of a construction project, will
12 advance various claims.

13 And you can address those claims in a
14 variety of manners. You can take a more
15 defensive position and dispute everything. You
16 can take the other end of the spectrum, which is
17 obviously a more generous position and just
18 agree to all the claims.

19 So we're trying to strike a balance
20 and come down the middle of that and ensure that
21 we work collaboratively with the contractor.
22 Recognizing, you know, claims where they are
23 real, and ensure that things get closed off
24 quickly so that -- so that they're not hanging
25 over the project for the duration of the work.

1 CHRISTINE MAINVILLE: And is this
2 something that was developed for Stage 2?

3 MICHAEL MORGAN: I think it was just a
4 kind of mode of operation that the team agreed
5 to when we started up the project in terms of
6 just wanting to be as collaborative as possible.
7 Recognize when there were impacts and try to be
8 a good partner in terms of delivering those
9 projects and being responsive to contractor
10 needs.

11 One of the -- in the industry, one of
12 the, I would say, complaints from contractors is
13 owners being slow in resolving disputes and
14 allowing them to drag on. And so we're trying
15 to, to the extent possible, deal with those
16 quickly on an urgent basis to resolve them
17 before they escalate and take multiple years to
18 resolve.

19 CHRISTINE MAINVILLE: And was this in
20 recognition of some of the issues that were
21 encountered on Stage 1 or was it a result or a
22 shift in terms of addressing some of what
23 transpired during Stage 1?

24 MICHAEL MORGAN: You know, there's
25 probably a few instances in Stage 1 where that

1 may hold true, but I think, for the most part,
2 it was really just working with the General
3 Manager at the time and wanting to be very
4 collaborative with the two teams that we're
5 working with in Stage 2, trying to set a
6 different tone, and as much as possible, find
7 opportunities for success.

8 And in some cases, claims avoidance is
9 as simple as relaxing lane closure restrictions.
10 It doesn't need to be -- it's not about writing
11 a cheque. It's about recognizing specific
12 things in the contract that may be causing
13 unintended consequences with the contractor. It
14 may be causing behaviours that really, you know,
15 if we need them to close a lane, we'd rather
16 close a lane than get into a fight over delays.
17 If there's ways to catch up the project that are
18 outside of the contractual agreement, there's
19 value in advancing those.

20 You know, a big one on Stage 2, for
21 example, the contract didn't allow them to close
22 a major intersection in Westboro, the contract
23 didn't allow them to close for any length of
24 time.

25 Well, you know, looking at the work,

1 standing back from it, it would have taken them
2 about 10 to 12 weeks to finish that work. As a
3 response, we said, we'll let you shut down the
4 intersection for two weeks so you can fast track
5 that work and get it done quickly.

6 That helped us, I think, ultimately
7 protect the schedule, avoid claims, deal with
8 the contractor in a very productive and
9 collaborative manner.

10 CHRISTINE MAINVILLE: You'll see in
11 the last paragraph where you reference the
12 procurement for Stage 2, and you indicate that
13 as part of your responsibilities, I think, you
14 provided advice regarding preferred options for
15 integration of systems, such as train control.

16 MICHAEL MORGAN: Right.

17 CHRISTINE MAINVILLE: Into the design
18 build contract. Was that something that also
19 was, I might call it an improvement, you can
20 call it something else, but on Stage 1, was it
21 something that had not been initially provided
22 for in Stage 1?

23 MICHAEL MORGAN: No. I don't think
24 that that's the case necessarily. It's more of
25 just the reality of when you're doing an

1 expansion to an existing system, you know, at
2 some point when we started Stage 1, or when
3 Stage 1 was started, there was a bit of a blank
4 slate in terms of the solutions that RTG could
5 bring to the table and their design construction
6 solutions, their vehicle choice, their signaling
7 supplier-choice.

8 And as you look at Stage 2, part of
9 the decision was, well, how much -- how many of
10 those decisions do we continue? Do we propagate
11 into Stage 2? How many can be changed? How
12 many are, essentially, a fait accompli? And how
13 do you deal with the challenges?

14 For example, the signaling system.
15 There's a very advanced, sophisticated CBTC
16 system in Stage 1. What is the best way of
17 expanding that system in Stage 2? We know in
18 the Vancouver experience that they've expanded
19 the Thales system multiples times. We were,
20 essentially, facing that same prospect in
21 Ottawa. Was that the best choice? Were there
22 other options? And so -- and given that Thales
23 was already installed on Stage 1, what was the
24 best, kind of, commercial mechanism to extend
25 that system and to keep it fair between all the

1 bidding parties?

2 So there's a variety of choices that
3 need to be made around the vehicle fleet, around
4 the signal system, do you buy more of the same
5 vehicles? Do you retain the existing signal
6 system? Who has responsibility for systems
7 integration? All of those pieces. Those are
8 mostly related to the expansion. They're
9 created by, kind of, the challenge of having to
10 expand an existing system that's in service.

11 CHRISTINE MAINVILLE: Just on the CBTC
12 system that was provided by Thales during Stage
13 1, is that a signaling system that's specific to
14 Thales?

15 MICHAEL MORGAN: Yes, it is. Yeah.
16 And so there are -- there are other solutions on
17 the market, other signal solutions on the market
18 where they're more plug and play, where you
19 could come along and say, well, I'm going to use
20 a black box from company A on this segment, I'm
21 going to use a black box from company B on this
22 segment, and then I can tie them all together.

23 For the CBTC system provided by
24 Thales, that's not really an option. It's a
25 proprietary solution, cognizant that Helen asked

1 me to slow down. So it's a proprietary solution
2 and so there was limited options. You could
3 potentially replace the system, which would have
4 been problematic. You can -- essentially we
5 took the decision to expand the system. I
6 think it was the only real choice for us.

7 But then the decisions were around,
8 well, how do you wrap that into the contract?
9 What's the best way to -- do we go and -- do you
10 ask the bidders to go speak independently with
11 Thales to get independent pricing? Do we go to
12 Thales directly, as the owner, and negotiate a
13 contract with Thales and re-assign it to the
14 winning bidder?

15 In the final instance for Stage 2, we
16 had a lot of very good support from NRF in terms
17 of coming up with essentially tri-party
18 negotiations on that contract so that everyone
19 was using the same set of terms and conditions,
20 and essentially wrap that into their bids.

21 CHRISTINE MAINVILLE: I'll stop you
22 there. Our focus will be certainly on Stage 1,
23 I might ask you questions on what, if anything,
24 changed on Stage 2, but our mandate really is
25 focused on the first stage, so we won't get into

1 the details more than that.

2 Let's bring down the CV, which will be
3 Exhibit 2.

4 EXHIBIT NO. 2: CV of Michael Morgan.

5 CHRISTINE MAINVILLE: I just want to
6 ask you a bit about your work on the SkyTrain,
7 your work on that. That was a successful P3,
8 would you say?

9 MICHAEL MORGAN: It's 20 years ago.
10 Was it a P3? It might have been a design build,
11 but I don't know that it was a P3 necessary.
12 Yes, I would describe it as a successful
13 project. It was quite a complicated project,
14 taking an old control room that was built in the
15 '80s, upgrading it, adding a new switch and
16 turnout into an existing main line during active
17 service, adding a series of new stations. In
18 general, that system's in Vancouver, the
19 SkyTrain system, and the Canada Line are very
20 popular.

21 CHRISTINE MAINVILLE: Do you recall
22 any way in which that project was different than
23 the one here that might have contributed to its
24 success?

25 MICHAEL MORGAN: Well, I mean,

1 primarily they put the system in to service in
2 the late '80s. So they are -- you know, tons of
3 operating experience, tons of maintenance
4 experience. Tons of -- they had been running
5 that system for a series of years. And they had
6 bugs along the way and they worked those bugs
7 out.

8 By the time we showed up, we were
9 expanding the fleet, expanding the line, and so
10 they had very, kind of, robust processes in
11 place and they had an existing fleet that they
12 were able to leverage for testing. So there's a
13 series of advantages that we had.

14 CHRISTINE MAINVILLE: And just in
15 terms of changes that were made for Stage 2 of
16 Ottawa's LRT?

17 MICHAEL MORGAN: Yeah.

18 CHRISTINE MAINVILLE: Changes from
19 stage 1, I understand those are largely set out
20 in schedule 14 of the Project Agreement,
21 correct?

22 MICHAEL MORGAN: So there's changes to
23 commissioning are set out in schedule 14, as I
24 recall. But there were other changes, including
25 a more robust requirement for system

1 engineering, systems assurance, and the reliance
2 on a couple of CENELEC EN standards that also
3 guided some major changes to the general
4 approach.

5 There's also, you know, some changes
6 made to schedule 10, which is the design review
7 schedule, in respect of how to deal with
8 comments, and closing of comments, and dealing
9 with comments, which was kind of a lesson
10 learned from Stage 1.

11 And obviously the specification for
12 the product was, kind of, relied on essentially
13 what was -- what had been designed in Stage 1.

14 So there's a certain -- in expanding
15 Stage 2, in terms of the technical
16 specification, it was under the auspices of a no
17 better, no worse technical solution. So there
18 were certainly some changes there just in terms
19 of updating the technical specification.

20 CHRISTINE MAINVILLE: Okay. So I'm
21 just going to go back on a couple of those. The
22 output specifications as it relates specifically
23 to the vehicles, are you saying they just were
24 focused to align with what ended up being the
25 Stage 1 design? Is that, effectively, what

1 you're saying?

2 MICHAEL MORGAN: For the vehicle, the
3 output specification wouldn't have changed
4 substantially -- or wouldn't have changed for
5 the vehicles. We were essentially procuring the
6 same vehicles, procuring more of the same
7 vehicles for Stage 2.

8 CHRISTINE MAINVILLE: And then you
9 talked about some changes made. Do you mean --
10 well, what do you mean by that?

11 MICHAEL MORGAN: So there's a schedule
12 10, which sets out the design review process
13 which is the process by which the bidders or the
14 two teams submit design packages progressively,
15 and the City provides comments, change some --
16 essentially the rules of engagement around
17 closing those comments, responding to those
18 comments, dealing with those comments.

19 There is, for example, a dispute
20 resolution mechanism put into schedule 10 that's
21 been used to deal with comments that are stuck.
22 There's been some requirements to close out
23 comments early in the process as opposed to
24 allowing them to drag on and be open for an
25 extended period of time. So there was

1 essentially some process improvements with
2 schedule 10 and the design review process.

3 CHRISTINE MAINVILLE: And you
4 mentioned the ES standards. What are those?

5 MICHAEL MORGAN: The EN.

6 CHRISTINE MAINVILLE: Yeah.

7 MICHAEL MORGAN: The European Norm
8 Standards. So there's a couple of different
9 standards as it relates to systems engineering,
10 safety assurance.

11 There was some -- in Stage 1, there
12 was some challenges in terms of the timing of
13 how you did safety certification, how you did
14 testing and verification. And so relying much
15 more heavily on those two EN standards to
16 provide clarity around that process in Stage 2.

17 And then, as you pointed out, schedule
18 14 was also updated on both of the contracts to
19 extend the duration of trial running and to put
20 in some pass/fail criteria, so there's some
21 changes made there as well.

22 CHRISTINE MAINVILLE: Right. So the
23 longer trial running period, was that intended
24 to allow for more time to ensure more
25 integration, better performance?

1 MICHAEL MORGAN: I think, you know,
2 it's really just to spend more time on the
3 demonstration portion of the contracts.

4 I think as we looked at the Stage 1
5 contract, and the requirement for 12 days of
6 trial running, it was unclear what the objective
7 was, or what the -- it was unclear why the 12
8 days was chosen. The duration didn't seem to be
9 tethered to anything.

10 So with the 12-day trial running
11 period, you end up with maybe one weekday of
12 service. So if you start on a Saturday, you
13 have five days of the week, two more days, and
14 then the next week you're a couple of days into
15 the week and you're done. So it didn't seem
16 very logical.

17 So using a three-week period, you get
18 three weekday periods. You test the weekday
19 service over a period of three weeks, you put in
20 pass/fail criteria just to -- and part of it is
21 building comfort and assurance around the
22 purpose of the system. Having that specific
23 pass/fail criteria in the contract makes it
24 possibly for the City to enforce a certain
25 standard of performance. So that was kind of

1 the other big change.

2 So really two things. Pass/fail
3 criteria and then the duration to make sure that
4 the testing period has a little more validity to
5 it.

6 CHRISTINE MAINVILLE: So how long is
7 the duration for Stage 2?

8 MICHAEL MORGAN: So it's 21 days.

9 CHRISTINE MAINVILLE: Twenty-one days?

10 MICHAEL MORGAN: Yes.

11 CHRISTINE MAINVILLE: And in terms of
12 having criteria for pass/fail in the contract
13 and that permitting the City to enforce the
14 standards of performance, was there -- and I'll
15 get back to your involvement more specifically
16 in testing and commissioning, and trial running.

17 But was there an inability during
18 Stage 1 for the City to enforce the standards
19 for the Stage 1 trial running?

20 MICHAEL MORGAN: The Stage 1 trial
21 running didn't have a pass/fail criteria
22 embedded in the contract. So there was --
23 essentially it just became a demonstration
24 period, and with no specific performance
25 obligations, the contractor could take the

1 position that 12 days was done, the service was
2 poor, but they achieved the 12 days.

3 In some of the discussions, you can --
4 it seems strange to test the limits of that
5 argument, but in reality, as you go through
6 disputes and as you go through project issues,
7 that is a risk. And so there was no pass/fail
8 criteria, and so we relied on essentially
9 negotiating and agreeing on what criteria were.

10 CHRISTINE MAINVILLE: And in
11 hindsight, would you say it would have been
12 preferable to have a longer trial running period
13 for Stage 1?

14 MICHAEL MORGAN: If I had written the
15 contract for Stage 1, I would have included a
16 longer trial running period and I would have
17 included pass/fail criteria.

18 CHRISTINE MAINVILLE: And am I right
19 that the City became responsible for the
20 vehicles for Stage 2?

21 MICHAEL MORGAN: So the City became
22 responsible for the vehicles in the context of,
23 kind of, the overall transit program.

24 So in Stage 1, the vehicles were
25 essentially wrapped into the Stage 1 contract.

1 They had to deliver 34 vehicles, and a system,
2 and a control centre, and put it into service.

3 In Stage 2, it's essentially that's
4 fragmented more. So we've got a Stage 1
5 maintainer; we've got a Stage 1 builder who's
6 providing additional vehicles; you've got a
7 Stage 2 builder who's doing the expansion; the
8 City's doing the control centre upgrades. And
9 at the end of the day, it's the City bringing
10 all those things together.

11 So RTG is still delivering the fleet,
12 but it's the City's obligation to make sure
13 those vehicles are ready so that when we go to
14 expand the system and take over the new
15 infrastructure that it all works cohesively.

16 CHRISTINE MAINVILLE: So there's more
17 oversight of the vehicle manufacturing?

18 MICHAEL MORGAN: I wouldn't say
19 there's necessarily more direct oversight.
20 We've done a few things. We've added a resident
21 inspector to the Brampton facility. The
22 facility used to be in Ottawa and so it was
23 nearby, but we've added a full-time inspector
24 there.

25 It's still through the same

1 contractual mechanics we had in Stage 1. So
2 through RTG, their subcontractor, OLRTC, their
3 subcontractor Alstom, but the City, just in this
4 case, has responsibility for making Stage 2
5 work, or for getting all the pieces to work
6 together. Whereas in Stage 1, it was all on RTG
7 to say to get the vehicles to work with the
8 train control and the infrastructure.

9 CHRISTINE MAINVILLE: And is that just
10 because it's building on Stage 1 or could Stage
11 1 have been done in this way as well?

12 MICHAEL MORGAN: I think the only --
13 you could have -- it's difficult to say, you
14 know, because the -- because of the pieces of
15 Stage 1 that you need to expand to maintain
16 continuity through Stage 2, could you have done
17 a separate P3 for including the vehicle delivery
18 for the extension? Potentially. I think that
19 you would have been pretty challenged to do that
20 and there would have been some commercial issues
21 related to an incumbent vehicle supplier having
22 an -- you might not have had any other vehicle
23 suppliers come to the table in that scenario.

24 So there's a bit of, I guess,
25 commercial strategy that you'd have to look at

1 to see if that was possible or not.

2 CHRISTINE MAINVILLE: And finally, am
3 I right that there was a bigger City team for
4 Stage 2 during construction and perhaps more
5 monitoring of the construction?

6 MICHAEL MORGAN: I don't know about
7 bigger team, but certainly a different setup and
8 a different, kind of, application of resources,
9 which is a very bureaucratic way of saying how
10 you assign people.

11 So, for example, in the Stage 2
12 contract, there was a requirement for the
13 contractor -- they had a series of construction
14 sites to create space at those construction
15 sites for the City team.

16 So we have -- so at their central
17 construction sites, they've got small, kind of,
18 setup of various trailers and they have to
19 provide a trailer for the City. And the City,
20 they've placed construction staff in those
21 trailers, so they're essentially co-located with
22 them in the field, actively working with them in
23 the field from day one, which is a slightly
24 different setup than in Stage 1 where it was a
25 joint responsibility -- we had a design and

1 construction team, and they were responsible for
2 both design and monitoring.

3 In this case, we split out the
4 construction team so they're in the field
5 monitoring and they were on day one. We
6 understand that that practice was -- has been
7 adopted by others now in the practice of
8 assigning full-time construction inspectors in
9 that new setup as opposed to just stepping back
10 because the P3 design oversight then, kind of,
11 monitoring from a bit further afield.

12 CHRISTINE MAINVILLE: Could you speak
13 a bit more to the City's approach to oversight
14 during Stage 1, how the City went about it?

15 MICHAEL MORGAN: I can only speak to
16 the pieces really starting in 2019. Prior to
17 that, it was largely Steve Cripps who had his
18 team organized.

19 The team was organized in three
20 tranches. You essentially had a civil team
21 looking after guideway, fixed facilities,
22 stations, maintenance facility, and then you had
23 a trains and systems team that were looking
24 after communications, trains, integration of
25 those vehicles. So there was a couple of

1 primary groups.

2 There's also a third group looking
3 after project management and reporting the
4 funding partners and project controls. So that
5 was kind of the setup of the organization. But
6 then they also pulled in an owner's engineer to
7 provide assistance doing the detailed of any
8 difficult geotechnical reviews, or very
9 sophisticated reviews, or complex reviews that
10 need to be done, they leaned on the owner's
11 engineer quite a bit to provide that service.

12 So there was, again, a mixed group of
13 City staff, the owner's engineer, providing
14 oversight to series of construction inspectors,
15 all based out of one central location in the
16 City. But, you know, they would send people out
17 to do, kind of, walk-throughs, and inspections
18 and verify activity in the field. They would be
19 doing design reviews in the office and reviewing
20 design submissions, providing compliance
21 feedback against those submissions.

22 So that was, kind of, the general
23 approach on how the group and the team was split
24 up.

25 CHRISTINE MAINVILLE: You've been

1 involved in a number of rail projects. What
2 would you say is the right level of owner
3 involvement or what is that dependent on?

4 MICHAEL MORGAN: It depends on how the
5 scope and how the contract is set up from the
6 start.

7 So, for example, on the Gold Coast
8 project, that was a design build, finance,
9 operate, maintain. So -- and in -- even to
10 the -- essentially the entire operation was
11 given over to the P3 concession. And even the
12 regulatory approvals were given over to the
13 concession.

14 And so in my role working on that
15 project, I had a direct interface through the
16 concession with the regulator for the system,
17 which, you know, is not very different than
18 this -- the arrangement in the Ottawa projects
19 where it's the City that has the primary linkage
20 to the regulator. On the Trillium Line, it's
21 Transport Canada. On the Confederation Line,
22 it's self-regulated. So fundamental differences
23 and those inform how much you need to be
24 involved.

25 To the extent that you essentially

1 have outsourced all of the scope, the owner can
2 take a bit of a step back. To the extent that
3 it's -- the owner's providing operators,
4 controllers, customer service staff, being the
5 interface to the regulator, you kind of have to
6 increase your level of involvement and increase
7 your level of oversight. So you really have to
8 calibrate it against the type of project and the
9 structure of the project.

10 CHRISTINE MAINVILLE: Did the fact
11 that OC Transpo here was the operator, did that
12 bring an added level of complexity to this
13 project, the Ottawa LRT?

14 MICHAEL MORGAN: I mean, you have to
15 do -- there's additional training requirements
16 for the OC Transpo staff. There's training for
17 the controllers. That's an element that you
18 would have to do in any event, on any project,
19 is train those staff.

20 I don't -- complexity, the project was
21 already very, very complex. I don't think that
22 that specific choice added complexity of
23 anything. There's probably a bit of simplicity
24 to it. Because you have that extra set of eyes
25 on the train, that can be used as a way to

1 mitigate certain safety events and safety cases.

2 Whereas, you know, if you went, for
3 example, for a fully driverless system, you have
4 to be much more aggressive with the technology
5 you use and the security controls to keep people
6 out of the guideway, because, in those cases,
7 people getting onto the guideway can be
8 catastrophic.

9 In our case, because we have operators
10 on those trains, it simplifies the security
11 considerations a little bit because now, you
12 know, if there's an animal on the tracks, or
13 there's a problem with the infrastructure, we've
14 got an extra set of eyes out there looking at
15 things on a continuous basis. So, you know, you
16 can make the argument either way.

17 I think the private sector likes to
18 have control over those things and so that was
19 an area where they had to, kind of, essentially,
20 you know, work with us to train our staff, but I
21 think that in the end it worked out quite well.

22 CHRISTINE MAINVILLE: And recognizing
23 that you weren't been part of the oversight
24 before your role in 2019, but the oversight of
25 the construction, but coming into that role in

1 early 2019, did you -- what was your view about
2 whether the level of oversight -- of the
3 construction had been sufficient or not? Did
4 you have a view coming in?

5 MICHAEL MORGAN: You know, so I think
6 coming into -- I'd spoken to Steve Cripps in my
7 prior role, engaged with him, and gave him
8 feedback. I think that he did a very good job
9 of providing oversight. I think if you look at
10 the structure, if you look at the stations, it
11 was built and there's other elements that we
12 forget about. So the City utilities, public
13 sector utilities, generally the expansion of the
14 highway project. So there's, kind of, elements
15 of the project that went very well and people
16 should be quite proud of that.

17 There are elements, very detailed
18 specific elements, nuanced trains and systems,
19 pieces that, I think, potentially we could have
20 provided a little more oversight earlier in the
21 project. I think that at the point where
22 somebody decides to take on a CBTC system from a
23 specific vendor, you should be bringing on
24 consultants or people with experience with that
25 product because it's core to the overall

1 solution and that was in place by the time I
2 started.

3 So when I joined the project, I
4 didn't, you know, there was no fundamental
5 shift. I didn't add, you know, 25 more people
6 to course correct on issues. I think the
7 General Manager at the time, through various
8 activities, had added an independent assessment
9 team who was looking at the system. And so that
10 was kind of well advanced of when I joined or
11 took over responsibility for the project. And
12 so that group was kind of a very experienced
13 group that were looking at things and trying to
14 identify potential issues.

15 So there was a very good level of
16 control at that time.

17 CHRISTINE MAINVILLE: On the CBTC
18 piece, you said someone was there or had that
19 role in terms of being there at least to manage
20 to some extent that piece.

21 MICHAEL MORGAN: Right.

22 CHRISTINE MAINVILLE: Who was that
23 when you arrived?

24 MICHAEL MORGAN: I can't -- I don't
25 know the timing that Steve Cripps brought them

1 on, but Parsons did -- Parson Transportation
2 Group did come on board and they have a number
3 of staff with significant experience working on
4 CBTC systems and so that was very helpful.

5 CHRISTINE MAINVILLE: Was that a
6 system of Thales that is used -- that had
7 already been used in many other projects?

8 MICHAEL MORGAN: I can't speak to how
9 many implementations of the Thales. This is the
10 Thales, kind of, wireless solution, which was
11 slightly different than the Thales cable-based
12 solution. So the cable-based solution is used
13 in Vancouver. It's used in a JFK Air Train.
14 The wireless system, I think, was first used at
15 Las Vegas monorail, a number of years ago.

16 So I can't speak to how many
17 implementations that system -- that specific
18 product line Thales has done, but Thales is
19 certainly, you know, an expert in the field of
20 this, all the principles are the same. Some of
21 the technology and how it's implemented is a
22 little bit different. But different than
23 Vancouver, different than JFK, but I can't speak
24 to how many implementations of this version of
25 it they've put into the world.

1 CHRISTINE MAINVILLE: The City's
2 project management plan identified for reporting
3 deliverables, the RIO monthly report, schedule
4 reports, quarterly reports to the Executive
5 Steering Committee, and key indicators reports.

6 MICHAEL MORGAN: Okay.

7 CHRISTINE MAINVILLE: Do you know
8 whether these were ultimately reports that were
9 done and delivered?

10 MICHAEL MORGAN: I would have to go
11 back and check that specific list against the
12 specific deliverables.

13 There was lots of reporting that was
14 done between reporting to the funding partners,
15 the independent certifier doing reports, RTG
16 doing their self-reporting, there's reporting to
17 the Executive Steering Committee. So there
18 was -- but if that aligns perfectly -- I'd have
19 to go back and, kind of, look.

20 CHRISTINE MAINVILLE: What's your
21 recollection of the reporting to the Executive
22 Steering Committee? What were those -- just
23 the -- I think there were memos?

24 MICHAEL MORGAN: No. I think there
25 was a -- they were PowerPoint presentations,

1 providing an update on the status of the
2 project, an update on risks, they also at the
3 same time did a contingency review.

4 I mean, it was a very kind of good
5 forum for discussion with the City Manager and
6 others on the Steering Committee at the time to
7 provide them feedback on the project.

8 CHRISTINE MAINVILLE: And what was the
9 reporting to FEDCO?

10 MICHAEL MORGAN: Again, I'd to check
11 prior to my involvement. It should have been
12 quarterly to FEDCO, but I'd have to go back and
13 review specific frequency and how successful
14 they were in maintaining quarterly reporting or
15 not.

16 CHRISTINE MAINVILLE: During your time
17 that was done?

18 MICHAEL MORGAN: So in 2019, there
19 was, you know, we were meeting either FEDCO or
20 Transit Commission and discussing the project
21 quite a bit. I would have to go back and look
22 at frequency of reports -- public reports to
23 FEDCO and/or Transit Commission.

24 CHRISTINE MAINVILLE: And then you
25 would report to Council?

1 MICHAEL MORGAN: No. Just reporting
2 to those two committees.

3 CHRISTINE MAINVILLE: To the
4 committees, okay.

5 MICHAEL MORGAN: Yeah.

6 CHRISTINE MAINVILLE: And you were a
7 member of RAMP, the Rail Activation
8 Management --

9 MICHAEL MORGAN: Yeah.

10 CHRISTINE MAINVILLE: Is it Program?

11 MICHAEL MORGAN: Yes. We can check
12 that.

13 CHRISTINE MAINVILLE: And what was the
14 timeframe of RAMP in terms of when that was
15 instituted in activity?

16 MICHAEL MORGAN: I'd have to go back
17 and check the specific date for when that was
18 started. I don't recollect off hand, but it
19 was, you know, determined to be a best practice
20 to put up visualization boards in a common room
21 to get everybody into a common space and try to
22 surface all the issues and, kind of, challenges
23 or open work. Sometimes it was just incomplete
24 work in a common space with a common report.

25 So that was something that was

1 instituted by the General Manager at the time.
2 It's a very good tool for providing visibility
3 on the status of the program.

4 And in part because RAMP was -- there
5 was a Stage 1 project, design and construction,
6 but there was also the bus network was changing,
7 you know, there was marketing campaigns, there
8 was customer service training. It was a tool to
9 link that all together.

10 CHRISTINE MAINVILLE: And RAMP was
11 receiving direct updates from RTG and OLRTC,
12 correct?

13 MICHAEL MORGAN: I believe so, yes. I
14 have to go back and check the attendees.

15 CHRISTINE MAINVILLE: Do you recall
16 whether Alstom would appear before RAMP?

17 MICHAEL MORGAN: I don't know if it
18 was RAMP officially or a working session, but
19 occasionally Alstom would attend, yes.

20 CHRISTINE MAINVILLE: Do you recall
21 receiving reliability reports from Alstom?

22 MICHAEL MORGAN: I don't recall.

23 CHRISTINE MAINVILLE: What was the
24 City's approach, generally, to this P3, if
25 you're able to speak to that, how the City

1 engaged with RTG? Whether there was, generally
2 speaking, a philosophy in terms of how to go
3 about the project?

4 MICHAEL MORGAN: I can't -- I can only
5 speak for a portion of the project. Standing
6 back, you know, in my role when I was in rail
7 operations, you know, there was the monthly
8 works committee meetings, there was -- there are
9 the weekly or biweekly technical working group
10 meetings. It was generally collaborative at the
11 time, trying to find solutions and cut through
12 issues.

13 And then, you know, I think when the
14 project generally was assigned to the new
15 General Manager, there was very much a sense of
16 let's do everything we can to make this is a
17 success. Let's work together and let's provide
18 room and flexibility for them to be successful.

19 In some cases, it's just like knocking
20 on doors and saying, they're having a challenge
21 with this activity or this owner, or this
22 agency. How can we help?

23 So I think the GM at the time was -- I
24 would say his philosophy was to try to make the
25 team collaborative, or to -- the entire team,

1 both teams work together collaboratively and try
2 to find solutions to make the system a success.

3 CHRISTINE MAINVILLE: That being
4 Mr. Manconi, when you say the General Manager?

5 MICHAEL MORGAN: Yes.

6 CHRISTINE MAINVILLE: What were the
7 areas where the City would not compromise or
8 deviate in what were the -- what drove the
9 City's decisions in terms of where there was
10 room to negotiate or not?

11 MICHAEL MORGAN: Well, I think as part
12 of the development of RAMP and, kind of, a
13 general plan for opening the system, we
14 established a go, no-go list that we used as a
15 litmus test to say, could we open the system?
16 Obviously safety being at the top. But there
17 being -- I believe it was roughly 10 items on
18 that list that all needed to be in place, you
19 know, maintenance team needed to be in place and
20 trained and ready to go. Customer staff needed
21 to be in place, trained, ready to go. The
22 stations needed to be done with occupancy
23 permits and safety certificates for all the
24 systems.

25 So there was kind of a very -- we

1 distilled it down this to this one list and we
2 used that as the guiding principle for saying,
3 okay, can we open the system today or not?
4 Using that to inform would we open a system
5 without one of the stations? No. Would we open
6 the system with half the trains? No. There was
7 certain kind of -- we wanted a fully
8 functioning, safe system that the customers
9 could use without concern.

10 CHRISTINE MAINVILLE: And when was
11 that developed in the time span of the project?

12 MICHAEL MORGAN: I think it would have
13 been as part of the development of the
14 multi-modal transformation program, which was OC
15 Transpo's project management plan as well as the
16 RAMP program. I'd have to go back and look at
17 the records to see when that was actually put
18 together and, kind of, agreed to and accepted.

19 CHRISTINE MAINVILLE: Roughly, though,
20 is it like midway through the project or more
21 towards the end?

22 MICHAEL MORGAN: It's probably in the
23 last -- maybe the last two years, two to three
24 years of the project.

25 CHRISTINE MAINVILLE: And was it

1 subject to any changes once it was established?

2 MICHAEL MORGAN: No, I don't think so.
3 The team -- it's a pretty high level, objective
4 list. It wasn't into the detail about, you
5 know, this door handle needs to be red or
6 anything like that. It was a high level
7 objectives. And so it was, I would say, adhered
8 to over the course of the project.

9 CHRISTINE MAINVILLE: And we've heard
10 about the list before, but I'm not sure that
11 we've identified it. Peter, if you could
12 undertake to identify that for us?

13 PETER WARDLE: As I recall it, there's
14 a regular RAMP report and then there's the go,
15 no-go list, which, as I recall, became
16 operational roughly a year before RSA. I think
17 that's right, Michael?

18 MICHAEL MORGAN: Yeah.

19 CHRISTINE MAINVILLE: And it would be
20 titled go/no go?

21 MICHAEL MORGAN: Yes.

22 PETER WARDLE: And I think it's part
23 of the monthly or weekly RAMP report. I think
24 the RAMP reports became more frequent towards
25 the end, but we can identify them for you.

1 CHRISTINE MAINVILLE: Okay, thank you.
2 To what extent were the City's
3 decisions driven by the Project Agreement in
4 that the City would really stick to the terms of
5 the agreement?

6 MICHAEL MORGAN: The contract provides
7 a good baseline and that you need to rely on in
8 decision making. It's hard to -- in terms of if
9 you want to step away or deviate from the
10 contract in a way that creates new obligations
11 on the contractor, then those are subject to
12 variations, subject to additional costs.

13 So I think generally we used that as
14 the foundational document for decisions on
15 specific contractual milestones and relied on it
16 quite successfully, for a number of those
17 milestones, to deliver the project. But I
18 wouldn't say that that necessarily tied our
19 hands.

20 There were cases where we made choices
21 and decisions to accommodate the contractor, to
22 try to be flexible and provide them with an
23 opportunity to be successful.

24 CHRISTINE MAINVILLE: How would you
25 describe your -- well, the City's relationship

1 with RTG over time, over the course of the
2 project?

3 MICHAEL MORGAN: You know, in working
4 meetings with -- at the time I took over, it was
5 Peter Lauch as the CEO. I would say Peter and I
6 were able to have direct, frank conversations
7 that we were open. He would regularly
8 communicate with me. We didn't agree on
9 everything, but that's fine, you know. But he
10 was still very collegial at the end of the day.

11 There was probably, from time to time,
12 there was meetings where there was big
13 disagreements, but I think in general there was
14 a good -- we were able to kind of separate the
15 commercial positioning from the need to get on
16 with the work at the ground level, working
17 level.

18 CHRISTINE MAINVILLE: So how would you
19 say RTG was as a partner on this?

20 MICHAEL MORGAN: You know, there are
21 challenges, I think, that they presented to us
22 that we had difficulty overcoming in terms of
23 transparency and visibility on their schedule.
24 And I think that was one of the big frustrations
25 with the project is just this idea that they

1 were reporting that they were going to be done
2 at a certain time, and then we would review the
3 work and it would be clear to us that they
4 weren't going to be done. So I think that was
5 kind of a sore point.

6 Obviously the project had other
7 challenges. It was late. And since it went
8 into service, there's been some reliability
9 challenges. So it's difficult to provide
10 anything other than just speculation, I guess,
11 or opinion.

12 CHRISTINE MAINVILLE: Well, on that,
13 so are you able to speak at all to what your
14 view or perspective on the reasons for the lack
15 of -- the potential lack of transparency into
16 the schedule was? Did you have a sense of what
17 was driving the lack of transparency?

18 MICHAEL MORGAN: No. It's -- I
19 didn't -- it's not clear to me, other than it
20 just being a commercial tactic, as to why they
21 were reporting the schedule dates that they were
22 reporting.

23 CHRISTINE MAINVILLE: What do you mean
24 by "commercial tactics"?

25 MICHAEL MORGAN: That they were --

1 that they had a challenge with the schedule,
2 that they were late, and that there were a
3 series of delays, but they disputed what the
4 cause of those delays and, therefore, they were
5 holding their commercial position on the basis
6 that the cause of the delays was still under
7 dispute.

8 CHRISTINE MAINVILLE: I understand
9 that the City, as part of discussions for Stage
10 2, underwrote RTG's debt? Were you the Director
11 of Rail when that happened?

12 MICHAEL MORGAN: I was not directly
13 involved in that decision and that -- how that
14 was undertaken, as I recall it. I don't believe
15 I was responsible at the time.

16 CHRISTINE MAINVILLE: I think it was
17 around 2017. Does that sound right?

18 MICHAEL MORGAN: It does sound right,
19 yeah. There was -- you know, there was an
20 intent to create the conditions to expand the
21 system, and there was some constraints related
22 to the long-term lender and consent rights, I
23 believe was the case.

24 But I think the person who was
25 directly involved in that would have been Chris

1 Swail.

2 CHRISTINE MAINVILLE: And do you have
3 any sense, though, of how it may have impacted
4 the project, if at all? Did you get the sense
5 that it impacted the relationship or --

6 MICHAEL MORGAN: No. I don't get the
7 sense that there's any kind of material impact
8 to it, to the relationship, to the delivery of
9 the project.

10 CHRISTINE MAINVILLE: Was it ever
11 raised by RTG as a concern, the fact that the
12 City was also its lender?

13 MICHAEL MORGAN: To me, the only time
14 I've seen it raised as a concern is an affidavit
15 from Nicholas Tuchon in relation to the recent
16 proceedings.

17 CHRISTINE MAINVILLE: So you don't
18 recall Mr. Lauch raising it?

19 MICHAEL MORGAN: No.

20 CHRISTINE MAINVILLE: Do you recall --
21 and you tell me the extent of knowledge or --
22 that you had of how that manifested itself, but
23 did it not change the risk profile on the
24 project for -- as between the City and RTG?

25 MICHAEL MORGAN: I don't believe it

1 did. I don't believe it did, but, again, this
2 is -- it's better -- a better question for the
3 people involved with that decision and that
4 transaction.

5 CHRISTINE MAINVILLE: Fair enough.

6 Do you have a view as to the root
7 causes of the issues that this project
8 ultimately encountered in terms of breakdowns
9 and derailments? You know, where things may
10 have gone wrong fundamentally.

11 PETER WARDLE: That's kind of a big
12 question.

13 CHRISTINE MAINVILLE: It is. So to
14 the extent that you were involved --

15 PETER WARDLE: I just wonder,
16 Christine, if you could maybe break it down a
17 little bit, because I know Michael will have an
18 answer, but it might be helpful to just break it
19 into pieces, because there's different things.

20 CHRISTINE MAINVILLE: Right.

21 Well, let me ask you, for instance,
22 what impact did the Rideau sinkhole have on the
23 project in terms of the relationship between the
24 parties, the delays on the project, and how that
25 may have had ripple effects? Or, you know, do

1 you have a view as to whether it was a major
2 event in terms of its impact on how this
3 unfolded?

4 MICHAEL MORGAN: I would say that it's
5 difficult to link that event to recent activity,
6 recent reliability issues, but I would say in
7 the course of the project, that event did
8 trigger, obviously, a compensation delay event
9 notice from the builder and essentially started
10 a sequence of dispute discussions and claim
11 discussions around the sinkhole. And, you know,
12 leading to IC determinations and exchange of
13 expert reports. A variety of things that would
14 have required a level of effort by both teams to
15 manage.

16 And so that's -- that would have been
17 additional work on top of everything else that
18 they had to deliver, to spend time managing the
19 dispute and managing the various processes in
20 the contract to deal with that event.

21 CHRISTINE MAINVILLE: Do you recall
22 what, if any, delay there was to the
23 infrastructure as a result of this sinkhole?

24 MICHAEL MORGAN: Well, I mean, I
25 wasn't -- I can't speak to the event

1 specifically. Some of it is retrospective based
2 on information that I've read.

3 Obviously Rideau Station was a setback
4 in terms of the work on that station. Setback
5 in terms of, you know, there was some equipment
6 lost and progress that was lost so they needed
7 to restart. And so that would have caused a
8 delay, but to the extent that that was the
9 driving delay for the overall project, difficult
10 for me to pin that down.

11 CHRISTINE MAINVILLE: Fair enough.

12 You don't have any specific knowledge
13 as to whether that in particular ultimately
14 delayed the testing phase of the project?

15 MICHAEL MORGAN: I would say that that
16 was kind of a matter of dispute during the
17 project.

18 CHRISTINE MAINVILLE: Okay. Did other
19 delays in the project impact testing, to your
20 knowledge, impact the testing phase?

21 MICHAEL MORGAN: I mean, to the extent
22 that certain systems were finished late, that
23 would have pushed out the testing activity. It
24 would have pushed out the overall testing or the
25 overall project date. So I don't -- had people

1 had access to infrastructure earlier in the
2 process, potentially they could have done
3 additional testing, but it's difficult to pin
4 that down.

5 CHRISTINE MAINVILLE: Do you recall
6 the integration testing phase being compressed?

7 MICHAEL MORGAN: I'd have to look --
8 I'd have to baseline the original schedule
9 against the actual schedule to understand how
10 much it was compressed or if it was compressed.

11 Some of the things actually would have
12 been drawn out more over time because a station
13 like Blair Station, or Cyrville Station, would
14 have been finished early on in the process, so
15 they would have had plenty of time for
16 integration at those stations.

17 The same with the training. Rather
18 than the training being, in the original
19 contract, probably being completed under a very
20 short window, in the end, because of the delays,
21 people had much more time to do some of those
22 activities.

23 CHRISTINE MAINVILLE: Do you have an
24 understanding of when integration testing
25 commenced?

1 MICHAEL MORGAN: No, because that can
2 be a nebulous topic. What's considered
3 integration testing? When did it actually
4 start? So integration testing could be the
5 emergency telephone with the camera, back to the
6 control centre. And you could have done that
7 very early on.

8 Some of the integration testing, such
9 as the tunnel ventilation system with the
10 control system with the trains would have been
11 done later in the project because that
12 infrastructure was done late.

13 So because of the fluid nature of the
14 delivery in that schedule, I would say that
15 most -- I couldn't put a pinpoint when it
16 actually started.

17 CHRISTINE MAINVILLE: Are you able to
18 say when the trains were able to run on the
19 entire track?

20 MICHAEL MORGAN: I would have to go
21 back and look at that -- the schedule to see
22 when that actually happened, when they had the
23 train gone end-to-end.

24 PETER WARDLE: I don't have a problem
25 with you asking these questions in a general

1 way. Mr. Morgan's not a delay expert. The City
2 hired a delay expert to comment and provide an
3 opinion on all of these issues in connection
4 with one of the disputes that went to the
5 independent certifier. I believe that report's
6 been provided. And if I recall correctly, it's
7 the Systech report.

8 And again, I don't have a problem with
9 you asking the questions in a general way, but
10 again, this is a very complex field.
11 Mr. Morgan's not a scheduling expert.

12 CHRISTINE MAINVILLE: My questions are
13 more focused on, in your role, you're managing
14 part of this project. You have a certain level
15 of oversight over it, so trying to get to your
16 understanding of what was happening in terms of
17 testing and the project.

18 So not breaking down, you know, who's
19 responsible for what delay, which is not my
20 concern.

21 MICHAEL MORGAN: Correct.

22 CHRISTINE MAINVILLE: So what was your
23 understanding of -- was it reported to you or
24 did you have an understanding of whether full
25 integration testing on the main line was delayed

1 to such a point that it was much more compressed
2 than what may have been originally planned?

3 MICHAEL MORGAN: Yeah, again, I think
4 in a generic sense, the testing was actually
5 expanded, that it wasn't compressed. But,
6 again, it speaks to the specific -- how do you
7 define the integration testing? Is there a
8 specific element to the contract that -- or of
9 the program that you'd be thinking about or
10 considering, you know, because some of the
11 tests -- because if we think about the fire
12 telephone system. The fire department was back
13 multiple times to test that system. So it
14 wasn't like it was rushed and it was compressed.

15 So I guess I'm not able to, at this
16 time, point to a specific activity that was
17 compressed or done more quickly than it should
18 have, or that in the baseline schedule it said
19 they were going to do it in 10 weeks and you're
20 asking whether it was done -- actually, it was
21 rushed through in two weeks. I can't speak
22 to -- I don't know of any specific activity, but
23 that fell into that category.

24 CHRISTINE MAINVILLE: And would you
25 have had any knowledge of Thales' or Alstom's

1 views on the sufficiency of testing?

2 MICHAEL MORGAN: No. I wouldn't have
3 had that visibility directly, no.

4 CHRISTINE MAINVILLE: So as you're
5 approaching trial running, did you have any
6 understanding that some testing, nonessential
7 testing, perhaps not required by the contract,
8 but that some that had been planned had not been
9 done?

10 MICHAEL MORGAN: So as we approached
11 trial running -- so I guess there was a lot of
12 effort -- so just prior to trial running, before
13 where you can enter trial running, you need
14 to -- the contractor needed to achieve
15 substantial completion.

16 And so as part of substantial
17 completion, we did a pretty detailed end-to-end
18 review of what had been tested and what was
19 outstanding. And that our summary of that work
20 is kind of outlined in our first response to
21 RTG's application for substantial completion,
22 which we rejected, due to a variety of issues,
23 including tests not being completed.

24 So there was, I believe, a series of
25 telephones that were, you know, not fully

1 tested. There's potentially TSSA certificates
2 that were not provided. So there's a series of
3 things and so we identified those things at that
4 time.

5 There was a subsequent application for
6 substantial completion. We would have
7 rereviewed that list and reassessed what was
8 outstanding, what was not outstanding, and there
9 was some effort, at that time, to identify what
10 was absolutely required, what was not. And we
11 did work with the independent certifier as part
12 of the contract, minor deficiency list, to
13 identify those things.

14 That would ultimately be the, I would
15 say, the yardstick for what was included or what
16 was deferred potentially, that was deemed to be
17 noncritical. But there was nothing, you know --
18 for example, getting over the line with the
19 tunnel ventilation system. Making sure the fire
20 department was satisfied was absolutely a
21 requirement. Getting all the occupancy
22 certificates was absolutely a requirement.

23 So all these things were done to make
24 sure that there was nothing straggling that was
25 critical.

1 CHRISTINE MAINVILLE: But did you have
2 any understanding of, you know, what dynamic
3 testing there had been and whether there was any
4 sense of it being deemed insufficient?

5 MICHAEL MORGAN: I don't have a sense
6 of that. I don't have a sense that it was
7 insufficient or no one reported at the time that
8 it was insufficient. I know there was at least
9 one test that was deferred. I can think of
10 the -- there was a test of verifying that a
11 train could go 100 kilometres an hour and
12 because of the -- Stage 1 is very short and a
13 lot of stations in between, a lot of curves, so
14 they were only able to the test up to 95
15 kilometres an hour, so that was deferred.

16 There may have been a couple other
17 things like that, but that dynamic testing
18 generally was not completed. It's not my sense
19 that that was the case.

20 CHRISTINE MAINVILLE: Would you have a
21 sense of how much testing -- dynamic testing
22 there was on the fully operational system? So
23 the entire line. How much time there was to do
24 that kind of testing.

25 MICHAEL MORGAN: No. Again, I'd have

1 to go back and look at when the end-to-end line
2 was available and how much testing they did on
3 it.

4 CHRISTINE MAINVILLE: Okay. Do you
5 recall if there had been dry runs prior to trial
6 running?

7 MICHAEL MORGAN: Well, I mean, there
8 was certainly end-to-end testing. There was
9 certainly vehicle activity on the line, but
10 unlike other -- so certain vehicles supply
11 contracts would include a requirement for, say,
12 10,000 kilometres per vehicle as, say, a minimum
13 before the customer would accept that vehicle.
14 But under the P3 arrangement, that type of
15 obligation didn't exist.

16 And so it was really at RTG's
17 discretion to determine how much testing they
18 needed to do or accomplish in order to -- before
19 they could hand the system over to us.

20 CHRISTINE MAINVILLE: And what do you
21 mean by end-to-end testing?

22 MICHAEL MORGAN: Well, just running
23 the trains from Blair to Tunney's.

24 CHRISTINE MAINVILLE: Which is the
25 full track?

1 MICHAEL MORGAN: Yeah, that's right.

2 CHRISTINE MAINVILLE: Are you aware of
3 what, if any, automatic train operation testing
4 was done?

5 MICHAEL MORGAN: Well, it would have
6 been the majority of the activity would have
7 been -- certainly with our operators on board,
8 would have been an automatic operation. So
9 automatic operation with an attendant on board.
10 So on the main line.

11 So on the main line, there's two modes
12 of operation, so the drivers -- one mode is
13 fully automated, they're pressing a button to
14 essentially just they need to reconfirm that
15 they're still paying attention on a regular
16 basis. There's a second mode, automatic
17 protected mode where they can drive. So they're
18 in control of the speed, obviously restricted by
19 the control system still.

20 So the testing that Thales does in the
21 early days would have largely been in that
22 second mode of them controlling the speeds. The
23 operation of the vehicle by our staff or
24 operations, and operations generally, would have
25 been largely in automatic mode.

1 CHRISTINE MAINVILLE: So what would be
2 the extent of the City's involvement in testing
3 like that?

4 MICHAEL MORGAN: So there's a natural
5 overlap between operating vehicles, putting
6 mileage on the vehicles to, kind of, prove them
7 out and having a person on board the train, and
8 whether you can essentially take credit for
9 training hours when you do that.

10 So there's a, kind of, so there's a
11 synchronicity there between you put an operator
12 on the train to operate the train and shake it
13 out and identify if there's issues with it.

14 You get the benefit of putting mileage
15 on the vehicle to know if there's problems, you
16 get the benefit of training the operator.

17 So largely we would have been in that
18 mode where we were using the vehicles for
19 training purposes and, you know, and then RTG
20 would have had the benefit of overseeing or
21 getting that experience and seeing, as issues
22 arise they can then -- those issues would be
23 serviced, they could tackle those issues.

24 CHRISTINE MAINVILLE: So most of the
25 testing is really overseen by RTG and in their

1 discretion and what the City is most focused on
2 is operations and driver training?

3 MICHAEL MORGAN: Yes. So Thales and
4 Alstom would have had a whole series of tests
5 that they would need to do and so we would have
6 attended some of those on a witness or audit
7 style where we're selecting a few tests to be a
8 part of, but we wouldn't have been on a hundred
9 percent of the trains for a hundred percent of
10 the tests.

11 CHRISTINE MAINVILLE: So to what
12 extent would the City have been aware of what
13 the testing and commissioning plans were? Did
14 you have a view as to the entire plan?

15 MICHAEL MORGAN: Yeah, we would have
16 had the entire plan. And RTG had a testing and
17 commissioning manager, a few different people
18 filled that role over the years, but they would
19 have provided the complete plan with the
20 complete list of tests. We would have been
21 invited to, it's called first article
22 inspections where you can go to a factory and
23 you can witness the door test, or you can
24 witness the motor test.

25 And so they would have published a

1 schedule of those first article inspections. We
2 would have attended a series of them to
3 essentially witness and monitor and verify that
4 the test to being carried out. But those would
5 have been all detailed in a commissioning plan,
6 providing a list -- essentially a summary of all
7 the tests they were undertaking.

8 CHRISTINE MAINVILLE: Do you recall or
9 would you have a sense of when those original
10 plans were devised?

11 MICHAEL MORGAN: So the plans for the
12 vehicles would have potentially been developed
13 pretty early in the project. You would have
14 seen the first testing commissioning plans, I'm
15 pretty sure I had initial meetings, in my first
16 role as Director of Rail Operations, and so that
17 would have been in the 2015, 2016 timeframe.

18 CHRISTINE MAINVILLE: And what about
19 original plans for integration testing and
20 systems assurance? Would that have been devised
21 early on?

22 MICHAEL MORGAN: They would have
23 identified, at a high level, kind of -- there
24 probably was a listing of the actual procedures
25 that they were planning to undertake, but the

1 actual development of that procedure would have
2 come much later.

3 CHRISTINE MAINVILLE: And would that
4 have been entirely within RTG's discretion, or
5 would the City have any involvement in devising
6 those -- the procedures and --

7 MICHAEL MORGAN: I mean, they were
8 largely at RTG's discretion, but in an oversight
9 function, we did review them and verify that
10 they were complete and thorough and that they
11 were doing all the right things, but it was --
12 you know, a P3 model does put it at their
13 discretion.

14 And because we weren't using something
15 like the EN standard at the time, occasionally
16 there would be question about traceability to
17 requirements and are they verifying the full
18 extent of the requirements?

19 But we were in a position to provide
20 feedback on those plans at the time.

21 CHRISTINE MAINVILLE: And do you
22 recall whether those integration testing plans
23 changed as the --

24 MICHAEL MORGAN: No. I mean, I don't
25 know specifically. Typically integration plans

1 on a project would evolve or would be adjusted,
2 adapted to the designs. So if somebody wrote an
3 integration plan very early in the process
4 before the design was complete, the plan would
5 have to be revised to reflect the updated design
6 or if there was challenges, problems found
7 during the actual testing, and there was fixes
8 put in place, then they would revise the
9 procedure to update.

10 But that's, I would say, industry
11 practice, as opposed to a specific example of
12 what I saw.

13 CHRISTINE MAINVILLE: So you don't
14 have any recollection of whether or how the
15 integration testing plan might have been changed
16 to compress it?

17 MICHAEL MORGAN: Normally those --
18 again, the industry practice is that you would
19 have the plan and would have the list of
20 requirements. So, say you had a hundred
21 requirements that you need to test as part of
22 that plan, there's no -- whether you test those
23 hundred requirements quickly or slowly, that
24 wouldn't be reflected in the plan, per se.

25 What you would be looking for, from an

1 owner point of view, is that if there's a
2 hundred items, that they didn't, at the last
3 minute, just cross 30 items off and say, we
4 don't need to test those. You'd be checking for
5 that.

6 You wouldn't be checking necessarily
7 for the time element of it. You'd be checking
8 for the content.

9 CHRISTINE MAINVILLE: Do you recall
10 how the plan factored in seasonal changes and
11 winter testing?

12 MICHAEL MORGAN: There are certain
13 elements of the system that had to be tested in
14 winter conditions and so the vehicle -- and
15 again, standard industry practice is to take a
16 portion of the vehicle and send it to a climate
17 chamber and test the vehicle in those climate
18 chambers.

19 So you would take a door and a front
20 cab, that's kind of the standard practice for
21 verifying certain elements, certain subsystems
22 in winter. So that way you deal with winter.
23 You also have summer issues to deal with.

24 And then there's some functionality.
25 Platform heaters, switch heaters, other things

1 that you can only really fully test in winter.

2 So there was some seasonal
3 considerations for the testing program.

4 CHRISTINE MAINVILLE: Do you recall
5 when the trains were able to run on the system
6 during the winter?

7 MICHAEL MORGAN: I think -- I don't --
8 I know that there was some activity, some train
9 activity on the main line during winter. I
10 would have to go back and get the specific dates
11 around when that took place.

12 CHRISTINE MAINVILLE: Prior to RSA?

13 MICHAEL MORGAN: Yes. Yes.

14 CHRISTINE MAINVILLE: Would that have
15 been on the full line, do you know?

16 MICHAEL MORGAN: Again, I'd have to
17 check the specifics of that. It should have
18 been on the full line. I mean, remembering that
19 two and a half kilometres is underground anyway,
20 in a tunnel, so there's no -- fewer effects in
21 the tunnel from weather.

22 CHRISTINE MAINVILLE: Do you recall if
23 there was any testing to see if the switches
24 would work in the summer and the winter?

25 MICHAEL MORGAN: Yeah. So there would

1 have been switches installed in winter and used
2 during winter operations because there were --
3 you know, the eastern end of the alignments near
4 Blair was in service -- were testing activity
5 quite early in the program, so there would have
6 been a scenario there.

7 And then there was a period leading up
8 to substantial completion where I would describe
9 that the performance of the switches was not
10 very good. And that complaint was raised with
11 Peter Lauch and Matt Slade, who was the Director
12 of OLRTC at the time, and they'd flagged that
13 the challenges with the switches was as a result
14 of lack of maintenance during the testing
15 program.

16 I recall specifically sitting in a
17 meeting after they'd completed the maintenance,
18 this is, I believe, in the spring, that the
19 switches did perform better, once they'd
20 undertaken the appropriate maintenance.

21 And then in the subsequent winters, I
22 would say that there was some, you know,
23 discussion between the design builder and the
24 maintainer in respect of the switch heaters
25 working correctly in winter and whether that

1 was -- if they weren't working, was that a
2 function of the switch heater design or was it a
3 function of poor maintenance? So there was
4 some, I would say, discussion, debate between
5 those two parties in respect of how well those
6 heaters worked in winter.

7 CHRISTINE MAINVILLE: Do you have a
8 view as to whether the winter testing was
9 sufficient or not, in hindsight? Whether in
10 hindsight or not?

11 MICHAEL MORGAN: So looking ahead
12 on -- for the Confederation Line on Stage 2,
13 we've standardized on gas switch heaters. So
14 we've basically said electric switch heaters are
15 not going to be sufficient, we are only going to
16 use gas switch heaters. So we've used that
17 lesson to look ahead.

18 So you could say that, in hindsight,
19 we probably could have -- one could have been
20 more aggressive with the selection of switch
21 heaters. That deals with a lot of the winter
22 issues. Getting those switch heaters right.

23 The other, kind of, winter challenge
24 we had was related to the failures of the
25 inductors on the roof, and it's not clear to me

1 that additional winter testing would have
2 surfaced that issue.

3 And then probably the third issue was
4 the contamination of the overhead wires with
5 highway salt, which caused them to corrode
6 prematurely and breakdown.

7 Again, what -- that specific issue
8 would have been difficult to surface and I don't
9 think additional time would have necessarily --
10 if you waited long enough and didn't do anything
11 long enough, that issue would have arisen. So
12 if you'd installed it sooner, arguably you would
13 have found the problem sooner, but equally if
14 they were doing additional maintenance on
15 those -- that equipment, they may have uncovered
16 it before it became a problem.

17 CHRISTINE MAINVILLE: And were the
18 switch heaters part of the winter testing?

19 MICHAEL MORGAN: I mean, any time
20 you're running -- if you're running a train
21 during a period of snow, switch heaters -- you
22 couldn't run those trains if the switch heaters
23 weren't operating.

24 CHRISTINE MAINVILLE: But were they --
25 was there actual winter testing on the tracks,

1 on the line, as opposed to the climate --

2 MICHAEL MORGAN: No, no. So there was
3 a period of time where trains were on the line
4 and it was snowing and the switch heaters had to
5 function to some level, otherwise they would --
6 the train testing would have stopped.

7 CHRISTINE MAINVILLE: So do you recall
8 how the trains performed on the winter testing
9 in terms of the results?

10 MICHAEL MORGAN: Yes. I think there
11 was a couple, early on, and I was interviewed
12 publicly by the CBC, and by at least one radio
13 station, because one of the trains had gotten
14 stuck in a deep snow fall. So the perception
15 was that it wasn't ready for winter operations.

16 One of the strategies for dealing with
17 winter operations that's used by the industry
18 generally is just simply to run the trains
19 during a snow event. So as -- to the extent
20 that you can keep the trains running, the tracks
21 are, in effect, cleared, switches are operated
22 and manipulated and you keep moving. In a
23 testing program -- and so that works.

24 And actually we had -- just recently
25 we had a very successful big winter event and

1 the trains worked very well, in part because the
2 trains kept running throughout.

3 In the testing program, you don't
4 necessarily have that luxury. If you're only
5 testing one or two trains and the snow
6 accumulates faster than it's cleared and you run
7 into additional problems. On any network, if
8 you're only running one train and it was snowing
9 hard, you would slowly lose the network and
10 that's essentially what happened.

11 In order to keep trains functioning
12 during that event, you would have had to have
13 more trains running more reliably and
14 continuously to keep the snow cleared from the
15 tracks. We didn't and one of the trains got
16 stuck and got stuck in a very public location
17 that was reported on widely.

18 CHRISTINE MAINVILLE: Do you recall
19 whether there was any -- first of all, do you
20 recall the speed profiles becoming an issue post
21 RSA?

22 MICHAEL MORGAN: Speed profiles post
23 RSA?

24 CHRISTINE MAINVILLE: In the journey
25 time requirements as between stations.

1 MICHAEL MORGAN: I recall there's been
2 some discussion around that. Discussion around,
3 you know, what's -- so in terms of the trip
4 time, there's -- you need to factor in customer
5 impacts, you need to factor in dwell times, you
6 need to factor in door open-close times. So
7 there has been some ongoing discussion about
8 that specific issue.

9 In terms of speed profiles, there are
10 some different configurations you can run the
11 system in. The train controlled system can be
12 run with essentially modified braking, so a
13 lower brake rate. And that can be used and
14 deployed during periods of inclement weather to
15 reduce the speed of the trains entering the
16 stations and, therefore, mitigate slip/slide
17 issues.

18 There's a couple of different types of
19 that. There's a type 1 and a type 2. And I
20 believe type 2 is more aggressive in terms of
21 how much it slows the train down and that
22 ultimately has an impact on travel times.

23 CHRISTINE MAINVILLE: And as I
24 understand it, there was no provision initially
25 for different speed profiles or journey times

1 depending on weather?

2 MICHAEL MORGAN: Correct. A strict
3 interpretation of the contract is that trip
4 times are what they are and you need to deal
5 with the different weather conditions.

6 CHRISTINE MAINVILLE: And is that --
7 should there not have been a distinction made,
8 just based on climate?

9 MICHAEL MORGAN: I mean, that
10 requirement was meant to inform the vehicle
11 choice and the design of the system.

12 CHRISTINE MAINVILLE: So the City
13 wanted a vehicle that could perform to the same
14 level, regardless of weather, is that what
15 you're saying?

16 MICHAEL MORGAN: That's the way the
17 contract was written, yes.

18 CHRISTINE MAINVILLE: But is that
19 realistic, just based on your experience? In
20 Australia there isn't this snow.

21 MICHAEL MORGAN: We didn't have snow
22 problems there. In other locations where -- you
23 know, it's -- it is definitely your ability to
24 operate at the same speeds in snowy weather is
25 informed by your vehicle selection.

1 So, for example, on the Trillium Line,
2 it's a bigger vehicle, a heavier vehicle. It's
3 not an automated system. The drivers are
4 driving the vehicles in that case and so they
5 would slow down naturally, just to prevent
6 sliding conditions, but generally they still met
7 their trip times.

8 At JFK Airport which uses the
9 driverless light rail system, in snow events
10 again, you would have to keep the trains running
11 as much as possible, you would use an alternate
12 braking profile during inclement weather to deal
13 with that issue. And, I think, using a lighter
14 vehicle, using an automated train control
15 system, you would potentially need to have
16 alternate braking profiles.

17 But, again, that's something that
18 should be surfaced as part of the bid
19 submission, or the procurement process, as
20 opposed to after the fact once it's handed over.

21 CHRISTINE MAINVILLE: And so that
22 leads to my next question, was this a risk that
23 anyone had on their radar, to your knowledge, in
24 terms of -- because -- well, let's start here.
25 This ultimately led to emergency breaking issues

1 contributing to the wheel flats, correct, from
2 your understanding?

3 MICHAEL MORGAN: Not necessarily, no,
4 no. I don't think -- it -- so if you maintain
5 the high speed profile, that is the -- that's
6 potentially one factor that contributes to
7 excessive braking, potentially leading to wheel
8 flats, so that is "a" scenario that can lead to
9 that, not necessarily.

10 The other -- I would say the other
11 more prominent scenarios are when the inductor
12 on the top of the vehicle fails in a
13 catastrophic fashion and the train emergency
14 brakes, or when the guideway intrusion system at
15 the end of the platform gives you a false
16 positive, and you emergency brake.

17 So there are a series of contributing
18 factors, or a series of potential causes for
19 emergency braking, excessive braking, braking in
20 winter. Not all are related to the speed
21 profile.

22 And so -- and in our experience on
23 famously that first winter, we didn't perform
24 very well, excessive braking was caused, and we
25 believe it's likely linked to a series of

1 causes, speed profile potentially being one of
2 them, but there were other, kind of, larger
3 events that would have caused the vehicle to
4 emergency brake, which was an event in itself.

5 But then the challenge at that time
6 was when the vehicles had the wheel flats and
7 needed to be put back into service, the
8 maintainer wasn't ready with the wheel lathe.
9 The wheel lathe wasn't ready to go so there
10 was -- there was a delay immediately because
11 they had to deal with the wheel flat, which is
12 not, in and of itself, a huge issue, but if your
13 wheel lathe is out of service and you need to
14 wait a week to call your support company to work
15 on the wheel lathe, then that's going to cause
16 you problems.

17 CHRISTINE MAINVILLE: You mentioned
18 larger events that occurred in the winter. Are
19 there any, aside from what you've just
20 mentioned?

21 MICHAEL MORGAN: Those are primarily,
22 I would say, the inductors failing during
23 winter. The catenary failing because of the
24 corrosive salt building up on the overheads. To
25 the extent that the switch heaters weren't

1 working and that caused the train to emergency
2 brake, that potentially would have been one of
3 them, but there are multiple things that would
4 have created a scenario that resulted in a wheel
5 flat.

6 CHRISTINE MAINVILLE: And the
7 inductors and the catenary, the failing, are
8 these, to your mind, maintenance issues?

9 MICHAEL MORGAN: The catenary
10 failure -- the catenary might have been --
11 that's a difficult one. You'd have to be a very
12 astute maintainer to catch that issue and detect
13 it early on.

14 The inductor failures, that was a
15 latent defect that was just waiting to fail.
16 That goes back to the manufacturing of the
17 vehicle, the quality assurance processes in the
18 build of that specific inductor.

19 I mean, it was mitigated with the
20 design solution, so you can argue that perhaps
21 that design solution should have been in place
22 from the get-go, but at the end of the day, that
23 was a known product to Alstom, they'd used it on
24 multiple vehicles, and I think it was just the
25 quality and manufacturing of that specific batch

1 of inductors was not successful.

2 CHRISTINE MAINVILLE: And just going
3 back to the speed profile that could contribute
4 to emergency braking issues, was that something
5 that was on people's radars prior to it
6 surfacing as an issue? Was it a risk that had
7 been considered?

8 MICHAEL MORGAN: I mean, a risk that,
9 if you didn't activate -- I guess just to
10 restate, so the question being that a risk that
11 if you didn't slow down the speed that that
12 would result in wheel flats, is that --

13 CHRISTINE MAINVILLE: Right. Or --
14 yes. Excessive emergency braking at least.

15 MICHAEL MORGAN: I don't think -- I
16 believe it was understood that there was this
17 other braking mode that was lower -- kind of,
18 less aggressive that could be used, but it
19 wasn't clear the extent of how much you needed
20 to use that, or not use that, the benefit. If
21 you didn't turn it on, would you have lots of
22 problems or would you only have a few problems?
23 There's no -- at the time, I don't think there
24 was a measurable indication that it had to be on
25 every time it snowed.

1 CHRISTINE MAINVILLE: We can take the
2 morning break.

3 -- RECESSED AT 10:06 A.M. --

4 -- RESUMED AT 10:22 A.M. --

5 CHRISTINE MAINVILLE: Mr. Morgan, were
6 you aware of competition to use the test track,
7 like different parties competing for time on it?

8 MICHAEL MORGAN: Not acutely aware,
9 but that's a common issue during these types of
10 projects.

11 CHRISTINE MAINVILLE: Do you know what
12 the original plan was for the test track in
13 terms of who were to have primary use of it?

14 MICHAEL MORGAN: No.

15 CHRISTINE MAINVILLE: Do you know
16 whether delay to the main line led to additional
17 pressure for use of the test track?

18 MICHAEL MORGAN: I mean, that's
19 something that would have been between RTG,
20 Alstom and Thales. Those three entities would
21 have been competing for access.

22 CHRISTINE MAINVILLE: Do you know
23 where the drivers were largely supposed to
24 train? Were they supposed to use the test track
25 or the main line? What the plan was for that?

1 MICHAEL MORGAN: So the drivers -- the
2 City did procure a driver simulator and so there
3 was some intent to use the driver simulator.
4 Otherwise they would be training on the main
5 line and would have required time to do that
6 training. Perhaps that's another gap in the
7 Project Agreement Specification as it didn't
8 specify the amount of time that was required for
9 drivers on the main line.

10 CHRISTINE MAINVILLE: Are you aware,
11 from probably your earlier role in the project
12 on Stage 1, what, if any, early planning there
13 was for systems integration?

14 MICHAEL MORGAN: No, I wouldn't be
15 aware of what specific activity was organized to
16 deal with that issue.

17 CHRISTINE MAINVILLE: And in respect
18 in particular of the interface between Alstom
19 and Thales, did the City become aware of gaps
20 there or observe issues in terms of how that
21 interface was being managed?

22 MICHAEL MORGAN: The majority of those
23 would have happened -- I wouldn't have been
24 privy to those in my role as Director of Rail
25 Operations.

1 CHRISTINE MAINVILLE: Could you speak
2 then to the issues that were being observed on
3 the trains as they were being run in 2019, so as
4 you go back to Stage 1?

5 MICHAEL MORGAN: So in 2019, you know,
6 the challenge was that the vehicles were still
7 being finished and still of -- under final
8 commissioning.

9 And so, you know, as part of that,
10 they would -- I recall there being a variety of
11 issues that needed attention, but no one
12 overriding issue or one overriding, kind of,
13 event that was a problem.

14 CHRISTINE MAINVILLE: Well, how
15 extensive were the issues? Let's start with
16 early 2019 when you're coming into the project?

17 MICHAEL MORGAN: So early in the
18 project, I think the issue, you know, and I have
19 to go look at the timing of when the vehicles
20 were, kind of, made available or when they were
21 completed. I think the challenges were that the
22 fleet was incomplete.

23 It's -- you know, it would have been a
24 different situation if I'd showed up in 2019 and
25 all 34 vehicles were complete and ready to go

1 and they were then, kind of, in the
2 commissioning process and then you would have
3 been focused a hundred percent on, okay, what
4 are the challenges? What are the reliability
5 concerns? And you would, kind of, unpack what
6 was going on with the vehicles.

7 But as I recall, the vehicle fleet was
8 still incomplete at the time, hadn't been made
9 available for -- all the 34 vehicles hadn't been
10 made available, and, therefore, we were probably
11 chasing more of the completion of the vehicles
12 as opposed to the reliability or the specific
13 issues with the vehicle.

14 CHRISTINE MAINVILLE: But in terms of
15 the ones that were complete and running, because
16 there were some running in 2019?

17 MICHAEL MORGAN: Yeah, there would
18 have been. I wouldn't be -- I mean, I don't
19 have the information at the top of my head of
20 the specific issues that the vehicles may -- or
21 may have been having at that time.

22 CHRISTINE MAINVILLE: Do you recall a
23 lot of corrections being required as things were
24 being identified over the course of 2019?

25 PETER WARDLE: Corrections to the

1 vehicles?

2 CHRISTINE MAINVILLE: To the vehicles,
3 yes. Always speaking specifically to the
4 rolling stock.

5 MICHAEL MORGAN: Over the course of
6 2019, you know, there was at least one
7 iteration, door software, a second one -- the
8 second iteration was required when we went into
9 service. There would have been -- yeah, I think
10 there would have been some incomplete items in
11 relation to the door detection system. The list
12 would have -- yeah, it's difficult for me to,
13 kind of, recall the specific items on the list.

14 I'd have to go and refresh my memory
15 because the list just typically would be very
16 granular in terms of, like, this vehicle has
17 this issue, this vehicle has that issue.

18 Where I sat in the organization, I was
19 largely tracking just fleet completion. Wasn't
20 even getting to the point where I was reviewing
21 the specific failures on the trains.

22 CHRISTINE MAINVILLE: So you were not
23 getting reports about -- let's move into the
24 summer of 2019. As you were approaching trial
25 running, would you not have gotten a sense of

1 how many issues are arising with respect to the
2 vehicles or not?

3 MICHAEL MORGAN: So once the vehicle
4 fleet was essentially complete and substantial
5 completion was achieved and we moved into trial
6 running, at that point there would be -- there
7 would have been more visibility on the specific
8 issues and the specific issues that were arising
9 from day to day over the reliability of the
10 fleet and availability of the fleet for service.
11 What those specific issues are, I would have to
12 go back and review what they were at the time.

13 But I think part of the challenge and
14 the sense of the City was at the time was that,
15 if a vehicle comes out of service with a door
16 failure, it needs to be fixed that same night
17 and be ready for the next morning.

18 And some of the challenges we were
19 seeing is that vehicles would have reliability
20 issues and they would come out of service, but
21 then they wouldn't be ready for the next day,
22 which is kind of -- there's kind of two
23 approaches to running these organizations.

24 And, you know, primarily you want to
25 get a hundred percent of reliable vehicle out of

1 the gate and then you can staff accordingly, or
2 if you don't have that full reliability, then
3 you need to increase the level of support you
4 have on site so that, yes, it's -- the vehicle's
5 come out of service over the course of the day,
6 but they're available the next morning because
7 you've got a crew that's at the ready to do the
8 repairs and put them back into service.

9 CHRISTINE MAINVILLE: And was the
10 focus here, at least ultimately, maybe not the
11 original plan, but at least ultimately on the
12 latter approach to have sufficient support in
13 place?

14 MICHAEL MORGAN: You know, I mean,
15 that's the -- that was the push. And that's
16 been the push, I would say, consistently by the
17 City over the last -- over -- since potentially
18 mid-2019 and definitely into service is that you
19 need to have the right amount of people here to
20 support the fleet.

21 There was always a push to say, okay,
22 you know, have people at the ready in the field,
23 technicians to support, so if there is a vehicle
24 problem, it can be contained within two or three
25 minutes. So we're not waiting 45 minutes for a

1 technician to drive to the vehicle, resolve the
2 issue and then keep going. The system was not
3 able to absorb 45 minute delays. It's a
4 four-minute service.

5 There's always been a big push to have
6 more technicians, more support in the field and
7 in the shop. In the shop repairing things and
8 getting them back into service and in the field
9 responding to things and make sure they contain
10 the duration of events.

11 CHRISTINE MAINVILLE: And was that, in
12 particular, the case here, this need for
13 increased support, given the issues being
14 encountered through trial running and as --
15 arriving at RSA, is that fair?

16 MICHAEL MORGAN: I mean, arriving
17 at -- in the lead up to RSA, I don't -- I mean,
18 there was definitely a -- I think the City's
19 position was that they needed more support on
20 site to deal with the issues.

21 And then prior to opening, there was a
22 push, coming from the General Manager, that they
23 had the appropriate people available and
24 stationed in the field to respond to issues.

25 That's certainly been our point of

1 view. Like if that issues can arise and that's
2 okay, but you need to respond to them quickly.
3 And it's not acceptable for a door failure to
4 stop the system for 30 minutes.

5 CHRISTINE MAINVILLE: But certainly it
6 was clear, I think, at RSA that there were -- it
7 was not going to be, as you put it, a hundred
8 percent out of the gate?

9 MICHAEL MORGAN: I mean, I think -- I
10 think everybody's been pretty consistent on
11 there being some -- the potential for challenges
12 out of the gate, or potential for issues, but so
13 long as you respond to the issues and react
14 quickly, then you can deal with those things.

15 In fact, when we ran the service for
16 the first three weeks, the system ran quite
17 well. It was 98 percent was the numbers we were
18 tracking for that first three weeks of service.

19 So there's a certain kind of
20 acknowledgment that the system was performing at
21 a reasonable level from the -- at the beginning,
22 the very beginning.

23 CHRISTINE MAINVILLE: But I think it
24 was known by the City and the main entities, the
25 main parties, RTG, OLRTC, Alstom, that it was

1 not -- that the system hadn't been completely
2 debugged, if you want to put it that way, right?
3 There would most likely be some reliability or
4 performance issues into RSA, is that fair?

5 MICHAEL MORGAN: I mean, I think
6 there's a general acceptance that there can be
7 issues. You know, at the City, and then both in
8 the industry generally, on these new start-ups
9 that there can be issues. It's then about
10 what's the magnitude of the issue and how
11 quickly do you respond to issue?

12 CHRISTINE MAINVILLE: But I'm talking
13 specifically about this project as these
14 vehicles are entering into RSA. There was a
15 recognition that this wasn't yet running
16 perfectly, right?

17 MICHAEL MORGAN: Yeah, I mean, I think
18 that there's some -- there's public
19 documentation from the City pushing RTG to do
20 better and pushing them to increase the staffing
21 level to ensure that issues, if they arose, were
22 managed correctly.

23 But I don't think that there was a
24 general sense that going into service that we
25 were -- that all the inductors were going to

1 fail, or that some of these very specific bugs
2 were going to creep up.

3 Like the idea of responding to and
4 managing reliability is to deal with issues
5 quickly, not that you would have systemic
6 issues, not that you would have catastrophic
7 failures of the vehicles. If that makes sense.

8 CHRISTINE MAINVILLE: But would you --
9 let's put it this way, was it apparent that the
10 system could have benefited from a longer sort
11 of burn-in period or debugging phase to start
12 with a higher level of reliability, or at least
13 confidence that the system would be reliable and
14 ready to operate more smoothly?

15 MICHAEL MORGAN: You know, I think
16 we've acknowledged certainly in our Stage 2
17 agreements that we want -- we would prefer a
18 longer trial running period just because it
19 provides greater assurances and you can surface
20 issues more quickly.

21 On this project in this case, it had a
22 short trial running period, but we did have a --
23 kind of a measured runup to service. And then
24 we had a handover period during service and the
25 system performed adequately during that period.

1 But then six months later and it was
2 getting into January, February, March, you're
3 having catastrophic failures. I don't know that
4 if we'd extended the trial running period by
5 another three weeks that we would have surfaced
6 those issues.

7 CHRISTINE MAINVILLE: And without
8 anticipating the kinds of issues that arose, you
9 said that the system was performing adequately.
10 In your experience in other projects, is it not
11 the case that often the system would start and,
12 like a brand new car, would be running
13 perfectly?

14 MICHAEL MORGAN: You know, in my
15 experience on other projects, there has been
16 some where the vehicles have worked very
17 reliably out of the box, yes. Simpler systems,
18 perhaps. Maybe not as, you know, not as complex
19 in terms of the interfaces and integration.

20 For example, the City put into service
21 six Alstom vehicles in 2015, and those vehicles,
22 largely, worked. They came, they were
23 manufactured overseas, and they came to Ottawa
24 and they just worked.

25 I had the similar experience on the

1 Gold Coast is that the vehicles showed up, they
2 generally worked, we made some tweaking to the
3 braking system to improve ride quality, but
4 otherwise, out of the box, were highly reliable.

5 CHRISTINE MAINVILLE: What do you mean
6 in 2015? For which line?

7 MICHAEL MORGAN: So on the Trillium
8 Line, so we had three original Bombardier
9 Talents that were very loved, but worn out, and
10 we replaced those with six Alstom vehicles and
11 I'll say did a minor system expansion on the
12 Trillium Line, and those six Alstom vehicles,
13 they worked very well. People were very happy
14 with them.

15 CHRISTINE MAINVILLE: And what was the
16 particular complexity here, from your
17 perspective? Is it mostly the Thales-Alstom
18 interface?

19 MICHAEL MORGAN: The Thales-Alstom
20 interface created some complexities. The set up
21 of a local manufacturing facility added a lot of
22 complexities. Trying to run that local
23 manufacturing facility out of a maintenance
24 facility created complexity. The logistics of
25 having maintenance services in manufacturing out

1 of the same facility basically overburdened that
2 facility and created some logistical headaches.

3 Now, Alstom did correct that issue in
4 the end and moved to a new facility, but there
5 is a number of challenges related to just
6 building the system, how it's put together, how
7 they allocated space to do certain functions as
8 part of the startup.

9 Co-locating manufacturing in the
10 maintenance building, in hindsight, was an
11 error.

12 CHRISTINE MAINVILLE: And given the
13 complexity of the system and the fact that there
14 were some reliability issues observed during
15 trial running, was there not any option to
16 extend that longer, despite not having been
17 provided for in the Project Agreement? Was
18 there not the possibility of providing more time
19 to run the trains prior to RSA?

20 MICHAEL MORGAN: So RTG could have
21 used more time to run the trains, to use
22 additional time to put mileage on those vehicles
23 prior to handing the system over to the City,
24 prior to indicating to the City that it was
25 ready for use, they could have done that, yes.

1 CHRISTINE MAINVILLE: And could the
2 City not have required that, or said they're not
3 sufficiently ready, or they need to be run
4 longer?

5 MICHAEL MORGAN: Well, there was no --
6 there was no requirement in the contract to do
7 that. The City could have done that and it
8 would have required us to pay RTG to extend that
9 period of time.

10 But, in any event, we did take the
11 opportunity to run the trains without passengers
12 for a period of time, and then with parallel bus
13 service for a period of time. When, in fact, we
14 could have, per the contract, just turned the
15 system on the next day. There was no reason for
16 us to take an extra two weeks -- two and a half
17 weeks for our use and then three weeks for
18 parallel service.

19 The way the contract was set up, the
20 day after they indicated to us that it was
21 ready, we could have put it into service.

22 CHRISTINE MAINVILLE: What was the
23 original plan for the startup service? Like
24 earlier on in the project, was it planned that
25 it would be immediately after RSA or there would

1 be a bit of lag time?

2 MICHAEL MORGAN: No. I think the
3 General Manager for transit services at the
4 time, you know, a couple of years probably
5 before launch, started to have those
6 discussions. Started to say, what makes sense?
7 What does the startup look like? And was very
8 deliberate in considering the options for what a
9 startup would look like and was very deliberate
10 in soliciting feedback and advice from other
11 industry leaders who had done this type of thing
12 to assess what makes sense in this situation?

13 CHRISTINE MAINVILLE: And are you
14 aware of what that conclusion was?

15 MICHAEL MORGAN: Well, I mean
16 ultimately they landed on roughly two to three
17 weeks of operations and customer service
18 training, no passengers. So RSA was achieved
19 and they used the system, did exercises, and
20 gave customer service staff the opportunity to
21 go into the stations and have a look.

22 They hired a series of, we call them
23 red vests, customer service agents who sat on
24 the platform.

25 So all of that logistics was for

1 roughly, two, three weeks. And then they ran
2 the bus service in parallel for three weeks,
3 prior to turning off the bus system and relying
4 primarily on the train system. So that's
5 ultimately where they landed.

6 CHRISTINE MAINVILLE: And do you know
7 who was providing advice to the City on that?
8 You said there was consultation?

9 MICHAEL MORGAN: Yes. So it would
10 have been -- so the General Manager would have
11 had a discussion with the leadership team as
12 well as some key advisors at the time were Joe
13 North, who I believe was working with either STV
14 or Rail Pros at the time who had experience with
15 some P3s in the U.S. market. Tom Prendergast
16 who headed the MTA for a number of years, with
17 34 years of experience.

18 And I suspect there was two or three
19 others that were, you know -- gave advice on
20 kind of what to do. Do you open right away? Do
21 you wait some time? How much time do you take
22 yourself? How much time do you run the buses?
23 All of those factors were advised on by a
24 variety of people.

25 CHRISTINE MAINVILLE: And STV you

1 mentioned, would that have included Tom
2 Prendergast.

3 MICHAEL MORGAN: Yes.

4 CHRISTINE MAINVILLE: And did that
5 advice change later on as RSA -- as the City
6 approached RSA?

7 MICHAEL MORGAN: The advice about the
8 startup?

9 CHRISTINE MAINVILLE: About starting
10 the service, yes.

11 MICHAEL MORGAN: I don't recall that
12 it did, no.

13 CHRISTINE MAINVILLE: You don't recall
14 the City getting any advice about having a
15 slower start than it did.

16 MICHAEL MORGAN: No.

17 CHRISTINE MAINVILLE: You mentioned
18 not recalling specifically the issues with the
19 trains through 2019, but in May 2019, that's
20 when the City refused RTG's initial application
21 for substantial completion, correct?

22 MICHAEL MORGAN: Correct, yeah.

23 CHRISTINE MAINVILLE: And I think you
24 were involved in that?

25 MICHAEL MORGAN: Yeah, yeah.

1 CHRISTINE MAINVILLE: So what were --
2 what were the main indicators for the City that
3 the -- that substantial completion had not been
4 achieved, in particular as it related to the
5 rolling stock, if you recall?

6 MICHAEL MORGAN: We took a very
7 holistic view to that process, and I'd need to
8 go back and review the final letter that we sent
9 to RTG in respect of substantial completion and
10 why it wasn't achieved, to recall the specific
11 details around the vehicles.

12 CHRISTINE MAINVILLE: And do you
13 recall that around the time -- well, would the
14 City have been involved in determining whether
15 the trains were ready to go to trial running?

16 MICHAEL MORGAN: So we would have
17 taken a position -- we had an opportunity in the
18 contract to take a position on substantial
19 completion and whether that was achieved. The
20 independent certifier ultimately determines
21 whether that milestone has been met, and so we
22 would have taken a view on certainly the
23 vehicles would have been part of that.

24 So our holistic view looked at
25 everything from stations, elevators, track

1 infrastructure, testing, all of those things,
2 including vehicles, so we would have taken a
3 view at the time on the vehicles, but there
4 would have been, I would say, some limitations
5 on how -- what we could have commented on about
6 the mileage of the vehicle, the reliability of
7 the vehicles, or the general performance of the
8 vehicles, at the time of substantial completion,
9 because it was really trial running that was
10 meant to capture the operational performance and
11 the requirements for RSA. Provide more detail
12 around the final steps, the final lead up to
13 service.

14 CHRISTINE MAINVILLE: Is it the case
15 that once the City and the independent certifier
16 sign off on substantial completion that RTG can
17 go into trial running or is there --

18 MICHAEL MORGAN: Yes.

19 CHRISTINE MAINVILLE: You said earlier
20 you didn't recall receiving reliability reviews
21 from Alstom. Do you recall some information
22 being shared by Alstom about the challenges that
23 they were experiencing on a weekly basis?

24 MICHAEL MORGAN: I recall that there
25 may have been one at least one report provided.

1 There may have been some reporting as part of
2 the RAMP updates on specific vehicle issues, but
3 I can't -- you know, absent reviewing those
4 specific reports, I can't -- I wouldn't be able
5 to speak to those.

6 CHRISTINE MAINVILLE: What were the
7 original plans for trial running and how were
8 those devised?

9 MICHAEL MORGAN: So obviously, you
10 know, trial running has a very basic definition
11 in the Project Agreement, so that would be the
12 early, early definition of what was required.
13 Obviously the 12 days, and then running a
14 variety of operational scenarios.

15 Subsequent to that, there was some
16 discussions had in, I believe it was 2017,
17 leading to kind of agreeing to some criteria.
18 So there's an RFI that details some discussions
19 going back and forth. So the City -- one of the
20 City's consultants, Joe North, did have a number
21 of discussions with OLRTC about what that would
22 look like. And so that was in 2017. The City
23 essentially agreed to that.

24 And then fast-forward to close to the
25 trial running period, there was additional work

1 done to, I would say, create a -- not new
2 requirements, but create additional definition
3 around requirements. There was some engagement
4 with the customer service group and planning
5 group to understand what were the key areas to
6 measure during trial running.

7 And so then there was actually a very
8 comprehensive plan put together that detailed
9 various scenarios for stations and station
10 issues, vehicles, vehicle performance, not just
11 over the course of the day, but during peak
12 periods.

13 And then just some process around
14 starting days, resetting days, resetting the
15 count, that type of thing.

16 CHRISTINE MAINVILLE: So why was there
17 renewed discussions about the plan in 2019 as
18 opposed to just going with the 2017 plan?

19 MICHAEL MORGAN: Well, the 2017 plan
20 was essentially kind of a rough outline of what
21 some agreeable pass/fail criteria would be, but
22 it didn't actually flesh out the process. It
23 didn't actually say, okay, and the teams will
24 get together on a daily basis and this is what
25 the score card looks like and this is what the

1 discussion is going to be. It didn't have any
2 of that detail. I think it was a pretty short
3 document that was ultimately expanded into a
4 larger process document, test procedure that
5 captured the ins and outs of how it was going to
6 be managed and how it was going to be measured.

7 CHRISTINE MAINVILLE: Okay. And so
8 and I'll bring you to these documents, but the
9 2019 criteria, this was a -- these were agreed
10 on between the City and RTG or OLRTC?

11 MICHAEL MORGAN: Did I say 2019 or
12 2017? I guess --

13 CHRISTINE MAINVILLE: I'm referencing
14 the more --

15 MICHAEL MORGAN: The comprehensive
16 documents would have been put together -- the
17 documents are primarily the responsibility of
18 RTG and their subcontractor, OLRTC, and to the
19 extent that they bring RTM into the mix and
20 others, that's their decision. It's their
21 document, so we provide feedback on those
22 documents, which they -- sometimes they take
23 into account, sometimes they don't.

24 CHRISTINE MAINVILLE: And this later
25 document is the one called trial running test

1 procedure, correct?

2 MICHAEL MORGAN: I believe that's the
3 case, yes.

4 CHRISTINE MAINVILLE: And why don't we
5 bring that up? This is OTT377178. And I see
6 you didn't have any -- your name is not on the
7 first page at least. Did you have any
8 involvement in actually devising some of this or
9 approving it?

10 MICHAEL MORGAN: Yes. So this is an
11 RTG document, so we would never sign -- it would
12 be uncommon for us to sign this type of
13 document. My team would have provided feedback
14 on this. I don't recall if I provided specific
15 feedback, I'd have to go look at the specific
16 comment sheets to see what feedback was
17 provided.

18 CHRISTINE MAINVILLE: But I think you
19 mentioned that the City effectively agreed to
20 follow this?

21 MICHAEL MORGAN: Yeah, I think so. It
22 was fair to say that there was a collaborative
23 team that was putting together a program and
24 some procedures and agreeing on how that was
25 going to look and how they were going to get

1 together.

2 I mean, we always took the position
3 that these documents are the responsibility of
4 RTG. It's -- to the extent that we collaborate
5 on them, I think, is one thing, but it's RTG
6 representing that this document meets the
7 Project Agreement requirements.

8 CHRISTINE MAINVILLE: And did you have
9 a sense of -- or do you have a perspective on
10 the stringency of the criteria in this plan in
11 terms of, in particular, what it was meant to
12 achieve in terms of performance?

13 MICHAEL MORGAN: It's quite a complex
14 plan. The score card included in the plan and
15 the specific metrics that they're measuring are
16 very detailed and very comprehensive. Much more
17 so than I think is what is contemplated in the
18 Project Agreement.

19 CHRISTINE MAINVILLE: And would you
20 say the criteria were, you know, effectively
21 quite high or stringent in a way that ensured a
22 perhaps near perfect performance following
23 acceptance?

24 Or how would you assess the level of
25 stringency of the criteria in terms of the

1 intended outcome?

2 MICHAEL MORGAN: It's a challenge
3 because it's not -- the criteria is much more
4 stringent than the Project Agreement called for,
5 or just kind of the overall score card, the way
6 they're measuring the system is much more
7 stringent.

8 And I think the objectives in terms of
9 proving that the elevator is working, proving
10 that the stations are fit for use, proving that
11 the systems runs throughout the day and provides
12 a level of service during the morning and
13 afternoon peak, I think the team did a good job
14 of putting together what they thought would be a
15 good way of measuring the system.

16 Absent, you know, a longer period, or
17 absent specific tests or specific pass/fail
18 criteria, I think it's a reasonable document.

19 CHRISTINE MAINVILLE: And maybe we can
20 go to page 3? There's a reference at the bottom
21 there in terms of the trial running being a 12
22 consecutive day period.

23 MICHAEL MORGAN: Right.

24 CHRISTINE MAINVILLE: How is that to
25 be interpreted, because there are references

1 later on in the plan to repeat days?

2 MICHAEL MORGAN: Right. Yeah, it's
3 not -- it's very basic contract language. It's
4 a very basic requirement. There's not a lot of
5 detail in it.

6 So on one extreme, you could say, as
7 long as they did something for 12 consecutive
8 days, they've met the intent.

9 CHRISTINE MAINVILLE: I see. Because
10 this is reflecting, as it says here, the
11 provision of the contract.

12 MICHAEL MORGAN: Right.

13 CHRISTINE MAINVILLE: So that's what
14 the contract provides for.

15 MICHAEL MORGAN: Yeah, I mean the
16 contract has a little more detail than that, but
17 not a lot more detail.

18 This is where, again, there's no
19 pass/fail criteria. The 12 days is arbitrary,
20 which is fine. Twenty-one days is also
21 arbitrary. But there's no, like -- there's no
22 further definition that says, you know, that --
23 you know, specifically what you're meant to
24 achieve and what -- how you're meant to
25 demonstrate compliance.

1 And so to the extent that the language
2 is simple, OLRTC is in a strong position to
3 demonstrate compliance.

4 CHRISTINE MAINVILLE: And so how did
5 the City and RTG interpret this 12 consecutive
6 day period, as it relates to this document?

7 MICHAEL MORGAN: I mean, so in this
8 document, so they expanded on the definition and
9 they provided a series of scoring elements that
10 they're measuring 12 days against and
11 established a procedure for how they were going
12 to pause and restart. Pause a day, restart a
13 day. If the day wasn't successful, repeat. I
14 think there's a few different criteria in here
15 for how they were going to manage that.

16 So the team worked together to flesh
17 this out. Now, not all the criteria in here are
18 aligned with the original agreement, but this
19 was the team working together to come up with an
20 agreement.

21 CHRISTINE MAINVILLE: So maybe I'll
22 take you to page 13. Actually page 14. There
23 is some reference here to the past criteria and
24 then repeat day criteria and restart trial
25 criteria.

1 MICHAEL MORGAN: Yeah, I think you're
2 on the right page.

3 CHRISTINE MAINVILLE: So what was
4 the -- how was the City interpreting that in
5 terms of how a repeat day impacts the 12
6 consecutive days?

7 PETER WARDLE: Can you go back to the
8 previous page?

9 CHRISTINE MAINVILLE: Yes. There is a
10 definition on page 13, but it seems specific to
11 maintenance.

12 MICHAEL MORGAN: No, no, that's -- so,
13 again, this is them walking, you know, kind of
14 creating a whole series of maintenance
15 performance in terms of RTM providing vehicles
16 that are reliable and certain metrics are
17 achieved.

18 This section is really just about
19 maintaining or measuring RTM's performance --
20 RTG's performance in terms of delivering the
21 service. So they start with the maintenance
22 activities wanting to see that the work orders
23 are being handled correctly. And they're
24 talking about the database for handling. And
25 then they're talking about certain pass

1 criteria.

2 You're right this one is the
3 restart -- so this is basically when the
4 maintenance falls down, as I read it. So
5 specific criteria where people are doing
6 maintenance activity incorrectly.

7 So I think you probably need to skip
8 forward two pages, so then you have station
9 performance.

10 So there's pass, restart, repeat for
11 station performance. We might have skipped over
12 it actually. But there should be a definition
13 in here for what do you do if the train
14 performance does not meet the standard and how
15 do you treat the pass, repeat and restart?

16 CHRISTINE MAINVILLE: That's what I'm
17 looking for. There's page 5, which explains
18 that a repeat or restart day will commence as
19 per the next normal calendar day.

20 MICHAEL MORGAN: Yes. Can you just
21 scroll through one at a time there.

22 PETER WARDLE: If you look at page 10
23 of the document, you'll see a reference to --

24 MICHAEL MORGAN: It's split across two
25 pages.

1 CHRISTINE MAINVILLE: Right. For a
2 repeat, performance in one or more criteria does
3 not meet the passing requirements.

4 MICHAEL MORGAN: Right.

5 CHRISTINE MAINVILLE: And then fail or
6 a restart means restarting trial running at day
7 1. So I guess --

8 PETER WARDLE: And I think at the
9 bottom of that section, there's a note about a
10 pause.

11 CHRISTINE MAINVILLE: Right. But in
12 some exceptional situations, the review team may
13 agree to a pause. In these cases the trial
14 running will start from day 1. Sorry that's in
15 the later case. Well, it's unclear as to in
16 what circumstances a pause might lead to a
17 restart?

18 MICHAEL MORGAN: Right.

19 CHRISTINE MAINVILLE: Is that how you
20 read it or what's your interpretation?

21 MICHAEL MORGAN: Yeah. I think, and,
22 you know, this is just the team putting together
23 best efforts to define what the process would be
24 and put conditions around pausing, repeating and
25 restarting.

1 CHRISTINE MAINVILLE: So I guess my
2 question is, the City coming into this into
3 trial running with this plan, what is the
4 approach or the understanding that the City has
5 about repeat days and how many total days, total
6 pass days there needs to be?

7 MICHAEL MORGAN: Because I wasn't on
8 the committee that was administering this
9 specific test criteria, I don't know that I can
10 speak to the intent there.

11 CHRISTINE MAINVILLE: So you were not
12 on the trial running review team, correct?

13 MICHAEL MORGAN: Correct.

14 CHRISTINE MAINVILLE: So you're -- you
15 don't know when exactly or how that was being
16 evaluated, is that --

17 MICHAEL MORGAN: I just wasn't at the
18 table for the specific decisions about pausing
19 and restarting to know, kind of, how they
20 interpreted the text to say, okay, are we
21 pausing and continuing? Are we pausing and
22 restarting? Are we starting from scratch? So I
23 wasn't privy to those conversations at that
24 level.

25 CHRISTINE MAINVILLE: Ultimately, the

1 trial running phase lasted longer than 12 days,
2 correct?

3 MICHAEL MORGAN: Yes.

4 CHRISTINE MAINVILLE: Do you recall
5 how long?

6 MICHAEL MORGAN: I don't recall how
7 long, no.

8 CHRISTINE MAINVILLE: And did you at
9 least have an understanding that the team was
10 not requiring 12 consecutive pass days? That
11 there could be repeated for -- in the middle of
12 the 12 days?

13 MICHAEL MORGAN: Vaguely. You know,
14 it's -- you know, in reviewing some of the
15 documentation, in kind of reviewing kind of what
16 happened, it's clear it wasn't a clean, perfect
17 12 days in a row.

18 CHRISTINE MAINVILLE: Ultimately?

19 MICHAEL MORGAN: Right.

20 CHRISTINE MAINVILLE: And am I right
21 that at some point, the trial running review
22 team changed from this procedure to a different
23 set of criteria?

24 MICHAEL MORGAN: So this document was
25 not aligned with the original agreement in 2017,

1 and so at some point the team did revert to the
2 original agreement. And I believe there was a
3 letter on file of when that change was made from
4 Peter Lauch to myself, essentially detailing
5 that change, but ultimately we'd agreed to the
6 criteria in 2017, and there were no criteria in
7 the Project Agreement, so we were just reverting
8 to that original agreement.

9 CHRISTINE MAINVILLE: What was your
10 understanding for reverting to this other
11 document?

12 MICHAEL MORGAN: I'd have to review
13 the letter that Peter Lauch sent to me. There
14 was some discussions at the time, but it was
15 really about observing the intent that was
16 agreed to in 2017 in terms of recognizing that
17 this is, in part, a training exercise with
18 operational scenarios and a learning exercise
19 for everyone to understand how the system works.
20 And, therefore, it's not necessarily meant to be
21 just a perfect 12 days in a row, a hundred
22 percent every day.

23 The PA is quite generic on that and we
24 should recognize that. And so I think that's
25 what led to the 2017 agreement. And I think

1 this document is largely consistent with that,
2 save and except for those specific pass/fail
3 that were agreed to in 2017.

4 CHRISTINE MAINVILLE: But I take it
5 this was occasioned because there were some
6 operational issues being encountered during the
7 trial running?

8 MICHAEL MORGAN: I can't -- I don't
9 recall if it was that specifically. I'd have to
10 go back and review the letter from RTG.

11 CHRISTINE MAINVILLE: The City and RTG
12 had agreed to -- closer to trial running, had
13 agreed to this 2019 procedure. So what reason
14 would there be to change that and rely on the
15 2017 requirements, partway through trial
16 running, other than there were some obstacles in
17 achieving the criteria in this procedure?

18 MICHAEL MORGAN: I can't recall
19 specifically what the decision point was that
20 triggered that, reverting to the 2017, whether
21 it was performance driven or whether it was just
22 reverting to the agreement that was made. I
23 would need to go back and try to see if there's
24 something in my notes or what happened at that
25 time.

1 CHRISTINE MAINVILLE: Would you have
2 inquired about that, about what would have
3 prompted this change?

4 MICHAEL MORGAN: Well, I was certainly
5 there at the time and we received this letter
6 from RTG on the matter, but there was a whole
7 series of conversations happening at a number of
8 the levels of the organization, so I don't
9 know --

10 CHRISTINE MAINVILLE: Tell me about
11 those. First of all, how closely were you
12 informed of what was happening at trial running
13 and tracking what was going on?

14 MICHAEL MORGAN: We were checking in
15 on a daily basis, you know, understanding what
16 was happening, whether they were successful or
17 whether they were not. Was I in the room and
18 was I looking at the level of detail that's kind
19 of in the score cards? No.

20 But generally I was involved in
21 understanding what was happening and what was
22 being agreed to, whether it be a restart day or
23 a pass day, but I wasn't in the room having
24 those conversations with the trial running team.

25 CHRISTINE MAINVILLE: And so what

1 discussions do you recall happening around trial
2 running as its unfolding? You said there were
3 discussions on many levels.

4 MICHAEL MORGAN: Yeah. Partly because
5 of -- we had the RAMP team, which was kind of an
6 integrated team of managers and looking at -- we
7 may have been actually meeting daily at that
8 point, looking at what was happening and
9 understanding, you know, what was working and
10 what wasn't working, pushing for more support
11 when needed, trying to understand what the root
12 of the performance was, what the measure of the
13 performance was. But on the specific change and
14 the trigger for that change, I don't recall
15 specifically what led to that.

16 CHRISTINE MAINVILLE: Was there
17 concern about the performance and some of the
18 results as trial running is unfolding?

19 MICHAEL MORGAN: Yes, in the early --
20 certainly in the start, there was concern. And,
21 you know, they did restart. I think if you look
22 at -- retrospectively if you look at the
23 results, that the first week or so didn't go
24 very well, and there was concerns about
25 generally the ability of RTG to make the fleet

1 ready for the following day's service.

2 Over the course of the day, you would
3 potentially lose some vehicles due to a variety
4 of issues, but then those vehicles wouldn't
5 necessarily be available for the morning launch.
6 So that was compromising the ability to be
7 successful in the early period of trial running.

8 CHRISTINE MAINVILLE: And there were
9 several failures in respect of the vehicle
10 availability, at least in that first portion?

11 MICHAEL MORGAN: Yeah. I would have
12 to, I mean, look at the report specifically to
13 kind of detail what those were, but the start of
14 trial running didn't go well.

15 CHRISTINE MAINVILLE: And then when
16 about in that trial running timeline did the
17 change to the 2017 requirements take place?

18 MICHAEL MORGAN: Again, I don't know
19 that letter from RTG that detailed that specific
20 change, I'd need to go look at the timing of
21 that in relation to the progress of trial
22 running.

23 PETER WARDLE: Yeah, that letter is
24 dated August 16th.

25 CHRISTINE MAINVILLE: Thank you.

1 So the changes happening, and I can
2 give you the exact dates, Mr. Morgan, to assist.

3 So trial running began August 3rd, if
4 I'm not mistaken, and ultimately ends
5 August 22nd.

6 PETER WARDLE: I think it begins on
7 July 29th, Christine.

8 CHRISTINE MAINVILLE: Oh yes, sorry.
9 Thank you.

10 PETER WARDLE: And I think we've given
11 you a document that has all the trial running
12 days on one piece of paper.

13 CHRISTINE MAINVILLE: That's what I'm
14 look being at, but I missed this.

15 And so if this change occurred around
16 Friday, August 16th, on or around there, is it
17 fair to say that change is happening -- or
18 occurred as there are these early performance
19 issues that have surfaced?

20 PETER WARDLE: I wonder if maybe you
21 could put up the page that has all the days so
22 the witness can see that before he answers the
23 question?

24 CHRISTINE MAINVILLE: Sure. And let's
25 file that as the next document.

1 EXHIBIT NO. 3: Document number
2 OTT377178.

3 CHRISTINE MAINVILLE: And then we'll
4 bring up COW0270758. Do you recall seeing this,
5 Mr. Morgan? It was the IC's report on trial
6 running, which includes the daily score cards.

7 MICHAEL MORGAN: Yes.

8 CHRISTINE MAINVILLE: And indeed it's
9 to your attention and that of Mr. Lauch?

10 MICHAEL MORGAN: Yes.

11 CHRISTINE MAINVILLE: And if we go to
12 the very last page, is this what we're both
13 referencing, Peter?

14 PETER WARDLE: Yes, I think that's the
15 most helpful. If you can make a little bigger
16 for him, that would be --

17 CHRISTINE MAINVILLE: So that has many
18 the scores for the AVKR and do you recall what
19 that stands for? It's not a quiz, so I can help
20 you.

21 MICHAEL MORGAN: Vehicle kilometre
22 ratio. I forget what the A is. Available?

23 CHRISTINE MAINVILLE: Well, what did
24 it measure? Let's just say that.

25 MICHAEL MORGAN: I mean, it measured

1 the percentage of kilometres achieved over the
2 kilometres planned. So scheduled -- so you see
3 there's a column for scheduled kilometres,
4 there's the actual kilometres, and then there's
5 the percentage. So you see the percentage there
6 in terms of how many kilometres they achieved.

7 And so that's one of the measures of
8 whether -- of reliability. There are additional
9 measures on the score card related to peak
10 service, additional measures related maintenance
11 service, additional measures related to station
12 performance.

13 CHRISTINE MAINVILLE: So the July
14 dates are not here, but there were, indeed,
15 restarts, at least the first two days.

16 PETER WARDLE: Just to assist, I think
17 the IC just deals with the days that are counted
18 towards the total. But I think our information
19 is that trial running started on the 29th and
20 there were some failure days at the beginning.

21 CHRISTINE MAINVILLE: Right. And
22 so -- and then we see another restart after
23 August 8th. Do you see that?

24 MICHAEL MORGAN: Yes.

25 CHRISTINE MAINVILLE: So my question

1 is, why if now there are -- well, let me
2 rephrase.

3 You'll see on the 14th and 15th, those
4 are repeat days, correct?

5 MICHAEL MORGAN: Yes.

6 CHRISTINE MAINVILLE: So there were
7 some performance issues, and we can look at the
8 score cards to know exactly what those issues
9 were, fair?

10 MICHAEL MORGAN: I mean, you can look
11 at the score cards that hopefully have detail on
12 why that was a repeat day, yes.

13 CHRISTINE MAINVILLE: And so my
14 question is, if the vehicles are not passing at
15 that point in time, why would the City agree to
16 change the criteria and revert back to the 2017
17 criteria at that point in time?

18 MICHAEL MORGAN: I don't recall the
19 specific reason. Again, I'd have to see that
20 letter. I think if you go to one of the score
21 cards, you can kind of see the context of this
22 information in the overall -- for the overall
23 days. So if you scroll up to one of the --

24 CHRISTINE MAINVILLE: Maybe I should
25 ask you this first. What was your understanding

1 of the primary difference between the 2019
2 procedure and the 2017 requirement?

3 MICHAEL MORGAN: So the primary
4 difference, I believe it's this document
5 indicates 98 percent for the requirement for the
6 daily performance. And the 2017 requirements
7 was 96 percent, 9 days out of 12.

8 CHRISTINE MAINVILLE: And what about
9 the other three days? Was there any requirement
10 for those?

11 MICHAEL MORGAN: No, I don't believe
12 so. I think that was part of the acknowledgment
13 that you would run other operational procedures,
14 emergency scenarios and other things, kind of
15 more consistent with what's in the Project
16 Agreement.

17 CHRISTINE MAINVILLE: Well, let's go,
18 for instance, to the score card at page -- these
19 are not paginated, I don't think, but
20 August 15th date.

21 So I just want to be clear, because if
22 you look at vehicle availability, AVKR, it says
23 that the minimum daily average is 90 percent and
24 the average over 12 days is 98 percent. So am I
25 right that what changed between the two sets of

1 criteria is the 12-day average as opposed to the
2 daily requirement?

3 MICHAEL MORGAN: I believe that is the
4 case. Like, so looking at the score card's a
5 good example of where they're trying to measure
6 the morning westbound peak, the morning
7 eastbound peak, the afternoon peak westbound,
8 afternoon peak eastbound. So they're trying to
9 protect the peaks, they're trying to also
10 measure the travel time, they're trying to
11 measure the maintenance practices, and they're
12 look for an average -- essentially a running
13 12-day average for the AVKR, but then they're
14 also protecting for a minimum for the day.

15 So it's trying to calibrate the tool
16 to consider various factors so to avoid a
17 scenario where it's just a general average and
18 not look at anything else. So -- and lose --
19 something's lost when you just consider the
20 average. So in this case, the morning peak was
21 not achieved.

22 CHRISTINE MAINVILLE: Right. So let's
23 start with the top portion, the operational
24 category. This required, under the original
25 criteria, three out of four passes to pass that

1 category, is that right?

2 MICHAEL MORGAN: I believe that's the
3 case, yes.

4 CHRISTINE MAINVILLE: So here, for
5 instance, we see two fails, so it's a fail in
6 terms of what's stated there as "weekday
7 headway"?

8 MICHAEL MORGAN: Yes.

9 CHRISTINE MAINVILLE: And do you know
10 whether a fail for that necessarily meant a fail
11 overall for the day?

12 MICHAEL MORGAN: In this case, they
13 assigned this a repeat day. So requiring an
14 additional day of trial running in order to
15 achieve the 12 days.

16 CHRISTINE MAINVILLE: And that seems
17 to be based on this operational requirement,
18 correct?

19 MICHAEL MORGAN: Yes, it seems so,
20 yes.

21 CHRISTINE MAINVILLE: And do you know
22 if there was any changes, when there was a
23 change to the 2017 criteria, whether there was
24 any change to this aspect of the score card?
25 The operational one?

1 MICHAEL MORGAN: So the 2017 criteria
2 only -- as I recall it, only dealt with single
3 line item of AVK -- so just down below, below in
4 the "vehicle availability" section. AVKR,
5 average over 12 days, 98 percent. It's just
6 that one line item that the 2017 criteria dealt
7 with. So the 2019 criteria dealt with this more
8 expansive set of pass/fail criteria.

9 CHRISTINE MAINVILLE: I see, okay.

10 As of August 16th, or whenever the
11 parties are relying on the 2017 criteria, am I
12 right to say that ultimately it doesn't matter
13 in terms of whether trial running is complete,
14 what the score is on that operational category?

15 MICHAEL MORGAN: No, I don't --

16 CHRISTINE MAINVILLE: Do you
17 understand that?

18 MICHAEL MORGAN: No, I don't know that
19 that's the case.

20 So the 2017 criteria, as I understand
21 it, were used to inform that single line item on
22 this sheet. And I don't know that they changed
23 any of the other criteria.

24 CHRISTINE MAINVILLE: Got it. So the
25 trial running procedure from 2019, to your

1 understanding, was still being used in respect
2 of all the other criteria on this score card,
3 just not the AVKR average?

4 MICHAEL MORGAN: Correct.

5 CHRISTINE MAINVILLE: And can you tell
6 me, in terms of maintenance delivery, was that a
7 category that was necessary to achieve a pass in
8 order to get a pass for the day?

9 MICHAEL MORGAN: I believe that in the
10 prior section that we flipped through earlier,
11 there was specific pass/repeat/restart criteria
12 for maintenance delivery related to maintenance
13 practices.

14 And so they could -- there was a
15 scenario where they could have passed
16 everything, but then failed the day based on
17 maintenance practices.

18 CHRISTINE MAINVILLE: What about the
19 reverse, in terms of failing maintenance
20 practices, but passing the day?

21 MICHAEL MORGAN: No. I think what
22 we've just reviewed previously suggested that
23 you could fail for the maintenance delivery and
24 that could cause a fail for the day.

25 CHRISTINE MAINVILLE: So if we go to,

1 for instance, August 13th, so I'm just trying to
2 understand because there were quite a few of
3 these where there was a fail on maintenance
4 practices, under maintenance delivery, but the
5 day is an overall pass.

6 MICHAEL MORGAN: Yeah.

7 CHRISTINE MAINVILLE: So I'm just
8 trying to understand that.

9 MICHAEL MORGAN: You'd have to link it
10 back to the criteria in the procedure and you'd
11 have to know what the team discussed at that
12 time that.

13 Based on what we've reviewed today,
14 there seemed to be some indication that you
15 could potentially fail the day based on
16 maintenance services, but I would have go back
17 and look at what the cause of that failure for
18 maintenance practices was.

19 CHRISTINE MAINVILLE: And generally
20 speaking --

21 PETER WARDLE: Sorry, just one note.
22 So I'm looking, for example at the 13th, if you
23 look at the note on the bottom, so the score
24 card has notes from the team and you'll see item
25 3 here:

1 "Maintenance practices are being
2 undertaken however inspection reports
3 are not being submitted in the
4 required format."

5 So that may in fact be why there was a
6 failure.

7 CHRISTINE MAINVILLE: So do you recall
8 it being your understanding that this issue, for
9 instance, of inspection reports not being in the
10 right format, not being a passing requirement in
11 terms of the overall day?

12 MICHAEL MORGAN: I was not into this
13 level of detail with the group.

14 CHRISTINE MAINVILLE: And were you
15 aware that there seemed to be many or several
16 fails on maintenance practices and did you have
17 an understanding of what was happening on the
18 maintenance front during trial running?

19 MICHAEL MORGAN: Not at this level of
20 granularity, only to the extent that in the
21 early portions, there was concerns about them
22 making vehicles available.

23 CHRISTINE MAINVILLE: And that partly
24 being -- at least partly being related to
25 maintenance? Is that what your understanding

1 was?

2 MICHAEL MORGAN: Yeah, that's wholly
3 related to maintenance practice -- the staffing
4 of the maintenance facility to be able to get
5 the fleet ready for service in the morning.

6 CHRISTINE MAINVILLE: And if we --
7 just to go to page to -- well, the date of
8 August 11th. Do you know what it meant here
9 when there's nothing entered into these boxes
10 under "operational" in terms of pass/fail.

11 MICHAEL MORGAN: I don't. I don't
12 know if there's a note at the bottom.

13 CHRISTINE MAINVILLE: And just to be
14 clear, would you receive these score cards
15 throughout trial running or only when the IC
16 sent them at this point?

17 MICHAEL MORGAN: No. I might have
18 received these. I'd have to check my records to
19 see if I was being sent these.

20 PETER WARDLE: I just note that this
21 one is a Sunday, so some of the criteria -- some
22 of the criteria at the top of the page wouldn't
23 be applicable because it's not a weekday.

24 CHRISTINE MAINVILLE: I see. Okay.
25 And who was reporting to you from trial running?

1 Would that have been Mr. Charter or Mr. Holder?

2 MICHAEL MORGAN: So I think that these
3 were being brought -- or the summary of these
4 were being discussed probably at RAMP, and it
5 would have been probably a combination of
6 Mr. Holder and Mr. Charter.

7 CHRISTINE MAINVILLE: Who were both
8 part of RAMP?

9 MICHAEL MORGAN: Yes.

10 CHRISTINE MAINVILLE: Was Mr. Manconi,
11 as well, involved there?

12 MICHAEL MORGAN: Mr. Manconi would
13 have been the lead.

14 CHRISTINE MAINVILLE: Okay. And you
15 mentioned you would have notes from this
16 trial -- or this time period. Is that
17 something -- I just want to make sure will be
18 produced -- if we can undertake to do that.

19 PETER WARDLE: We can undertake to
20 look for any notes Mr. Morgan has of the trial
21 running process.

22 CHRISTINE MAINVILLE: Thank you.

23 So let's just go back to the last page
24 for a minute. We see that the 12-day average
25 ultimately was 96.90 percent, correct?

1 MICHAEL MORGAN: Yes.

2 CHRISTINE MAINVILLE: So am I right
3 that that was a pass under the 2017 criteria,
4 but it wouldn't have been a pass under the 2019
5 procedure?

6 MICHAEL MORGAN: Yeah. If you
7 required 98 percent, that wouldn't have been a
8 pass.

9 CHRISTINE MAINVILLE: And the -- if
10 you look at the actual kilometres run as opposed
11 to the scheduled ones, I'm right that they're
12 always somewhat below what was scheduled,
13 correct?

14 MICHAEL MORGAN: Yeah. It's
15 97 percent, 99 percent, 99 percent, 91 percent
16 92. Yes.

17 CHRISTINE MAINVILLE: So this
18 performance, did it raise any concerns for the
19 City at the end of the day?

20 MICHAEL MORGAN: Well, I think, you
21 know, in the end it came to 96.9 percent. I
22 think there was still a concern from the City
23 wanting to ensure that RTG was staffing the
24 system correctly, such that if there were an
25 event, that it could be dealt with quickly.

1 CHRISTINE MAINVILLE: And I take it
2 then it was understood that the lower the score
3 on this, the more performance could be impacted?

4 MICHAEL MORGAN: So this is the
5 measure of performance.

6 CHRISTINE MAINVILLE: Right.

7 MICHAEL MORGAN: So, yes, so a lower
8 score is worse.

9 So, you know, a Monday,
10 August 12th where you have 98.47 percent is
11 quite good and customers are not going to feel
12 that -- they will be very happy with that
13 service.

14 Tuesday, August 13th, 91.69 percent,
15 customers were not going to be happy with that
16 level of service.

17 So we see, as you kind of -- the
18 different days are up and down a little bit.
19 But to the extent the cause for 91.69 versus the
20 better day of 98.47, we would be looking to RTG
21 to do everything possibly to minimize events.

22 When you stop the entire system for
23 10, 15, 20 minutes, that's when you're going to
24 see these lower numbers. To the extent that
25 they can respond quickly and isolate a door or

1 reset a breaker or keep the system moving,
2 you'll avoid those days.

3 So the pressure from the City at that
4 time was to make sure that RTG was staffing
5 correctly, including people in the shop fixing
6 the trains, and people in the field responding
7 to trains, to ensure that they were protecting
8 service.

9 CHRISTINE MAINVILLE: And what do you
10 know about what was done in that regard in terms
11 of staffing?

12 MICHAEL MORGAN: Well, there was a big
13 push to get them to provide additional
14 technicians in the field. You know, there was a
15 period of time where they provided door spotters
16 to be quick and ready to assist with door
17 isolations and door problems.

18 So there was extra staff provided by
19 RTG during the launch to make things go more
20 smoothly.

21 I would have to go back and check the
22 records to see how long they kept some of those,
23 for example, I believe they're called the door
24 spotters, available on the system to support to
25 make sure that door issues, for example, were

1 dealt with quickly or other breaker resets were
2 dealt with quickly.

3 CHRISTINE MAINVILLE: So am I right
4 that this planning was the result of there
5 having been some door issues during trial
6 running?

7 MICHAEL MORGAN: I wouldn't say that
8 trial running had door issues necessarily. I
9 don't recall that that was a specific issue. I
10 think it was more just understanding that if
11 something were to go wrong on the system when it
12 was in service, it was likely to be a door issue
13 or something of that nature, just because of
14 running a full system with lots of passengers.

15 So, yeah, I don't think I would be
16 able to say that throughout trial running there
17 was a series of door issues and that's what
18 prompted that mitigation. I think it was just
19 wanting a mitigation to protect service
20 generally.

21 CHRISTINE MAINVILLE: Do you recall
22 what issues were experienced during trial
23 running?

24 MICHAEL MORGAN: I would have go back
25 and see, kind of, the notes about the specific

1 failure modes that occurred.

2 But as I recall, it was largely about
3 having the fleet ready for service in the
4 morning. If they achieved that, then generally
5 they did well for the day. But if they didn't
6 have the vehicles ready in the morning, then
7 that's where the numbers started to taper off.

8 CHRISTINE MAINVILLE: And why would
9 vehicles be delayed in the morning? What would
10 be the cause of that?

11 MICHAEL MORGAN: So when the vehicles
12 come back out of service at night, they need --
13 there's a variety of basic things that need to
14 be done, brake inspections, filling the sand,
15 potentially a car wash, there's a requirement to
16 wash the cars every three days.

17 So there's a series of maybe
18 cleaning -- maintenance activities that need to
19 happen overnight, and so they need to run an
20 efficient operation overnight to get those
21 vehicles ready for service if they're good
22 vehicles. And then if they come back to the --
23 which happened -- things can happen over the
24 course of the day, if you have a door fault or
25 something needs to be checked, or a seat goes

1 bad, there is often some corrective maintenance
2 that needs to be done in the overnight period
3 and they need to be able to do that efficiently.

4 To the extent that it's not, and that
5 vehicle isn't available for service in the
6 morning, and so if the vehicle is late by an
7 hour, if the vehicle is late by two hours,
8 that's when you start to see challenges with the
9 numbers on this page.

10 Now, there may be other, kind of,
11 events that occurred. I would need to review
12 the individual sheets to know if there's other
13 specific events that occurred throughout the
14 course of the day that caused the numbers to
15 drop.

16 CHRISTINE MAINVILLE: Do you recall
17 several that related to a rear vision issue?

18 MICHAEL MORGAN: Yes, so the rear
19 vision camera issue.

20 So there's a camera on the platform
21 edge that is transmitted to the cab of the
22 vehicle and the operator can use that to observe
23 the platform edge as they leave the station.

24 So that particular issue we, you know,
25 we were not satisfied with the performance of

1 that system. RTG proposed a mitigation for that
2 system and we allowed them to go into service
3 with the mitigation in place.

4 CHRISTINE MAINVILLE: And, sorry, what
5 was that mitigation?

6 MICHAEL MORGAN: So the mitigation is
7 that we have platform spotters who are located
8 on the end of the platforms who are monitoring
9 the platform edge and the doors, and they signal
10 to the operator, using a whistle, that the
11 platform edge is clear, that it's safe to depart
12 the station.

13 So that would be something that an
14 area where it didn't work to our satisfaction.
15 I think RTG agreed that it didn't. They agreed
16 to mitigate it, and we allowed -- to pay for the
17 mitigation, and we allowed them to go into
18 service with that mitigation.

19 CHRISTINE MAINVILLE: And the platform
20 spotters are the same as the door spotters,
21 correct?

22 MICHAEL MORGAN: No, they're
23 different. So we have platform spotters, which
24 we still have today, which are in place to --
25 because they're still finishing up that

1 software, to finalize it, that are checking the
2 platform edge. And then we had door spotters
3 for a period of time, and we can check on that
4 period of time for you, who were there as
5 mitigation for people -- for customers using the
6 trains as they should.

7 THE COURT REPORTER: We will need to
8 take another short break.

9 CHRISTINE MAINVILLE: Let's go off the
10 record now.

11 -- RECESSED AT 11:42 A.M. --

12 -- RESUMED AT 11:52 A.M. --

13 CHRISTINE MAINVILLE: I just want to
14 mark that is the last document we will enter as
15 Exhibit 4, I believe it is. COW2702758.

16 EXHIBIT NO. 4: IC's report on trial
17 running, including the daily score
18 cards. Document number COW2702758.

19 CHRISTINE MAINVILLE: And then we can
20 pull up the final exhibit, COW442401. And I
21 just want to make sure, Mr. Morgan, that this is
22 the 2017 document that you were referencing, the
23 RFI-0266?

24 MICHAEL MORGAN: Yes.

25 CHRISTINE MAINVILLE: And I just want

1 to ask you that the Ontario logo which says
2 Infrastructure Ontario, did IO have a role in
3 this document?

4 MICHAEL MORGAN: So during Stage 1, IO
5 led the procurement. I don't know their exact
6 role. And then there was an agreement with IO,
7 they were involved with the Executive Steering
8 Committee throughout the project. And then they
9 also hosted the information systems that we used
10 as part of the project.

11 CHRISTINE MAINVILLE: So do you know
12 whether this was their document or whether they
13 contributed to this?

14 MICHAEL MORGAN: No. It's unlikely
15 that IO reviewed this specific document. It's
16 just using a database system provided by IO.

17 CHRISTINE MAINVILLE: I see.

18 MICHAEL MORGAN: And hosted -- so this
19 is probably just a template that's --

20 CHRISTINE MAINVILLE: Got it.

21 So that will Exhibit 5, I believe.

22 EXHIBIT NO. 5: Document number

23 COW442401.

24 CHRISTINE MAINVILLE: You indicated
25 that there was a push for RTG to staff up the

1 system. I take it, it was recognized that there
2 would be, going into RSA, some added pressure or
3 strain on maintenance and operations, is that
4 fair?

5 MICHAEL MORGAN: Going into service
6 following RSA, is that the question?

7 CHRISTINE MAINVILLE: Yes.

8 MICHAEL MORGAN: I think that there is
9 a recognition that a simple thing like a switch
10 or a simple thing like a door could have
11 significant implications on the service. And
12 there's a desire to have that mitigated to the
13 extent possible.

14 CHRISTINE MAINVILLE: But there was an
15 awareness that there could be such issues
16 arising, door issues, switch issues?

17 MICHAEL MORGAN: Yes.

18 CHRISTINE MAINVILLE: And we may have
19 covered this, but given some of these types of
20 issues arising -- well, am I right that there
21 were issues like this arising during trial
22 running? It wasn't just about making the trains
23 available in the morning. There was some issues
24 that the City recognized could arise during the
25 service operation period?

1 MICHAEL MORGAN: I mean, that existed
2 in relation to just general awareness about how
3 these systems operate.

4 If there were specific issues that
5 came up in trial running, I mean, I would have
6 go back and review the detailed sheets on that
7 to know what those specific issues were.

8 CHRISTINE MAINVILLE: Sure. Do you
9 recall, for instance, rail switches being an
10 issue during trial running?

11 MICHAEL MORGAN: I don't recall
12 specifically that we had issues with switches.

13 CHRISTINE MAINVILLE: But you've
14 talked about other projects you've been involved
15 in running effectively near perfectly right from
16 the get-go, correct?

17 PETER WARDLE: I think he was talking
18 about vehicles.

19 CHRISTINE MAINVILLE: Vehicles, yes.
20 Right. What did I say?

21 PETER WARDLE: I think you said the
22 system.

23 MICHAEL MORGAN: Yeah. So I have
24 spoken -- I've had some experience with some
25 other projects where the vehicle worked very

1 well directly from the manufacturing site.

2 So, for example, in 2015, we received
3 the Alstom vehicles that we put onto our
4 Trillium Line. The Alstom vehicles worked very
5 well, but at the time we did have some aged
6 infrastructure that needed to be replaced. It
7 wasn't until we replaced that aged
8 infrastructure that system worked very well.

9 Similarly on the Gold Coast, the
10 vehicle worked very well, and the system there
11 is much simpler too. So the infrastructure
12 didn't have the same challenges that
13 infrastructure had here.

14 CHRISTINE MAINVILLE: But is it fair
15 to say that these vehicles didn't pass trial
16 running with flying colours? Let's put it that
17 way.

18 MICHAEL MORGAN: That's a difficult
19 question to respond to because it's a bit
20 subjective.

21 CHRISTINE MAINVILLE: How concerned
22 was the City about the results and the
23 performance of the trains during trial running?

24 MICHAEL MORGAN: I think the City was
25 concerned about the availability of the fleet in

1 the morning, and was concerned about the
2 sensitivity of the vehicles and system generally
3 in service, that it was -- could be -- that a
4 10-minute delay on a single vehicle due to a
5 single door would have a significant impact on
6 service.

7 CHRISTINE MAINVILLE: And there had
8 been events, failure events, during the trial
9 running period, correct, on the rolling stock?

10 MICHAEL MORGAN: I mean, yeah, I
11 imagine there were. I'd need to go back and
12 look at the data to see what specific failures
13 and what types of failures and when they
14 occurred.

15 CHRISTINE MAINVILLE: Do you recall
16 what level of concern there was around events
17 and issues like that at the City during trial
18 running?

19 MICHAEL MORGAN: Again, what I recall
20 in terms of our largest concern was the fleet
21 availability in the morning launch and the
22 ability for RTG to respond quickly to correct
23 issues. I think that there was an acceptance
24 that there was going to be issues with the
25 vehicles and an acceptance so long as the

1 response to that was quick, that you could deal
2 with that.

3 CHRISTINE MAINVILLE: Did anyone raise
4 concerns about the readiness of the trains
5 for -- and the system, for revenue service?

6 MICHAEL MORGAN: Like, as a City
7 representative, I didn't receive notification
8 from RTG that the system wasn't ready. The
9 opposite. When we pushed them and sent them
10 letters on maintenance readiness and readiness
11 of the system, pushing back on substantial
12 completion, they represented that the system was
13 ready.

14 CHRISTINE MAINVILLE: Did anyone at
15 the City raise concerns about the readiness of
16 the system approaching RSA?

17 MICHAEL MORGAN: Again, that's a broad
18 question. Did anyone at the City -- that's a --
19 was it raised formally? Was it raised at a
20 specific meeting? I mean --

21 CHRISTINE MAINVILLE: Let's start with
22 formally?

23 MICHAEL MORGAN: Formally, not that
24 I'm aware, no.

25 CHRISTINE MAINVILLE: Including by the

1 City's advisors or consultants? And I'm not
2 interested in any legal advice.

3 MICHAEL MORGAN: So technical
4 advisors, I don't recall. If there was
5 information in meeting minutes or kind of
6 overriding concerns that were documented, I'd
7 have to go back and review. I think the focus
8 was on where there were concerns, finding
9 mitigations, assessing that the mitigations were
10 suitable.

11 CHRISTINE MAINVILLE: In terms of the
12 individuals who were part of the trial running
13 review team, so Mr. Charter, Mr. Holder at the
14 City, and STV, I believe Larry Gaul.

15 MICHAEL MORGAN: Yes.

16 CHRISTINE MAINVILLE: Did those
17 particular individuals raise concerns about the
18 readiness of the trains and the system for RSA?

19 MICHAEL MORGAN: Again, I don't recall
20 if those three individuals brought anything to
21 my attention.

22 CHRISTINE MAINVILLE: Do you recall
23 whether there were discussions about that at the
24 more senior levels at the City?

25 MICHAEL MORGAN: The discussions that

1 I recall in this regard were about the
2 maintenance organization being ready and
3 prepared to deliver the service and being able
4 to fully mitigate issues that came up. That was
5 kind of -- that's what I recall as the focus.
6 Less about the individual vehicles and more
7 about are they ready and capable and resourced
8 to the level that they can respond quickly and
9 deal with issues quickly.

10 CHRISTINE MAINVILLE: And was the City
11 satisfied that RTM or RTG were going to address
12 that and were ramping up and going to be
13 prepared for that?

14 MICHAEL MORGAN: They were -- I mean,
15 I think there was a lot of exchanges on that and
16 there was likely some letter exchanges as well.

17 At the end of the day, I don't think
18 that we were ever fully satisfied that the
19 number of people that they provided was
20 sufficient. I think that's kind of well
21 documented in subsequent letters to them in
22 response to the performance over the initial few
23 months.

24 CHRISTINE MAINVILLE: But did that
25 include -- as RSA is approaching and immediately

1 before RSA, are they not satisfied that they've
2 stepped up enough?

3 MICHAEL MORGAN: So RSA is achieved
4 and then the preparations turn to public service
5 and then it turns to getting assurances from
6 them, and confirmation from them that they're
7 ready to go and are bringing in the appropriate
8 staff.

9 That's kind of, once the RSA had been
10 achieved and certified by the independent
11 certifier and the independent safety auditor, it
12 was really, okay, now what do we do for service?
13 Now that service is coming. RTG are you
14 providing the right number of staff? And I
15 believe there was some exchanges on that in
16 relation to them trying to provide comfort to
17 the City that they were prepared, that they did
18 have the right people and that they were going
19 to be able to deliver the service.

20 CHRISTINE MAINVILLE: But am I right
21 that the City still had some concerns about
22 whether that was the case?

23 MICHAEL MORGAN: Well, I mean, the
24 City lived and breathed and worried about that
25 system. Like, we wanted it to be a success and

1 we were pushing RTG to provide more people to
2 assist. And we were doing everything we could
3 think of, from the parallel bus service, to the
4 soft -- to giving operations a couple of weeks
5 with the system to make sure it was a success.

6 CHRISTINE MAINVILLE: Am I right
7 that -- STV provided some advice on readiness
8 for maintenance, correct?

9 MICHAEL MORGAN: They likely did a
10 review of that.

11 CHRISTINE MAINVILLE: Do you recall
12 whether that advice was being provided right up
13 to RSA?

14 MICHAEL MORGAN: No, I don't recall
15 specifically.

16 CHRISTINE MAINVILLE: How much
17 pressure was there to begin revenue service in
18 the fall of 2019 when it did -- or the late
19 summer and fall of 2019?

20 MICHAEL MORGAN: So there was always a
21 lack of visibility and transparency around when
22 the system was going to be ready in the -- I
23 would say the two years leading up to handover.

24 And so that lack of transparency kind
25 of informed a lot of feedback and questions and

1 discussion around when it was going to open,
2 simply because we were unable to provide a date.

3 And so there was a lot of questions
4 about when it was going to be ready? Would it
5 be ready for -- in the lead up, in probably the
6 last year, just because there was a number of
7 false starts. We received notification of
8 substantial completion probably three times,
9 maybe four times. And it was never ready.

10 And so that, you know, kind of just
11 led to questions. And so there was a lot of
12 questioning about when was the system going to
13 be ready for service? And we did go through
14 substantial completion the first time it was
15 completed. We rejected it. It required a
16 second review. Then we went through trial
17 running. Obviously there was a false start to
18 that and some challenges out of the gate. So
19 there was a continual review and spotlight on
20 the issue.

21 But it was more with -- with an eye to
22 understand when was the system going to be
23 finished, when was it going to be ready? It was
24 less about opening. It was more just about
25 visibility of when it was going to be open.

1 CHRISTINE MAINVILLE: Was the date --
2 prior to trial running, the date was set for
3 August 30th, 2019, correct, as the --

4 MICHAEL MORGAN: No.

5 CHRISTINE MAINVILLE: The new RSA
6 date?

7 MICHAEL MORGAN: No. So substantial
8 completion was certified by the independent
9 certifier, and then it was over to RTG to start
10 the trial running.

11 I think there was a series of eight
12 requirements that needed to be met to achieve
13 RSA, trial running being one of them, as kind of
14 the close out of the Schedule 14 commissioning
15 requirements. So it's over to RTG to achieve
16 those other or to demonstrate compliance with
17 those other requirements and to complete trial
18 running.

19 And at the time, it doesn't known if
20 trial running was going to -- arguably, if you
21 had achieved substantial completion on
22 July 31st, you could have started trial running
23 the next day, and 12 days later you could have
24 been done.

25 So RSA could have been achieved, based

1 on the calendar dates, as early as August 12th.
2 In the end, it wasn't achieved until August 30th
3 and that's -- the requirements, taken as a
4 whole, trial running being one of them, so that
5 date was not known at that time.

6 But there was a sense that with
7 substantial completion being achieved with --
8 you could, kind of, map out, roughly, when you
9 thought the system would open based on
10 substantial completion being certified.

11 CHRISTINE MAINVILLE: So what was the
12 target date?

13 MICHAEL MORGAN: I don't think there
14 was a target date at that time. I think that
15 there was a thought that it could be end of
16 September or October that you know roughly if
17 you need the plan being you need 12 days for
18 trial running and then the operator was going to
19 take a couple of weeks and they were going to
20 run parallel bus service.

21 So depending on how the math worked
22 out, you could have been early September or late
23 October.

24 CHRISTINE MAINVILLE: Wasn't there a
25 plan to open up the service to the public for

1 mid-September?

2 MICHAEL MORGAN: I think, you know, at
3 some point a decision was made about once it
4 looked like RSA was going to be certified, I
5 think it was at that point that a date was
6 probably locked in.

7 I forget the exact steps that were
8 taken to lock in that date or how it was
9 confirmed, I forget if it was a Saturday or a
10 Sunday, but at some point you have a certain
11 level of confidence that RSA is going to be
12 achieved and it's going to be certified, that
13 you can start planning for a public service
14 date.

15 CHRISTINE MAINVILLE: And given the
16 numerous delays to the RSA date that there had
17 previously been, is it fair to say that there
18 was no real appetite at the City to push that
19 date back any further?

20 MICHAEL MORGAN: Well, I think the
21 City would have been in a position to push the
22 date back if they thought there was something
23 fundamentally wrong with the system.

24 If, for example, during the first two
25 weeks of use by the operator there had been a

1 major issue, the City would have been in a
2 position to push it out. If during the first
3 three weeks when we're running parallel bus
4 service, if the system wasn't working, we
5 absolutely would have extended bus service.

6 CHRISTINE MAINVILLE: And was there
7 any discussion about delaying or pushing back
8 the start of service operations?

9 MICHAEL MORGAN: Like the start of
10 public service?

11 CHRISTINE MAINVILLE: Yeah.

12 MICHAEL MORGAN: I don't recall that
13 there were, no. Once the date was set and I
14 think there was -- there was no reason,
15 compelling reason that occurred in the
16 intervening period that would have suggested a
17 delay was appropriate.

18 CHRISTINE MAINVILLE: Did the City
19 ever stray from the go/no go list? Was there
20 ever any changes made to it?

21 MICHAEL MORGAN: I don't believe there
22 was. In the end, as I mentioned, we did accept
23 some mitigation for some things. Like accepting
24 the mitigation for the platform spotters. And I
25 think that was part of informing the go/no go

1 list, was to say, is this system -- are all the
2 systems ready? No. Do we have the appropriate
3 mitigations in place? So, yes, so it felt safe.

4 CHRISTINE MAINVILLE: And is it fair
5 to say -- well, let me first ask you, this is
6 the change matrix that was put in place,
7 correct, in terms of changes that were or
8 retrofits that were deferred until post RSA and
9 some agreements as to requirements that could be
10 deferred, right?

11 MICHAEL MORGAN: That's right.

12 CHRISTINE MAINVILLE: And that's the
13 term sheet?

14 MICHAEL MORGAN: Yes.

15 CHRISTINE MAINVILLE: Is there --

16 MICHAEL MORGAN: There's two parts to
17 that. One is that you have the independent
18 certifier's minor deficiency list, which is
19 issued by them, certified by them, which
20 provides a list of things that are "incomplete".
21 And then separately, we made an agreement with
22 RTG in respect of specific things that they
23 could mitigate or adjust or change and how we
24 were going to manage that.

25 CHRISTINE MAINVILLE: And does the IC

1 have a role term sheet?

2 MICHAEL MORGAN: No. Only to the
3 extent that it would inform her opinion on
4 whether RSA had been achieved.

5 So, for example, if the City had not
6 agreed to the platform edge camera system being
7 mitigated, she may have taken a position on that
8 and suggested that it wasn't ready for service.

9 CHRISTINE MAINVILLE: But the ICs
10 role, as you understand it, is just to apply the
11 criteria agreed upon by the parties, correct?

12 MICHAEL MORGAN: Yeah. And informed
13 by the Project Agreement, yes.

14 CHRISTINE MAINVILLE: And in terms of
15 the minor deficiency's list, are those
16 deficiencies that need to be addressed or those
17 are fair to be deferred from the ICs
18 perspective?

19 MICHAEL MORGAN: I think from the IC's
20 perspective they're fair to be deferred. I
21 mean, essentially they tended to be minor and so
22 not to have a material impact on the service or
23 on the system. And she assigns a value to them
24 and that then list is used as the basis for one
25 of the inputs for final completion on the

1 contract.

2 CHRISTINE MAINVILLE: And is it fair
3 to say that deferring some retrofits meant that
4 there would be some additional constraints on
5 the maintenance system?

6 MICHAEL MORGAN: In terms of the minor
7 deficiency list?

8 CHRISTINE MAINVILLE: Well, what do
9 you recall being some of the main retrofit that
10 were deferred, the major systems?

11 MICHAEL MORGAN: So certainly -- the
12 work that was -- the platform edge camera was
13 deferred and that was mitigated. The
14 independent certifier had an extensive list of
15 minor deficiencies, but it was everything from
16 door finishing to some documentation to -- it
17 should have largely been things that wouldn't
18 have interfered with service.

19 CHRISTINE MAINVILLE: What about the
20 rolling stock?

21 MICHAEL MORGAN: No. It would have
22 included -- so that same deficiency list should
23 have included deficiencies on the vehicle. And
24 again, it should have been issues that would not
25 have otherwise affected the safety of the system

1 and would not have affected the use and
2 enjoyment of the system.

3 CHRISTINE MAINVILLE: And in terms
4 of -- sorry, are you also talking about the term
5 sheet or were now retrofits to be done to the
6 rolling stock that were deferred as part of the
7 term sheet agreement?

8 MICHAEL MORGAN: Part of the term
9 sheet agreement, I think that the -- there
10 was -- there was one -- so there was -- the
11 platform edge cameras, there was a version of
12 door software that was expected to be upgraded.
13 I think those are the two primary things that
14 were included as deferred items in the term
15 sheet.

16 CHRISTINE MAINVILLE: And you spoke
17 about there being some overburdening of the MSF.
18 It's fair to say that this would entail further
19 work to be done at the MSF during operation?

20 MICHAEL MORGAN: Those two specific
21 things would not have. But in general, any
22 maintenance work, any warranty work that was
23 being completed in the facility, on top of the
24 remaining and the planned additional
25 manufacturing work, would have absolutely

1 overburdened that facility.

2 CHRISTINE MAINVILLE: And there was a
3 service reduction, correct, from 15 to 13
4 vehicles?

5 MICHAEL MORGAN: Yeah.

6 CHRISTINE MAINVILLE: So in light of
7 these deferments and changes to what was
8 originally planned for in terms of RSA, would
9 you say this is a result of there being a desire
10 to promptly enter into service as soon as was
11 possible, from a safety perspective, from a
12 go/no go perspective?

13 MICHAEL MORGAN: So some of the things
14 were meant to -- so the number of vehicles
15 was -- the number of vehicles was set several
16 years ago and the General Manager and the
17 manager of customer planning essentially just
18 recalculated or reassessed what the ridership
19 level was and determined that 13 vehicles for
20 morning peak was sufficient to meet ridership
21 levels.

22 And so it was meant to recognize that,
23 but also understood that it provided some
24 flexibility to the maintainer. So that was the
25 intent.

1 I mean, I think the other two issues,
2 the -- were potentially just -- I don't want to
3 call them a nonevent, because they were fully
4 mitigated, there was no concerns, and there
5 wasn't -- I don't think there was rationale to
6 holdback the entire system based on those two
7 things.

8 At some point you need to -- as you're
9 managing these large contracts, there's a
10 certain amount of collaboration you need to
11 undertake with the provider to say, well, what's
12 reasonable? What's unreasonable? And it was
13 really to say, is it reasonable to stop the
14 launch of the system because this platform
15 camera solution is not working, given that they
16 have a mitigation, then I don't think it would
17 have been reasonable for us to do so.

18 CHRISTINE MAINVILLE: But is it fair
19 to say that that decision about whether it was
20 reasonable to do so would have been informed by
21 the earlier delays, right? That the fact that
22 this had -- this project had been delayed quite
23 a bit already, or significantly, and so there
24 was perhaps more willingness to compromise on
25 these issues than there might have been earlier

1 on in the project?

2 MICHAEL MORGAN: You know, it's
3 difficult to say. That's -- you have to
4 speculate that if the project had been on time,
5 but for that same single issue, would you have
6 held it back? I doubt it. I think that you
7 would have still -- given the mitigation and the
8 commitment shown by RTG to that mitigation, I
9 don't think that you could have reasonably
10 stopped the system from being handed over.

11 CHRISTINE MAINVILLE: Was there any
12 push from the more senior levels at the City to
13 start service?

14 MICHAEL MORGAN: I don't know. I
15 think it was just about visibility on when the
16 system was going to be complete, visibility on,
17 you know, when the system was going to be ready.
18 And having, you know, transparency on that.
19 That was the primary issue, because there was a
20 certain amount of planning and effort that had
21 to go into organizing the bus network and
22 customer service and hiring.

23 And so it was linked back to just
24 transparency around the date.

25 CHRISTINE MAINVILLE: And what was

1 being reported up, for instance, to the City
2 Manager, Mr. Kanellakos, and the Mayor about
3 trial running and the system's readiness
4 generally? What was the level of reporting?

5 MICHAEL MORGAN: I don't recall the
6 level of reporting during the trial running
7 period. I'd have to go back and check my agenda
8 to see kind of what meetings were held.

9 In the runup to substantial completion
10 and trial running, there was -- the independent
11 assessment team came in on a regular basis to
12 provide a status on the completion of the work,
13 and for a long time it was unclear when the
14 system would be finished, but I think that once
15 substantial completion was achieved, there was a
16 feeling that, okay, we're finally into countdown
17 mode. We're finally into a time in the
18 project's life when we can start thinking about
19 when it will open for service.

20 CHRISTINE MAINVILLE: And what
21 reporting was there to City Council about -- or
22 City Council committees about trial running and
23 RSA?

24 MICHAEL MORGAN: There would have been
25 trial running and RSA. At the end of trial

1 running, there was a technical briefing that was
2 done that was essentially a public forum that
3 Council's invited to that enables the City staff
4 to provide information, and provides the
5 Councilors the ability ask questions about the
6 process.

7 So there was definitely a technical
8 briefing and there may have been -- either the
9 FEDCO finance committee meetings or the Transit
10 Commission meetings leading up to that may have
11 been a series of updates.

12 CHRISTINE MAINVILLE: What was the
13 ultimate update to Council about the readiness
14 of the system or the performance through trial
15 running? Do you have a recollection of that?

16 MICHAEL MORGAN: Yeah. I think that
17 ultimately led to the technical briefing that
18 was held, led by John Manconi, with the
19 leadership team providing it up to Council. And
20 I think it was held one or two days before the
21 end of trial running because it was, you know,
22 the momentum and the reliability was such that
23 it was essentially inevitable that they were
24 going to achieve the objectives of trial running
25 and, therefore, it was felt appropriate at that

1 time to provide an update.

2 CHRISTINE MAINVILLE: To what extent
3 would the City have had the ability to, even if
4 the 2017 criteria were met, to suggest more
5 trial running time?

6 MICHAEL MORGAN: I think that's back
7 to a commercial matter, more trial running time.

8 So, for example, if we suggested that
9 we wanted a 30-day period for trial running
10 rather than a 12-day period, that would have
11 been a variation to RTG. They may or may not
12 have accepted that.

13 You know, if you'd done that early in
14 the program, like if you'd done that in 2014,
15 2015, it's probably something that they would
16 have priced and accepted, but I think making
17 that decision at the 11th hour, I don't know
18 that they would have necessarily accepted it.

19 CHRISTINE MAINVILLE: And please don't
20 get into any legal advice received, but did the
21 City ever take the position that the proper
22 interpretation of the contract was 12
23 consecutive pass days for trial running?

24 MICHAEL MORGAN: I don't recall.

25 CHRISTINE MAINVILLE: As of early

1 2019, January 2019, when you were more directly
2 overseeing --

3 MICHAEL MORGAN: I think there was an
4 attempt to apply an interpretation to the
5 language in the Project Agreement and that
6 ultimately resulted in that procedure. Because
7 you could just say 12 consecutive days, but
8 absent performance objectives, you know, there
9 is no pass/fail criteria, so 50 percent every
10 day, they've achieved the 12 days. So it was
11 meant to be -- okay, get in room and agree on
12 what's suitable and agree on what are the
13 conditions for restarting? What are the
14 conditions for pausing? Because I think that
15 the contractor wanted to protect themselves as
16 well, right? If something happens on day 5,
17 there's some event in Ottawa, some rally shuts
18 down the train system, they don't want a part of
19 that. Or if there's some real safety issue and
20 collectively they group agrees to shut it down,
21 I think that's fair as well.

22 But it was just to get in the room and
23 say, what is appropriate? And put some
24 parameters around it and I think that ultimately
25 resulted in that document of 12 consecutive

1 days, 12 days overall. I think, as much as
2 possible, the group is trying to string together
3 12 days in a row, but I think they put together
4 a very comprehensive set of requirements that
5 set out rules and guidelines around 12 days and
6 how those were to be measured?

7 CHRISTINE MAINVILLE: Was -- well,
8 first of all, are you aware of any requests from
9 RTG for a soft start or a more progressive start
10 than there was?

11 MICHAEL MORGAN: I never received any
12 official request that I recall of, as City
13 representative. I've heard that reference made
14 anecdotally in the -- an affidavit that was
15 submitted by Nicholas Tuchon in respect of other
16 matters, but I don't -- I haven't seen anything
17 or heard anything about that. And there's also,
18 you know, that statement is made without any
19 definition.

20 So we did -- RSA was achieved, we ran
21 the system for two weeks, we ran parallel bus
22 service for three weeks, and then opened and
23 turned off the bus system. I mean, that could
24 be argued as a soft launch. Someone else might
25 come along and say, well, a soft launch should

1 take six months. It's a matter of definitions,
2 but no one came to me and said, we should keep
3 the buses running for four months, that's the
4 only way to go.

5 And RTG was in no position to do that
6 because they were representing that the system
7 was ready. They were representing the system
8 was ready to be used as defined by the PA.

9 CHRISTINE MAINVILLE: Do you recall it
10 being raised even informally by Matthew Slade?

11 MICHAEL MORGAN: No.

12 CHRISTINE MAINVILLE: And was there
13 ever any discussion about that with the
14 independent certifier, a softer start?

15 MICHAEL MORGAN: The independent
16 certifier wouldn't have taken a position on
17 that.

18 CHRISTINE MAINVILLE: And I understand
19 the final completion certificate has not yet
20 been issued, correct?

21 MICHAEL MORGAN: Correct.

22 CHRISTINE MAINVILLE: And is that as
23 result of work left to be done relating to the
24 term sheet?

25 MICHAEL MORGAN: Yes.

1 CHRISTINE MAINVILLE: And --

2 MICHAEL MORGAN: In part. That's one
3 of the inputs to the final completion is on the
4 term sheet, we still have the platform camera
5 issued to be resolved, that's still outstanding
6 as of today. And the independent certifier's
7 minor deficiency list needs to be closed off.
8 Those are kind of the two key inputs.

9 CHRISTINE MAINVILLE: And what
10 explains that that has not yet been done almost
11 three years after RSA?

12 MICHAEL MORGAN: That's a question
13 that's better put to RTG.

14 CHRISTINE MAINVILLE: I know I
15 promised your counsel he would have time to ask
16 a couple of questions. I think I'm okay if you
17 want to go ahead, Peter.

18 PETER WARDLE: Thank you, Christine.

19 Mr. Morgan, I just have a few
20 questions for you. You were asked about looking
21 at the IC report on trial running and the page
22 that had the scores for all the days and then at
23 the bottom, the AVKR of 96.9 percent.

24 In your view, is there any meaningful
25 difference between an AVKR of 96.9 percent and

1 one of 98 percent in terms of reliability?

2 MICHAEL MORGAN: Not significantly,
3 no.

4 PETER WARDLE: And earlier, quite a
5 bit earlier, you told my friend that, and just
6 let me find this because I want to make sure I
7 quote it accurately. I think what you told my
8 friend is that there was no connection between
9 trial running and the issues experienced in the
10 maintenance period. Can you just explain why
11 that is your view?

12 MICHAEL MORGAN: So trial running was
13 completed and then we -- we did the two weeks of
14 operationals, kind of, activities, three weeks
15 of parallel bus service. And during the three
16 weeks of parallel bus service, the service was
17 quite stable and achieved roughly 98 percent in
18 terms of the availability of the trains.

19 Then shortly thereafter, we started to
20 encounter some new issues that we hadn't seen
21 before, an issue with the train control and
22 monitoring system on the Alstom's vehicles,
23 causing the vehicle to shut down. We started to
24 see some erratic behaviour with the doors. Both
25 things had caused major service interruptions.

1 And then, you know, in the first
2 winter we saw -- basically catastrophic failures
3 of the inductors on the roof of the vehicle.
4 And we saw major failures of the catenary
5 system. We saw a teardown of the rigid rail
6 system in the tunnel.

7 So all these things, they were all new
8 things that we hadn't witnessed during the trial
9 running period that couldn't have been foreseen.

10 If we experienced specific issues in
11 trial running, and in the lead up, we would have
12 put in things to mitigate those. But as we did
13 with the platform edge cameras, but we didn't --
14 all those issues were new to us.

15 PETER WARDLE: Thank you. Those are
16 all my questions.

17 CHRISTINE MAINVILLE: Thank you,
18 Mr. Morgan.

19 --- Completed at 12:32 p.m.

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25

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
14 Dated this 21st day of April, 2022.

15
16 

17
18 PER: HELEN MARTINEAU

19 CERTIFIED SHORTHAND REPORTER
20
21
22
23
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25

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