Ottawa Light Rail Commission

Meeting No. 1
on Wednesday, March 30, 2022

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OTTAWA LIGHT RAIL COMMISSION

MEETING NO. 1: TRANSPORTATION ACTION

CANADA - DAVID JEANES

MARCH 30, 2022

--- Held via Zoom Videoconferencing, with all participants attending remotely, on the 30th day of March, 2022, 9:00 a.m. to 11:05 a.m.

COMMISSION COUNSEL:

Kate McGrann, Co-Lead Counsel Member
Anthony Imbesi, Litigation Counsel Member

PARTICIPANT:

Transportation Action Canada:
David Jeanes

ALSO PRESENT:

Judith Caputo, Stenographer/Transcriptionist
Gabriel Lavoie, Virtual Technician

INDEX OF EXHIBITS

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

INDEX OF UNDERTAKINGS

The documents to be produced are noted by U/T and appear on the following pages: 10:3, 14:4, 30:2

-- Upon commencing at 9:05 a.m.

KATE McGRANN: Good morning, Mr. Jeanes. Thanks for joining us today.

By way of introductions, my name is Kate McGrann. I am one of the two co-lead counsel for the Ottawa Light Rail Transit Public Inquiry. I'm joined by Anthony Imbesi, who is a member of our counsel team. And then Judith Caputo, who you met before we started the transcript, is here transcribing the interview.

So before we turn to some of the questions we want to discuss with you, I just want to share some information with you about today's interview.

The purpose of today's interview is to obtain your evidence under oath or solemn declaration for use of the Commission's Public Hearings.

This will be a collaborative interview such that Mr. Imbesi, who is joining me from the counsel team, may intervene to ask certain questions as well.

If time permits, if you have anything you want to share at the end of the interview that

comes out of our questions or otherwise, you're welcome to share.

As we discussed before we started the transcription, this interview is being transcribed. The Commission intends to enter this transcript into evidence at the Commission's Public Hearings either at the hearings or by way of procedural order before the hearings commence.

The transcript will be posted to the Commission's public website, along with any corrections made to it after it is entered into evidence.

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

You will be given the opportunity to review your transcript and correct any typos or other errors before the transcript is shared with the participants or entered into evidence. Any non-typographical corrections you request will be appended to the transcript.

And finally, pursuant to Section 33 (6) of the Public Inquiries Act 2009: A witness at an

inquiry shall be deemed to have objected to answer any question asked him or her on the ground that his or her answer may tend to incriminate the witness, or may tend to establish his or his liability to civil proceedings at the instance of the Crown or of any person, and no answer given by a witness of an inquiry shall be used or be receivable in evidence against him or her in any trial or other proceedings against him or her thereafter taking place, other than a prosecution for perjury, in giving such evidence.

As required by Section 33 (7) of that act, you are hereby advised that you have the right to object to answer any question under Section 5 of the Canada Evidence Act.

Do you have any questions about any of that commission?

DAVID JEANES: No, I think that's straightforward. This morning I'm not necessarily in a position to provide you with exact dates if I'm referring to occurrences. I have dates of the most significant occurrences that I will probably be talking about.

And similarly, if there are documents, supporting documents, that are required, I would

have to follow up in supplying those to you if they're documents you don't have already.

KATE McGRANN: Okay, that's just fine. We'll have the transcript that we can refer to that will help us follow along if there are any documents that you mention that you'd like to go look at and later come back to.

ANTHONY IMBESI: If I may, before we begin, I was not certain that the witness was affirmed.

MS. MC GRANN: No.

DAVID JEANES: Okay.

DAVID JEANES: AFFIRMED.

KATE McGRANN: I'm going to start off by testing myself and trying to share my screen for a second here.

Mr. Jeanes, what I am going to try and show you, and see if it works, is a copy of an e-mail that you sent to me yesterday in response to my request for a CV.

Are you looking at a copy of the e-mail that you sent to me?

DAVID JEANES: I am, yes, there is a typo in this I didn't spot before I sent it to you.

I had to tailor it somewhat to the

information that I thought you needed to have.

KATE McGRANN: That's understandable; this isn't a spelling or grammar test. I didn't notice the typo when I read it. You can point it out to us if you want.

DAVID JEANES: It's in the "Awards and Recognitions" section. There's a list of three items which are repeated there, and it's the second occurrence which is the correct one.

KATE McGRANN: Okay.

DAVID JEANES: But I can certainly send you an update on that. Okay, go ahead.

KATE McGRANN: We'll enter this transcript into evidence so that it becomes an exhibit, I guess it would be Exhibit 1 to your transcript.

EXHIBIT NO. 1: E-mail dated March 29, 2022 and attached Curriculum Vitae of David Jeanes.

KATE McGRANN: I wanted to ask you a couple of questions about some of the information listed here. First of all, with respect to publications, you've noted that -- many international conference papers and journal articles.

My question for you is, were any of those papers or articles relevant to the issues that you see with the Commission's mandate in relation to the Ottawa LRT Stage 1 Project.

DAVID JEANES: I think probably not. The majority of the international conferences were telecommunications related, and certainly not specific to the railway or transit industry.

Although I've written many newspaper articles and articles for Transport Action's own newsletter on rail-related matters, I don't believe any of those are specifically relevant to this inquiry.

KATE McGRANN: Okay, and I think you've answered my next question, which was: You note here you were previously editor of Transport Action's newsletter. Anything written in that newsletter related to the Ottawa LRT Stage 1 project?

DAVID JEANES: Not at the time I was editor, because it was an earlier period. Transport Action has a current monthly electronic newsletter, and there have certainly been a number of articles written by various people in that newsletter that relate to Ottawa LRT.

I can certainly provide those if they are required.

U/T KATE McGRANN: That would be very helpful. So that will be our first follow up question for you, and we will follow up with you via e-mail with a list of these.

But if you could provide us with any editions of the Transport Action Canada newsletter with articles that touch on Stage 1 of the Ottawa LRT that are relevant to the Commission's terms of reference, that would be appreciated.

DAVID JEANES: Okay.

KATE McGRANN: Similarly, under the heading "Transportation Advocacy", you've noted here: Research and briefs to multiple Federal and Provincial inquiries on transcontinental passenger trains, high speed rail, railway policy, rail safety, etcetera.

What was the nature of the research and briefs that you reference here in your CV?

DAVID JEANES: Well, it was particularly -- as you may be aware, there have been a number of studies over the decades into the potential for high speed rail in Canada.

And there were, for example, hearings

conducted by the -- jointly by the Province of Ontario and Province of Québec in a Rapid Train Task Force.

I wrote briefs there addressing how other countries had approached migration to high speed rail, and how those, how those approaches might be applicable to Canada.

Similarly with transcontinental rail, those were hearings of the, initially the Canadian Transportation Commission, which is today the Canadian Transportation Agency. Plus various other hearings, I appeared before senate committees, for example, when rail policy was being discussed.

Most of those briefs were verbal, but I did do a variety of presentations and papers, either in PowerPoint form or as written reports.

KATE McGRANN: Okay. And I will come to the specific information that you provide about your involvement with the Ottawa LRT for a second. But with respect to the transportation advocacy otherwise, has any of that work related to light rail transit?

DAVID JEANES: Well, yes, it certainly has. I've been involved as, on behalf of Transport Action, as a member of the public and as a member

of various consultation groups for the past 25 years in terms of specific inquiries, planning activities, environmental assessments etcetera, that relate to light rail.

So those are all on the record. In most cases I was appointed by the City of Ottawa to be a member of various advisory committees. And in two specific cases, they were appointments that had to be directly approved by council, because they were quite significant membership, for example, in the Steering Committee for the Light Rail Pilot Project in 1998, and the Advisory Committee for the Rapid Transit Expansion Study in 2003.

Because in that case, I was one of only two public members appointed to sit on those committees.

KATE McGRANN: And so let me come to your work on the Ottawa Light Rail Transit and steps that preceded Stage 1, so planning and things like that.

Other than in Ottawa, have you done any work with respect to light rail transit?

DAVID JEANES: Mostly the point of view of visiting and observing other light rail systems. During the initial planning for Ottawa light rail,

I visited light rail systems in Britain, in Europe, in different parts of the United States.

And the existing rail transit systems, which at the time were either subway or streetcar, or in case of Vancouver, sky train type of operations.

So I visited those, I was involved in organizing presentations by experts from those systems, to Transport Action. You know, we had meetings which featured the chief planners from the LRT in Calgary, the Toronto Transit Commission and so on, where we had interaction and I was closely involved with the experts and senior managers of those systems.

Also the visits included visiting control centres for LRT systems, maintenance facilities for LRT systems, again, in different cities.

And I could make a list enumerating those. In terms of was I involved in the planning of any of those systems? No, I did not submit any submissions with respect to planning transit in other cities.

KATE McGRANN: Okay. If you could make a list for us of those activities, including the

expert meetings, the visits that you discussed and the other work there along with dates as best you can, we'll ask you to do that as well.

U/T DAVID JEANES: Okay, sure.

KATE McGRANN: And then turning to the entry on your CV titled "Ottawa LRT".

DAVID JEANES: Yes.

KATE McGRANN: You've listed here a number of different activities, and I wonder if you would just walk us through these and provide us with a bit more detail about what your involvement looked like, the nature of the issues that you were speaking to, and any output that came from that, inputted reports, submissions, letters and things like that.

DAVID JEANES: Okay. So I've been involved in transit planning already for nearly two decades, particularly as an employee of Bell Northern Research and Nortel, but that was primarily working with OC Transpo, including numerous meetings between Nortel and OC Transpo senior management on bus service improvements for Nortel.

But my first public activity specifically related to light rail was in 1997,

when the Transportation Master Plan came forward for approval before the Transportation Committee of what was then the regional council.

And I and several other colleagues from Transport Action spoke at that meeting. We gave a coordinated presentation on the benefits of light rail for Ottawa.

This was building on one of the reports that had been prepared by consultants as part of the preliminary studies for the 1997 Transportation Master Plan and we actually were instrumental in convincing the Transportation Committee to vote in favour of a light rail pilot project.

That was actually -- at the time it was strongly opposed by cities, staff and by OC Transpo, but the Transportation Committee overruled.

That was subsequently a key topic in an election. And Bob Chiarelli became the regional chair for the regional municipality as a result of that election on -- in part, a light rail platform. And the commitment to light rail was part of his acceptance speech after that election.

Following that, I, in collaboration with city staff, planned a workshop in early 1998,

which was the very first public meeting to show the public what light rail was all about and how it might apply to Ottawa.

That workshop was held at one of the City of Ottawa community centres, the Jim Durrell Centre, and was very well attended. I and other colleagues, and although it was organized by the region municipality, a lot of the content was provided by us, by Transport Action. And I and others presented, and we mounted displays there again, showing light rail technology from around the world.

It was partly as a result of that that I was appointed by the regional council to be 1 of 4 advisory members of the Steering Committee to implement the light rail pilot project. Two of those members were city councillors; two of the members were members of the public who had been involved in advocacy for light rail.

And those appointments were actually a requirement from the -- from city council, that there be external participants in the Steering Committee for the project, that it not be limited to city staff and consultants.

So I then participated for nearly two

years in regular meetings. They were half-day meetings every two weeks basically of that Steering Committee, dealing with all aspects of planning the light rail pilot project, including the participation in those meetings of the consultants, who were KPMG, and the rail consultant IBI, and the representatives of the different departments that were involved.

And also representatives of CP Rail, because the pilot project was being implemented in their corridor. So that was a significant thing. I won't go into more detail on that right now because obviously that was quite a while ago.

Subsequent to that, as I mentioned, I also received a similar type of appointment from what was then Ottawa City Council because there had been amalgamation of the different municipalities into the larger City of Ottawa.

And I was appointed to be -- again, 1 of 4 public representatives on the Advisory Committee for a very large transit study which was conducted by the City of Ottawa, the Rapid Transit Expansion Study, which was conducted as a separate activity from the 2003 Transportation Master Plan.

So basically the Transportation Master

Plan was done without a rail component to it, and a parallel study addressed the rail strategy, which was basically how we would build on the pilot project going forward.

That study led to further studies which were, which I followed but in which I did not participate personally, such as the identification of the priority project as the north-south corridor, with a secondary possible project being the east-west rail corridor, which ran to the south.

It wasn't the present Confederation line route. It was an existing rail corridor that ran in the southern part of the City.

But I did follow that closely and was involved, again, as a member of various environmental assessment public advisory committees.

There was one environmental assessment done on the north-south line, which led to the 2006 North-South Light Rail Project, where contracts were actually awarded for constructing the -- basically electrifying, modernizing the north-south diesel light rail service from the pilot project and extending it through the downtown.

So I participated in that environmental

assessment. I also participated in the parallel environmental assessment for the other line, the east-west line.

That project at an advanced stage, as you're probably aware, was cancelled subsequent to a municipal election, and I can go in to the details of that later. But at the moment I'm really just concentrating on my personal involvement.

I will mention that during this whole period, Transport Action had a lot of involvement directly with different players in the rail industry.

Whether VIA Rail, Canadian Pacific, railway suppliers. We participated actively in the Railway Association of Canada, which brings together operating railways and railway suppliers. Attended many conferences.

Were involved in joint activities such as the Railway Association of Canada's Rail Days on Parliament Hill, where the representatives of the railway industry met with members of Parliament to brief them on the current progress in the rail industry.

So I and others of my colleagues

actually participated jointly with other representatives of the rail industry in those kinds of meetings.

So that was all happening in the background. And, in that context, we actually had quite good relations with various rail suppliers that had been on the north-south light rail project. And that included companies like Bombardier and Siemens. Siemens was the company that eventually won the vehicle contract.

In any case, after that project was cancelled, and there are obviously a lot of complicated politics around that, the subsequent activity was in 2007, which was the formation of a task force under Mayor Larry O'Brien that was chaired by the former Transport Minister David Collenette.

And that was take to a comprehensive look into the future of rail transit for Ottawa.

That study was conducted by a panel, a number of people on the panel where they came from different sectors, one from the taxi industry, one from Transport Action, as it happened, not me, and also other people.

I think, in any case, during the

deliberations of that task force, I did submit a brief to them, and I met with them on two occasions to provide input, suggestions, perspective.

That study led to the recommendation of a downtown tunnel, and that study is available, slightly different from what the Confederation line evolved to.

Because it was proposing a tunnel that would be similar to transit systems that had been constructed in European cities such as Munich and Frankfurt, which were essentially heavy rail tunnels that would allow existing surface rail lines to actually feed into the city centre.

What that proposal recommended was more like something like the GO Transit network in Toronto, based on existing rail lines or rail corridors in the Ottawa area that would have all come together in a tunnel under downtown.

So although it was the genesis of the rail tunnel concept, it wasn't what was actually built. But I was not a member of that task force, I only provided input to it through submission and through meetings.

Subsequent to that, the actual planning for the downtown transit tunnel included an

environmental assessment, and I was a member of one of the advisory committees, public advisory committees for that assessment.

Each of these EAs had generally multiple advisory committees. One representing public community associations etcetera, one representing business associations, and one representing people with professional involvement in transportation planning.

I participated for a while in the public ones, but then by agreement with the City of Ottawa I transitioned to be a member of the -- what they call the agency consultation groups, which included representatives from organizations like Hydro Ottawa, Rideau Valley Conservation Authority, OC Transpo, different government agencies, National Capital Commission, etcetera.

And I have continued since then to participate in multiple environmental assessments on transportation planning as a member of those agency consultation groups, rather than as a member of the public consultation group.

I'm going on. Interrupt me if you want to ask me any questions as I --

KATE McGRANN: I have one question and

it's with respect to the 2007 task force that you told us about, where you said that you weren't on the task force but you submitted a brief, and I believe made some submissions.

What was the topic of the brief that you submitted?

DAVID JEANES: It was actually a proposal for a light rail tunnel -- light rail, in fact, rather than heavy rail underneath Queen Street.

So very similar to what actually got built except that it was based more on what Vancouver was doing on Granville Street in Vancouver, which was building light rail only a short distance below the surface rather than a deep tunnel.

And so there were -- I mean, there were other examples, but basically what I provided was an outline of what a light rail service under Queen Street could look like.

And the task force did not adopt what I submitted, at least not exactly, because, as I said, they went for more of what I would classify as a heavy rail tunnel than light rail.

KATE McGRANN: Okay. And I recognize

that this question may not be possible, but if possible, could you briefly summarize for us the benefits of the shallow, I'll call it, light rail tunnel that you were proposing in that brief.

DAVID JEANES: Well, the advantage of it is that you don't have the requirement for such deep elevators and escalators. People movement is easier. It was partly based on a concept which I had observed working very effectively in Tokyo, where, under the Ginza, there is a sequence of subway stations with a mezzanine above.

The mezzanine is essentially a walking roof that parallels the entire subway line. So that basically what happens is every station you get on or off at, you can actually walk from there to the next station and therefore exit at any block along the Ginza.

You don't end up with everybody pouring out of one set of stairs at one intersection and then nothing for the next half kilometre.

So the Ginza one was kind of extreme. But what I was looking at was the possibility in Ottawa of having something like that, either linked into the existing buildings on the south side of Queen Street, which had internal pedestrian

malls, there were quite a number.

So that basically you would have a sort of a continuous indoor pedestrian walking route all the way from Elgin Street essentially to Lyon Street, taking advantage of existing buildings.

Because there were many buildings particularly on the south side, the World Exchange Plaza, the Place de Ville and various other buildings that could have been integrated.

And at the same time, the stations would typically be at intersections. So that, as is quite common in Toronto or in Edmonton, when you get off at a station you can actually choose which corner of the intersection you wish to exit at, which minimizes the requirement for pedestrians to be crossing the street in large numbers.

And those ideas were not adopted in the system that has been built. In general, you know, even where there were multiple exits from a station, they didn't have any downtown stations where all four corners were provided some access to the underground.

I've strayed a little bit away from the question, but there were other issues which obviously I wasn't dealing with directly which were

things like the buried utilities, which proved to be a rather massive problem in the construction of the LRT.

And that's primarily because in Ottawa, most of those buried utilities were very old, and many of them life-expired anyway. And so it was kind of a complex situation, and some of what I proposed might have been difficult to achieve, but in retrospect probably not more difficult than the amount of work they eventually had to do anyway, basically rebuilding most of that infrastructure.

During the project, Queen Street -- although they were digging a deep tunnel, Queen Street was actually closed for many, many months during that project, during the project.

KATE McGRANN: Now, I took you away from what you had been discussing and I'll take you back there, which was your involvement in Ottawa LRTC.

You had been speaking, before I asked you that specific question, I think, about your involvement in public consultation and agency consultation, subsequently groups going forward.

Was there anything else you wanted to add about your work in that respect?

DAVID JEANES: Well, I haven't listed all of them, and it would take a bit of work for me to go back and review all of them. But obviously the principal one was the downtown transit tunnel environmental assessment. So I participated in that throughout.

But there have been many other environmental assessments that were related and that did potentially include rail components.

KATE McGRANN: Okay.

DAVID JEANES: For example, for Stage 2 and Stage 3 there were other environmental assessments extending the plan out to Moody Drive in Stage 2, for example, and Baseline Road. And then extending out to Stittsville, basically in Stage 3.

And so I participated as well on an advisory basis in those environmental assessment agency consultation groups.

And then other ones which were partly rail-related, going south, south-west transit way extension into Barrhaven and the environmental assessments eventually looking at conversion of that to light rail.

The most recent one has involved

extending light rail south from the Baseline Station down into Barrhaven, with new grade crossings of the VIA Rail line, Fallowfield Road, etcetera. And so I participated in that.

Similarly, there were other specific environmental assessments for the hospital corridor in the east end of Ottawa, which was originally considered as a potential light rail route, and the southeast transit way extension, which was looked at both as bus and rail, but was eventually decided to remain as a bus transit way project. And that's the one that roughly follows Innes Road in the east end.

As I said, I haven't covered every single one because there have been many, many of them. And some I've only monitored. I've been invited to be on an agency consultation group, but particularly if there wasn't a rail component to it, I didn't necessarily participate. But I generally remained on the distribution list for these activities.

KATE McGRANN: I'm going to stop sharing my screen now or try to at least, okay.

So thank you for sharing all of that information, I'm going to turn now to some

questions about Transport Action Canada.

I have some questions about its structure and its membership. So who are the current board members of the group?

DAVID JEANES: The Board currently -- do you want to give you actual names right now? The Board is composed of members from across Canada. Transport Action, I should say, is a registered charity, and it is a Canadian not-for-profit corporation. It was founded in 1976, and it has been a registered charity for almost all that time.

It's governed by a Board of Directors. Currently the Board of Directors has 12 people on it. Two are from Nova Scotia, one is from New Brunswick, one is from Québec, three are from Ontario, one is from Manitoba, and one is from BC. And hang on just a second. Sorry, two are from BC.

Do you need me to give you the names? The names are on the record. They're available both from Canada Revenue Agency's website and from Corporations Canada's website, and I can give you that full list.

KATE McGRANN: If you can give us the full list after the interview, that would be just

great.

U/T DAVID JEANES: If you wish, I could give you the names right now.

KATE McGRANN: No that's okay, you can provide it afterwards.

So it's governed by a Board of Directors, and then are there members of the Board as well?

DAVID JEANES: Yes, the Board of Directors is elected by the membership at an Annual General Meeting. And the membership is members across the country currently, approximately, 235 members across the country.

And the membership numbers tend to fluctuate. They tend to be higher when it's an issues-oriented organization and membership tends to increase when there is a particularly a national issue.

Transportation Action Canada is affiliated with regional organizations in different parts of the country. So there's a regional organization that's an affiliate in Atlantic Canada, in Québec, and in British Colombia and in Ontario.

And each of those regional

organizations is separately incorporated, either as a provincially regulated association or as a not-for-profit corporation.

KATE McGRANN: To your knowledge, is the Ontario related regional organization engaged at all with the Ottawa Stage 1 Light Rail Transit Project.

DAVID JEANES: Well, they are, because I actually do sit on the Board of Transport Action Ontario as well. And a lot of the activity of Transport Action Ontario has been focused on the Greater Toronto, Hamilton area, southwestern Ontario. Also there are active groups in different parts of Northern Ontario.

So the organization has a number of focused areas, and Ottawa is certainly one of them.

KATE McGRANN: Can you just describe to me generally, how Transport Action Canada and Transport Action Ontario go about the work that they have done on Ottawa Stage 1 LRT?

DAVID JEANES: Yes. Going back to the first activity that I mentioned since 1997, we have generally, through multiple people living in the Ottawa area or with an interest in the Ottawa area, produced submissions to meetings of the city's

Transit Commission, or Transportation Committee.

Transportation Committee deals mainly with infrastructure matters; the Transit Commission deals mainly with operational matters.

And we have been there, not just me, though I have presented many times at those meetings, and those generally are five-minute oral presentations. Sometimes accompanied by a written brief or PowerPoint presentation. And quite a few of our local members have made such presentations from time to time.

We've also interacted with the media, media interviews, OpEd articles and so on, related to transit.

And then also, from time to time, specific meetings with city bureaucrats.

For a period during the planning, the North-South Light Rail Project, the one which was cancelled and the subsequent planning for the downtown transit tunnel, I used to meet every two weeks with the general manager of planning for the City of Ottawa, just to go over issues and concerns.

And I've had many, many meetings with members of city staff in the planning department

over the years.

And those meetings have often involved other local members of Transport Action. I should say the way Transport Action Canada works, most of our members are actually members of both the regional association and the national organization.

KATE McGRANN: Okay. And how do your members organize the work that they have done with respect to Stage 1 of the Ottawa Light Rail Transit?

I'll give you an example of what I mean. For example, was a committee struck, are working groups organized? How do you go about doing the work that you do?

DAVID JEANES: Yeah, so we have, from time to time, had specific subworking groups. We put together a proposal back in 2006 for a significant change that we proposed to the North-South Light Rail Project.

And that involved four of our members, essentially working as a committee and producing the brief, which was then subsequently released to the media and actually had a significant citywide impact in the run up to the 2006 election.

Our local members with an interest in

transit meet regularly. We do, in fact, have a weekly Zoom meeting where we go over these issues and what we're working on.

In between those meetings we generally work by e-mail exchange when we're collaborating on preparing briefs or submissions or articles.

KATE McGRANN: Okay. The focus of the Commission, as you know, is the commercial and technical circumstances that led to the breakdowns and derailments on the Stage 1 project.

You mentioned a minute ago attending meetings with both city staff and others. Would any of those meetings have touched on topics that are relevant to the Commission?

DAVID JEANES: I would say yes. One of the most important ones was the technology forum which was held in June of 2009, and I think in one of my previous communications with you I had the wrong year for that; I said 2007.

But that was an event organized by the City of Ottawa in preparation for the decision to go with light rail as their technology.

And it was a fairly large scale conference which was held for an invited audience, but with representatives from transit systems

across the country, including Toronto Transit Commission and Calgary Transit and so on.

A number of presentations were given; city staff were there and other invited stakeholders, including myself, were there. That was then followed up with an abbreviated public presentation where the public didn't get to hear all of the presentations that had been given by the experts from other cities, but they basically got a summary version presented by OC Transpo and by the City's transportation planners.

But that forum was very significant, because it really was dealing with the question of what kind of rail transit system Ottawa should have?

Should it be a subway or a metro? Should it be a light rail and some aspects, how the stations should be designed, how it should be operated, a whole number of things like that.

And there was various advice given that came from the other cities about things to avoid, such as underbuilding the system at the beginning, designing platforms that were too short, having systems that were not, you know, where the speed of operation wasn't really high enough to provide a

good transit service.

There was advice on vendor selection for vehicles that came, the importance of choosing proven robust technology and particularly understanding how the users want to access the system.

A lot of discussion went on about specific climate requirements at that forum, and then there was also discussion about the problem of transitioning from an existing very high capacity bus rapid transit system, which was fairly unique for Ottawa.

The other cities had mostly built up their transit over many years. Toronto, for example, since the mid 1950s. So the TTC subway and related transit had evolved, whereas Ottawa was going to be a -- you know, jumping into the water at the deep end basically, where we already had a heavily loaded transit system.

So there were also presentations by manufacturers, so various vehicle manufacturers were present at that technology forum: Alstom, Bombardier, Kinkisharyo, which was a Japanese company providing light rail transit vehicles particularly for Dallas, Texas, for example, and

other cities.

That was a pretty important forum and I participated in it, and I had lots of discussions with Ottawa city staff around that event. And it did deal with many issues which subsequently were significant in the way that the Confederation line was built, and the transition from bus rapid transit to light rail transit.

KATE McGRANN: Okay. From that forum, particularly with respect to the advice that other cities and organizations provided about risks and how they could be avoided, so you mentioned underbuilding, operational speed not being high enough, and you listed a number of others.

Any pieces of advice that you can recall that you don't feel were followed in the way the City went about implementing Stage 1 of the LRT?

DAVID JEANES: Well, I think the strongest message that came was choosing technology that is proven, robust and meets the needs.

My perspective is that we didn't actually follow that route. We ended up trying to be leading edge on technology, and in fact, going to designs that were significantly different from

anything that was currently in use at the time.

And that was for a variety of reasons. So one was the decision which was made and was ratified by the City Council shortly after that forum, to adopt light rail technology rather than metro technology. Because that essentially led to the need to find a light rail vehicle that exceeded the performance characteristics of anything that existed at the time.

So the City of Ottawa actually built in requirements for characteristics like 100 percent low floor for accessibility for its vehicles, even though the industry standard at the time was essentially 70 percent low floor.

Which meant at the front and backs of light rail vehicles you can still have a high enough floor to have the necessary equipment underneath the floor.

Whereas going 100 percent low floor, which was a technology that was being developed for streetcar systems, which, of course, have to be boarded from the sidewalk, they ended up essentially having to go with a design which was quite new. And therefore, not meeting that requirement of being proven and robust.

And I think that's significant. And I'm not talking about the ability of any particular manufacturer to deliver a vehicle that met the requirements. I'm actually talking about the requirements themselves.

Because certainly that was an area that was being explored and developed for streetcar type systems, but the decision for Ottawa to go with light rail vehicle technology for what, in terms of capacity requirements, was essentially a heavy metro, was, I think, a fundamental problem and advice from that technology forum that wasn't followed.

KATE McGRANN: Along those lines, any other advice from the technology forum that you can recall that you feel wasn't followed that's related to the commercial and technical circumstances that led to the Stage 1 breakdowns and derailments?

DAVID JEANES: Well, I guess one message, and this was actually the number one message that was summarized by OC Transpo's General Manager, Alain Mercier, at the public session, was that in many cities the capacity of their initial system design was not enough.

The message is: Don't underbuild. And

I'm afraid that subsequently what we did was, we built too close to the capacity that was going to be there almost from day one.

The message certainly came throughout the implementation again and again from John Manconi, the subsequent general manager of OC Transpo, that we were building a light rail system that from day one would have the heaviest rider ship in light rail system in North America. That should have been a red flag, I think.

What happened was when we went into service, we went into service with barely enough vehicles to operate the planned frequency when nothing went wrong. When anything went wrong, we were over the line in terms of having the capacity to handle the existing demand.

So, for example, whenever we had a disabled train, we would be going to single line infrequent operation on certain parts of the system, and the system capacity would be dramatically dropped below what was already, you know, sort of barely enough to handle the ridership.

The trains were crowded to the doors from day one and that certainly led to a lot of the

door problems which plagued the system in the early days.

And so I think that what happened was that it was designed to be just enough, but not -- but not more.

-- INTERRUPTION IN THE MEETING --

Anyway, sorry about that phone ringing. Anyway, so I think that was the key system.

Just to go back to that, there were various things -- you did talk on your list about value engineering. And I think that there were some value engineering decisions that were made later on that, again, brought the design capacity of the system down from what it might have been.

One, for example, one planned passing siding was eliminated to save costs between Hurdman and Tremblay Station. That passing siding could have made in fact a significant difference in providing better fallback in case of failures.

The general opinion that we have is that the system was not designed with enough crossovers to support the times when you would have to go to single track operation on certain parts of the system.

For example, there's a stretch on the

west end which is nearly 3 and a half kilometres with no crossovers, so that really limits the overall capacity of the system whenever there is a disabled train at one of the stations.

And those seem to have been cost saving measures that brought the system capacity down to be barely enough to handle the demand even when everything was working, and not enough when there was any kind of failure.

The decision was made to require a certain number of vehicles to operate the system, and that was based on mainly considering the number of vehicles that had to be in service, plus the number of vehicles that had to be in maintenance.

But there wasn't any allowance for vehicles that would be taken out of service because of incidents.

So that when you lost a vehicle for a protracted period of time, for example, because of the wheel cracks that were detected in 2020, July of 2020, there were no longer enough vehicles to meet the original plan, because the original plan had only allowed those two factors: Vehicles in service and vehicles in maintenance.

And in order to have adequate fallback

in case of failures, they probably should have planned for more vehicles than they did. Because, again, they were designing for the expected capacity rather than in excess of the expected demand, rather.

KATE McGRANN: I would like to start now to some questions about observations you've made about technology choices and planning decisions to the extent we haven't covered them already.

Before I do, I just want to give my colleague Mr. Imbesi an opportunity to ask any follow up questions he may have at this time.

ANTHONY IMBESI: Just one question, Mr. Jeanes, and I think this will probably be addressed to a certain extent in some further questions.

When you were talking about that original public meeting that you said was critical, was anything discussed at that time about the tunneling, or was that more focused on technology and planning generally?

DAVID JEANES: I think at the time that the 2009 technology forum was held, it was pretty clear that it was going to be a tunnel.

There had been -- the 2008

Transportation Master Plan had basically looked at different operations for getting transit through downtown Ottawa, but the idea of a surface route had largely been dismissed at that point, partly because of opposition from downtown businesses.

There was a business coalition on Albert and Slater Streets which was strongly opposed to putting in a surface light rail line on those streets. And that coalition actually had a fair bit to do with the decision in 2006 by City Council to cancel the project.

So that coalition was strongly in favour of a tunnel. As I mentioned, the 2007 study that was done by the task force led by David Collenette had recommended a tunnel, albeit a somewhat different type of tunnel.

And so when that technology forum was held, we were really looking at what technology would be appropriate for operating what essentially was a subway under downtown Ottawa.

Does that answer your question?

ANTHONY IMBESI: Yes, thank you.

KATE McGRANN: Okay. So why don't we carry on on the theme on the topic of the tunnel.

You've made some observations that

we've seen in the media, in particular, asking about whether after some studies were done that indicated deeper bedrock than anticipated, and poor soil conditions, whether the plans for the tunnel should have been reevaluated.

Can you speak to us about those concerns that you expressed in a bit more detail?

DAVID JEANES: Yeah, a lot of -- digging tunnels under Ottawa is not impossible.

The Federal Government constructed a very large tunnel, basically the full length of Wellington Street, as a service corridor for providing steam heat and other facilities from the Cliff Heating Plant, which is west of the Supreme Court, all the way through downtown Ottawa.

And certainly the construction of that tunnel, I don't know whether any of the technical details about it were available, but it was a massive tunnel effort that happened a few decades ago from excavation point in front of the Supreme Court. And so tunneling in Ottawa's downtown bedrock was understood.

It was also understood that there were areas where the bedrock didn't exist. Particularly near Rideau Street, where the major sinkhole

happened, it was known that the soil there was very unstable, and that therefore a lot of precautions would have to be taken tunneling through it.

It wasn't known that similar conditions also applied in another area along Waller Street nearer to where the east portal of the tunnel happened, where another smaller sinkhole happened earlier in the project.

But certainly there was a lot of test drilling that was done over an extended period to examine those soil conditions and the -- but we didn't really have, from the public perspective, and even from the perspective of City Council, we didn't really have a perspective into how the tunnel planning was being done.

At one point, 1997 City Council treated this as a very important issue and they actually passed a motion requiring that -- this was a little earlier in the project, but requiring that a company with extensive tunneling experience had to be a major partner in the first project, which was the tunneling project that was cancelled in 2006.

Sorry, the 2006 was surface light rail. Sorry. But there was a later stage where City Council was very concerned about that.

But, in fact, we never met with and never heard public presentations from tunneling experts; all of that was really done internal to the construction consortium. So you know, although the tunneling experts and certainly the company that was involved, my understanding is had very extensive experience with tunneling. But there wasn't much visibility or transparency to those kinds of issues.

So, for example, the decision to go with a device called a "roadheader" to basically mine out the tunnel, rather than using a tunneling shield, that was quite revolutionary for Canada.

Most other tunnels in other cities including fairly recently had been built by tunneling shields. For example, the Canada line in Vancouver passing under the city centre and under Burrard Inlet was done with a tunneling shield.

The extension of the Montréal Metro to Laval in the north, had been done with a tunneling shield.

Most of the Toronto subway extensions, whether the Sheppard line, or the extension under York University and up into Vaughan in Toronto, those were all done by tunneling shields. So there

was a lot of experience there.

That approach to tunneling can deal with the problems where you transition from hard rock into unstable soil, but it requires, you know, the appropriate equipment to do that, and it's not unknown for major issues to happen in other countries.

The main north-south rail line in southern Germany was taken completely out of service when the excavation -- when there was a total collapse of the ground around the tunneling shield where they were building a high speed rail tunnel in southern Germany.

And that caused massive problems, far greater economic disruption than we had from the Rideau Street sinkhole, for example.

So it's not unknown for tunneling problems to happen, or for there to be failures.

But again, we don't know exactly what were the reasons why the different approach of mining out the tunnel with these roadheader machines was adopted rather than using a tunneling shield approach, which was perhaps better understood, and that we had more experience with in Canada.

But I'm not an expert in tunneling matters. As I said, there was really no public exposure of the planning that led to those decisions by the contractor.

KATE McGRANN: Okay. A couple of follow up questions on that.

So you had said that it was known that the soil was unstable around Rideau Street; how was it known?

DAVID JEANES: It's part of the geology of Ottawa, and it's also -- certainly, it was fully documented during the planning process, that the alignment in the depth of the tunnel and the placement of stations and so on, had to take into account those geological features. And of course it was confirmed by the testing.

You know, I can't say -- you know, there has never been a public inquiry into the Rideau Street tunnel collapse, and I believe there's still litigation going on between the City of Ottawa and the contractors over that.

There have been conflicting reports produced by the two parties on what the reason was. You know, what came first? Did the excavation of the tunnel cause the sinkhole, or did the sinkhole

happen for other reasons and flood the tunnel?

But in either case, it was a catastrophic circumstance. I believe, although I'm not certain, that they lost two of their three roadheader machines as a result of that incident and fortunately they were fairly close to completing the tunnel.

But they had to complete the rest of the tunnel with only one of the road headers operational. And those are very expensive pieces of equipment. So you know, that was somewhat catastrophic.

But certainly the need to take precautions at that particular point in the tunneling were well understood.

KATE McGRANN: Just to make sure I've covered off what you've described. So generally, as a result of information that's available about that part of Ottawa and then also specifically as a result of studies and other work done as part of the planning process?

DAVID JEANES: Yes, that's true.

KATE McGRANN: You mentioned in a CTV article that you referenced other projects in Ottawa where there were issues I think as examples

of why this should have been an area where caution was exercised.

First of all, do you know what I'm talking about when I say that?

DAVID JEANES: No, I'm not certain what that reference was to.

KATE McGRANN: Okay.

DAVID JEANES: Over the years, there have been various infrastructure issues in Ottawa, but I'm not sure that they would classify as similar to that.

We've certainly have had other sinkholes. We've had some very large sinkholes, certainly big enough to swallow a car.

One that happened on Highway 174, which is the freeway, city-owned freeway east of the City, a very big sinkhole that basically took away a whole block of Gladstone Avenue in a popular built up area in the west end.

We've had many of these sinkholes have related to water main failure or drainage problems, or things like that.

We lost a railway line that connected Ottawa north up the Gatineau Valley because of a massive washout of rail bed that occurred because

of drainage issues.

So over the years there have been many, many issues related to that. I think that is one reason why there was a question of whether the Rideau Street sinkhole had been caused by the failure of a water main, or was the water main broken as a result of the collapse into the tunnel?

So those are questions which perhaps haven't been answered and I'm not competent to judge what the answer is there.

KATE McGRANN: Okay. I'm going to move away from questions about the tunnel and the sinkhole, but before I do, Mr. Imbesi, do you have any follow up questions on those topics?

ANTHONY IMBESI: No, I don't, thank you.

DAVID JEANES: Perhaps I could offer two things. One of the things was, there were other issues, of course, with the tunnel that happened.

One of the biggest problems was the fact that a sanitary sewer was punctured during some of the surface level work and resulted in the groundwater becoming contaminated.

And because the tunnel is not water

tight, it's actually designed to allow groundwater to enter the tunnel and be pumped out, as a result you've had a persistent sewage smell since the opening of the system.

And at other points the rock bolts that were being used to secure the wall of the tunnel actually punctured the walls of the parking garage that were adjacent to the route being followed.

So there were other mishaps that occurred during the construction of the tunnel. It wasn't only the Rideau sinkhole and Waller sinkhole; there were other issues as well that occurred as well during the tunnel construction.

And whether that's to be expected or not, and whether something could have been done to prevent that happening, is hard to say. But they certainly have led to some residual problems with the tunnel. It's not really a finished product.

KATE McGRANN: Okay. Are there other technology choices that were made with respect to the Stage 1 of the LRT that may be related to the breakdowns and derailments that you observed?

DAVID JEANES: Yes, so a couple here. I mentioned already the 100 percent low floor, which necessitated the design of a new bogie, the

bogie or truck, you know, being the assembly that contains the wheels, the axles, the motor, the gearbox and brakes and so on.

Ottawa's requirements were quite complex for that because they also, to meet accessibility needs, required an innovation that didn't exist on any streetcars, which was that the system had to be automatically leveling, so it would always be exactly the same level as the station platforms.

That feature didn't exist in the bogies that were currently available. So a new bogie had to be designed by Alstom called the Iponam bogie. And, in fact, it was a new patent and developed specifically for North America, in fact, for Ottawa as the first customer for it.

So that introduced a lot of complexity, on top of which Ottawa also imposed the requirement that the vehicle be capable of speed of 100 kilometres an hour.

At the time, most light rail vehicles were designed for a top speed of 80 kilometres an hour. So this was an additional technology challenge that had to be met.

Although the vehicles have been tested

to 100 kilometres per hour, they are not actually using that speed. Their maximum speeds are really approximately 80 kilometres per hour.

So the question is whether that specification that was a requirement from the City of Ottawa was actually necessary.

I think probably what motivated it was that the light rail line was replacing buses which had a normal operating speed of 100 kilometres per hour.

It was kind of hard to imagine that you'd replace your main transit system with something that was 20 percent slower. So that may have been the reason, but for whatever was the reason, it did require new technology development in the vehicles.

And in fact, when you look at the bogie, that's where we've had many of the technical problems that have plagued the system.

You know, we've had emergency brake applications resulting in flat wheels. We've had axle bearing boxes that overheated because they weren't properly maintained and resulted eventually in the failure of the axle itself, and the derailment that happened at Tunney's Pasture.

We've had a similar problem with maintenance issues with the gearbox resulting in a gearbox actually falling off and the train derailing at Trumblay Station.

And although not specifically to do with the bogie design, we've also had the wheel cracks, which were a maintenance or installation issue that resulted in most of the -- many of the trains being taken out of service for extended periods of time and all the trains having to have their wheels replaced.

So that was perhaps a technology issue. These bogies and wheel assemblies are extremely complicated and particularly to maintain.

They have a very large number of bolts holding them together, all of which have to be torqued exactly according to very exacting requirements.

Which apparently have not been followed in a number of cases because the mistorquing of the bolts has been identified as related to the cause of at least two and possibly three of the incidents.

Another technology area was related to climate. And obviously the specification called

for operation in Ottawa's climate, which, as you know, is a very wide temperature difference between the lowest winter temperatures and the highest summer temperatures.

And it appears, that, you know, however -- and I'm not certain whether sufficient specifications were given for Ottawa's unique situation, one example being the large quantity of road salt that's used in Ottawa. And in many cases the rail line, where it's operating on the surface, is adjacent to roadways.

So we've had situations where we've had salt contamination building up on the roofs of the vehicles. The maintenance had not included facilities for washing the roofs and removing that salt.

And as a result, there were severe electrical problems, extensive system failures and a requirement to eventually replace all of the roof-mounted inductors which are part of the electrical supply system for the trains.

And so clearly, either there was something wrong with the specification or there was something wrong with the technology that was used to meet Ottawa's requirements.

Those were not the only winter problems. They also extended to the track. For example, we've had incidents of broken rail wells, which occur at low temperature. That's, you know, rail integrity is a well understood science, and so it's, you know, a little puzzling why we had those failures and that hasn't been fully explained.

The reverse problem happens in summer where at higher temperatures, when the temperatures get up into the 30-degree range, they've had to reduce the operating speed of the system for safety reasons.

And of course when you're running a system that's pretty close to capacity anyway, when you reduce the operating speed you're also reducing the system capacity, and therefore not meeting the demand.

Other countries seem to have dealt with that. You know, we looked at the rules that VIA Rail follows, for example, when it imposes speed restrictions due to high heat.

We looked at Australia, which has extremely high temperatures, sometimes getting up into the 40-50 degree range. And, again, they have generally the ability to continue rail operations

at much higher temperatures than the temperatures where we started having to have speed restrictions. So that's an issue.

There were other issues concerning snow, where the intruder detection system, which is supposed to stop a train with an emergency brake application if a person or an animal or some obstruction is on the track ahead, and that system was triggered by blowing snow, resulting in a number of emergency brake applications that then caused flat wheels, which then took trains out of service or created discomfort and noise for the passengers.

You know, a lot of the trains were actually operating with flat wheels for some time, just because there were so many of these occurrences.

And in the early days of winter, the steps in the railway stations all -- in the stations all became very dangerous because they were excessively slippery.

And basically they had to be resurfaced with a better tread in order to make the stairs safe for users, because people were falling in the stations as soon as the floors became wet.

And then there's the whole -- this isn't so much a safety question, but major changes had to be made to the bus transfer points because there had been no provision of adequate shelter capacity.

And so, for example, at Tunney's Pasture they had to essentially build a station out of scaffolding, and temporary shelter material, just because the design of the station was completely unacceptable in Ottawa winters.

So I think that was a specification issue that did have safety and failure related issues.

I haven't mentioned a couple of things related to the overhead electrical supply. Almost all the overhead conductor wire supports in the catenary system had to be replaced because of failures that were occurring under extreme weather conditions, and we also had periods where there was fairly extensive arcing.

Where, you know, where we're getting sparks as electricity jumped from the overhead wire to portions of the train that were not part of the intended electrical current path.

So, you know, all those kinds of issues

which happened really seemed to show that the requirements of Ottawa winters and to some extent Ottawa summers were not met.

One other thing doesn't really relate to safety but does relate to passenger comfort.

We had a lot of experience of winter operation on the light rail pilot project, and we had discovered there it was very important that the doors be closed most of the time and that stations only be opened when they had to be used.

So on the Trillium line, the north-south line, the normal process is that if a passenger wants to get in or out of the train, you press a button the door opens, you go through it, the door closes.

Whereas on the Confederation line the doors remain open for the entire time the train is in the station, and it's all 14 doors that are open while you're stopped. So that essentially the heating and air conditioning does not work on the Ottawa system.

And that was a decision that was made, I think, post-delivery of the trains. Possibly related to the door problems, but as a result we've ended up with a system which, from the passenger's

point of view, doesn't meet the climate control requirements that were specified, that we knew were needed from our experience with the light rail pilot project in the north-south line and that should have been used.

So you know, that's an issue it's not a safety-related issue except that potentially the decision to disable that feature of allowing passengers to open the doors resulted from all of the problems that existed on the overcrowded trains with failures of the doors during closing.

You know, they didn't want the customers touching the doors at all. And that's led to this climate problem.

People do find that it's extremely cold travelling on those trains in winter. They're based on -- although additional insulation was installed in the trains compared to what would have been used in European installations, for example, it's not really enough anyway.

And when the doors are open the insulation that is present in the doors and the walls, which are very thin, really isn't enough to provide adequate climate control.

KATE McGRANN: A couple of follow up

questions on what you've said on these topics, just to make sure I understand what you're talking about and to help our court reporter. The first one is the Iponam bogie. Do you know how that's spelled?

DAVID JEANES: Yes, it's I-P-O-N-A-M so Norman, Arthur, Michael. Iponam, and it's been fairly well documented in technical papers. It's been referenced on Alstom's own website as a product specifically for Ottawa and for North America.

And it has been patented in the -- there's a U.S. patent for it, and I suspect there are also other patents that have been applied for that really detail how it works.

But the specific requirements were to meet the low floor requirement that had been imposed by Ottawa, to provide for the automatic levelling of the train at station platforms, which involved the ability to do basically compressed air lifting.

So what would normally just be a spring suspension in these bogies is springs plus compressed air to allow some variability to ease the wheelchair access at the doors.

And then the other thing about it is

unlike the more conventional approach to light rail vehicles, which had been 70 percent low floor, you can't put all the equipment under the floor so you have to essentially place it outside the wheels.

And that's why when you're looking at the derailments, for example, you're seeing that the brakes, the electric motor, and gearbox are located outside of the wheels rather than inside under the floor, which is the more conventional approach where you can have a higher floor at the front or the back of the train.

And you can also have larger diameter wheels, which may provide better performance than the smaller wheels which have to be used with these bogies.

KATE McGRANN: You've made several references to specifications. I'm wondering whether the specifications were adequate, accurate. What specifications are you referring to?

DAVID JEANES: Well, the actual RFP, which was given to the bidders on the project, was not made public. And in some cases, I think was not even provided in confidence to members of City Council. In many cases we don't know exactly what it was that the City was asking for.

For example, I've mentioned specifically the requirements for 100 percent low floor and for 100 kilometre per hour operation. I don't actually know where I could find the precise document that states that those were requirements in the RFP. I have that information from other sources.

Similarly, the actual bids that were submitted to the City of Ottawa were not made public, and, you know, throughout this process, many documents have been treated as commercial confidence and I know that -- I have not been involved in trying to obtain such documents.

I personally, and Transport Action, haven't initiated any Freedom of Information requests, for example, to try to get at any such documents.

But certainly, there has been an understanding throughout this process that a lot of it was done behind closed doors and not visible to either public scrutiny or scrutiny by city councillors.

KATE McGRANN: Okay. Those were the follow up questions I had on the areas we just discussed. Mr. Imbesi, do you have any follow up

questions?

ANTHONY IMBESI: I have just one question, Mr. Jeanes, to tie things off. There's an article in the Ottawa Citizen after you were granted standing and it attributes a few comments to you. Some of them we just talked about in terms of your comments that not enough planning was done for winter conditions. You also made a comment or one that's attributed to you, that's asking why the City went with the train model, the Alstom model, that hadn't been used anywhere else.

Are there any issues from your perspective with the new train model that contributed to (inaudible) --

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

KATE McGRANN: Can we go off the record to address these technical issues?

-- OFF THE RECORD DISCUSSION --

ANTHONY IMBESI: Yes, Mr. Jeanes, thank you. I have one question: There's a comment that's attributed to you in an Ottawa Citizen article.

The question is why the City went with the train model the Alstom Citadis Spirit, which

hadn't been used anywhere else?

Are there any issues from your perspective that have led to the subject matters that are matters of this inquiry beyond what we've already spoken about other than the bogies and other issues that we've spoken to in relation to the train?

DAVID JEANES: Yes, I'd just like to point out that article did slightly misquote me on that point. I was specifically referring to the new bogie design when I spoke to the reporter Jon Willing.

The Alstom Citadis as a family of vehicles has been used in other cities and has been fairly widely used, but it had to undergo significant modifications including using additional insulation in the walls which I had already mentioned.

And the substitution of a new bogie design, which, because the bogie contains so many of the important operating elements of the system, that essentially made the whole thing new technology as opposed to proven off the shelf technology.

There's been a difference on the

Trillium Line in Ottawa. We are going, we are going into our third generation of diesel light rail vehicle on the Trillium Line and in each case the vehicle acquired has been taken straight off the shelf with minimal modifications for Ottawa conditions. And as a result in 2001, we obtained three vehicles from Bombardier that performed extremely well for ten years or more.

Subsequently, similar vehicles from Alstom were used on the Trillium Line and have likewise had very few technical problems because they were basically identical to large numbers, in fact, hundreds of similar vehicles that have been used in Europe in all kinds of weather conditions.

And now we're in the process of assembling and testing these light rail vehicles from Stadler in Switzerland, again, from a family of vehicles that has a great deal of experience.

And of course in Switzerland lots of operation in winter conditions, which can involve heavy snowfall and so on.

So there really was a fundamental difference that I referred to that I wasn't stating that the Citadis Spirit itself was a completely new vehicle.

Certainly not much experience in North America, although Alstom has provided vehicles, for example, for the Montréal Metro. That's a completely different type of technology from the light rail technology which was certainly being used in Ottawa for the first time, although it had been used in other cities on other continents.

I would if I could also like to go back and mention I omitted one thing when I was talking about preparedness for winter, and that was the switch heaters. The electric switch heaters, which proved to be a major source of failures on the track infrastructure.

And again, they seemed to have been underdesigned for the realities of Ottawa winters. In many cases they have now had to go to additional heating mechanisms, either electrical or substituting gas heaters for the original electric switch heaters with a larger capacity.

And again, that was probably to be anticipated. We had lots of experience with switch heaters, gas powered, propane powered switch heaters on the Trillium Line from day one and we knew exactly what was needed for reliable operation of that line.

So going with heaters of much lower capacity for the Confederation line seems to have been a mistake.

And switch heaters of course are used on main line railways throughout Canada, Montréal, Toronto. Toronto Union Station has probably nearly a hundred such heaters installed at various places around the approach to the station. And generally they're all designed to be high capacity to meet Canadian winter conditions.

So that was just another area where I think, again, we were not really meeting what should have been the specifications for Ottawa winter conditions.

Sorry to go back to that, but I had omitted it from the list of things I had intended to mention.

KATE McGRANN: Please don't apologize.

I'm going to switch our focus slightly to ask if there are any planning decisions related to Stage 1 of the LRT that you haven't already discussed that you feel are related to our mandate with respect to the breakdowns and derailments of Stage 1?

DAVID JEANES: Well, one thing I

haven't talked about, maybe it was cost-related but it's the decision to rather closely follow the alignment of the preexisting bus transit way.

That was partly done for cost reasons; the City of Ottawa already owned that corridor. It had less of an environmental impact because it was already being used for intensive transit purposes.

But in a number of places the curvature, which had been acceptable for buses, was really rather extreme for what was intended to be a 100 kilometre per hour rail system.

As a result we had very tight curves in some parts of the system, particularly between Hurdman and Tremblay stations.

Those curves present operational problems. It's been necessary to install what's called a check rail, just to make sure that the wheels are actually guided properly around the curve.

And you don't see such check rails on most other systems that are designed to operate rapid transit because, you know, generally the curves would be designed to be more appropriate for the intended speeds.

Either by not being as sharp, or the

other approach is to do what's called super elevation, which is basically you tilt the outside rail up, so that the train is kind of leaning into the curve, which helps to keep the train centered on the rails and avoid the need for an inside check rail to prevent the, to hold the wheel against the track.

So as a result, those areas, first of all they've been places where there has been stress, including one of those rail weld failures which I referred to where the rail actually broke.

There's been a lot of noise and vibration which they've tried to eliminate but haven't succeeded now. Customers are still complaining about the noise and vibration on that curve even today after many attempts to improve the situation.

And I think that's an issue. And it also does mean there are a number of places on the system where even the designed speed of 80 kilometres an hour can't be met because they've had to impose lower speed limits on those curves.

Whereas, I think you'd find on most of the bus transit way, the buses would continue to be rolling at a steady sort of 100 kilometres an hour

most of the way.

Nowhere on the bus transit way do they have speed limit signs telling the bus drivers that they have to slow down because there's a curve in the road. And yet on the Confederation line, that does happen.

So I think that was a planning issue, maybe done for cost reasons, but the system could have been designed to be better able to handle the intended speeds of operation, particularly since they were specifying 100 kilometres an hour for the vehicles.

Other things, you have a question and I don't know whether you're going to get to it in your list of topics, which is Canadian content requirements. Would this be an appropriate point to mention that?

MS. MC GRANN: Yes, please, go ahead.

DAVID JEANES: So these vehicles, like all rail vehicles, we do have rail manufacturing in Canada, but the rail industry, as has been mentioned many times, sources its components worldwide.

So the elements of the vehicles that we're using do come from all over the world. The

wheels are manufactured in one country; the car bodies in another country. The cast steel frames of the bogies come from Britain but the rest of the bogie doesn't. So various other things like that.

So Canadian content requirements, again, I don't know exactly what they were in the RFP. But certainly they have been met in various ways. Alstom assembles its bogies at a factory that they operate in Sorel, Québec. So certainly labour content is Canadian there.

The vehicles, the final assembly of all of the vehicles but 1 or 2 was done in Ottawa by using the maintenance shops at the Belfast maintenance and storage facility as an assembly facility.

So that provided Canadian employment and Canadian content for the vehicles, even though most of the components were coming from outside Canada.

And that's, that's not an unusual approach. The same approach was used with Bombardier's contract to provide vehicle, Sky Train vehicles for the Millennium Line in Vancouver. Where basically Bombardier used the maintenance facility as their assembly factory, and then turned

the facility as well as the trains over to TransLink, to operate the system.

So that's not very different, except here, the RTG was turning over the maintenance to its affiliate company, RTM, rather than to OC Transpo.

So, I mean, those are factors. I can't comment on how that, you know, what impact having Canadian labour content and Canadian assembly plants and foreign components, what impact that may have had on the vehicles.

You know, clearly there were some manufacturing issues. We know that the cracked wheels related to incorrectly installed wheels in that there were bolts called jacking bolts, which should have been removed before the wheels were assembled, and that wasn't done.

So clearly there have been some mistakes made in the vehicle assembly that might not have happened if there hadn't been a Canadian content requirement. But I can't judge to what extent the problems stem from that.

It's just a factor that maybe has to be considered. And particularly, where you can't insist on Canadian components because they don't

necessarily exist.

You know, these pieces come from whoever in the world is the, you know, the supplier of such elements. The wheels for example, the company that made the wheels is probably the leading company in the world for this type of product.

And so the fact that the wheels cracked is not something to do with the selection of the company that supplied the wheels.

KATE McGRANN: Are there any other issues that you're aware of as a result of your work or the work of Transport Action Canada that you think would be related to the breakdowns and derailments on Stage 1 that we haven't discussed yet?

DAVID JEANES: Well, I'm not really able to discuss this aspect. But you will be talking a fair bit with Thales, the supplier of the signalling and control system. Again this is an innovation.

The system that Thales installed, which largely eliminates line sight signals, the only light signals are basically at the places where there are crossovers or switches. And the

interface between the Thales signalling system and the actual vehicle control.

I think this is on your list of, you know, it's number nine on your list the Alstom and the Thales interface, the management of the same.

So here you have a signalling system which is something new for North America, I think.

I mean, Thales is a very experienced company in the field of railway signalling, but still here we're talking about something that would also fall into that category of being a technology risk, because not necessarily meeting those requirements which were mentioned back in 2009 at the technology forum, which were proven robust, etcetera.

But again, I'm not capable of making any judgments about the quality of that system. But certainly, there were some of the failures that occurred, which have been documented over the course of the operation of the system, have been because of issues between the signalling and control system and the on board vehicle control computer system.

So that's just an area to look at.

I think one other area that I'd like to

talk about, and I don't know where it fits exactly is the approach to testing the system before bringing it into service, and the way of doing the cutover from bus service to rail service.

Can I talk about that now?

KATE McGRANN: Yes, please go ahead.

DAVID JEANES: Yeah, so there were criteria that were set for how the system would be tested and they were quite strict. They required 12 days of continuous operation with a full complement of trains running at the designed service frequency which I think was a train every four minutes, and so on.

And during that period, I went out several times to observe the system and to actually record the times of all the trains on the line as they were passing, just to determine how many trains were actually being tested and how closely they were adhering to the target test schedule and so on.

I think it's fairly clear and it's since been admitted by OC Transpo, that the requirement for 12 days of continuous uninterrupted service was never met.

They stopped it several times rather

than going back to the beginning of the 12-day period. They restarted the clock part way through the 12 days, which originally was something they said they weren't going to do.

And as a result, when the system did reach a state that was called "operational readiness", it's far from clear that it actually was ready and I think that, you know, subsequent events and discussion have proven that a lot of compromises were made in those criteria.

So I think that's important. I think the amount of testing wasn't enough. The fact they didn't really do any winter testing because with the system going into service in September, most of the testing was done during the month of August, which meant they really had no idea how the system would behave once we reached winter.

By contrast, VIA Rail right now is testing a brand new locomotive and train system built by Siemens, which they're going to be bringing in as their main corridor train in Canada.

And they have said that they need to do a full year's testing and particularly winter testing, which they have been doing in and around Ottawa. As you know -- well, you may not know --

but we've had some extreme winter conditions in terms of snowfall and temperature that have been a very good test.

Normally for a system like this where it's known you're going to be operating under very challenging conditions in winter, not having any winter testing prior to the start of service, I think was a mistake.

Another thing that was a mistake then was deciding that after three weeks' operation of the system in September, it was safe to terminate the bus transit way. So the system went into service on the 14th of September in 2019, and the bus transit way was shut down on the 6th of October 2019.

I think that there were probably cost reasons for doing that. The City had certainly intended to save money by eliminating buses and reducing the bus driver workforce and so on, but that was a mistake.

If instead they had decided to continue parallel bus service at least into and perhaps through the winter, we would never have had the chaos which we had during the late fall and winter of 2019-2020.

And particularly since it had been stated again and again by John Manconi that we were transitioning from the heaviest bus-based -- bus transit system in North America which would be the heaviest used light rail system in North America.

I think that that decision to do that cutover was a mistake. There was no particular need for it because the surface roadways through Ottawa, the transit way on Albert and Slater Street continued to exist.

In fact, they left the reserve bus lane and the driving restrictions in place even after their were no buses anymore. So that it wasn't a case that the buses had to be taken out of service in order to allow the rail line to operate.

So I think that that plan for service introduction was wrong for the complexities and the demands that we were facing in 2019.

KATE McGRANN: I don't have any follow up questions on those comments.

Mr. Imbesi, do you?

ANTHONY IMBESI: No, I don't.

KATE McGRANN: The last specific area I have that I wanted to ask about today was, I'll call it the commercial approach that the City took

to this project. So the public-private partnership.

Did you or Transport Action Canada have a view on the appropriateness of that approach to implementing this project?

DAVID JEANES: Not really at the time. I think we were more focused on technical and service issues. Certainly there have been good examples of public-private partnerships in Ottawa in other areas and in other parts of the world. And there have also been disasters.

You know, Britain is an interesting example, because in the Margaret Thatcher era, Britain decided to completely privatize its railway system and turned over the infrastructure to a private operator.

Which then, from the point of view of profit motive, they neglected maintenance which led to catastrophic multi-fatality accidents.

And eventually the same Conservative government which had privatized the infrastructure operation, had to renationalize it because the profit motive in the private sector was in fact working against the operation of the safe system.

And so I think we've never made this as

a public submission, but there is a concern that when you're looking at public-private partnerships, the profit motive is always going to add a cost to the project that has to come, you know, that has to come from somewhere.

Governments generally don't have to make a profit on public infrastructure investment. It's nice if they can break even, but they don't have to build in a profit. I think that's a factor.

The other point of discussion that has come from up from time to time is financing costs because governments generally can achieve a lower cost of money than the private sector can. So that also has to be built into the costs.

You set that off against the fact that the private sector is believed to be capable of doing things more efficiently than government, so there's obviously a trade off.

And the higher costs of financing and the need to generate a profit may be offset by those efficiencies. But that's not an area where I have expertise, so really I'm saying those are matters that we discuss, but there's no clear answer that says that the private sector should not

be a partner in these kinds of projects.

Because there have been plenty of examples where private sector involvement has been very good. And we've seen, you know, fairly successful -- GO Transit in Toronto for example, decided that they would contract their maintenance and their railway operations to the private sector at that time with Bombardier.

With the case of the maintenance of the Trillium Line in Ottawa, we always contracted to the private sector; the maintenance of the vehicles was contracted to Bombardier. The maintenance of the track and infrastructure was contracted to Rail-Term, so both private companies.

But that project as a whole was still managed as a City project and financed as a City project and of course never expected to actually yield a profit.

So the Confederation line, of course, has to yield a profit in some way and normally that profit comes through the -- it's built into the cost of the initial construction contract and it's built into the periodic payments for the maintenance services over the 30-year life of the maintenance contract. But the profit element is

there.

So I don't want to say that to -- it becomes a bit of an ideological debate and there isn't a clear answer as to where the best division is between public and private participation in these large projects.

KATE McGRANN: Okay. And then along the same lines, do you have any views on what I'll call the division of responsibilities with respect to the project?

So the private partner takes on the design, the construction and maintenance; the City maintains responsibility for the operation of the system. Any views on that division?

DAVID JEANES: Well, I think to some extent it's necessary in an environment, where you -- OC Transpo is a big employer; it's a unionized employer. And in making these kinds of innovations to our transit system, it's very important to have the unions onboard as partners, rather than as opponents.

So I think there's a bit of a fine line here. The maintenance was a bit of an issue perhaps for the unions because the maintenance is contracted to RTM, and is not being done by

OC Transpo. But they've managed that, I guess.

One of the interesting consequences of that, though is we have very little insight into how the maintenance operation actually works. We see very little about what RTM actually does in the Belfast maintenance yard in the maintenance facility.

Occasionally we get reports which are submitted to the Transportation Safety Board saying that vehicles have derailed in the yard, but it's entirely an internal concern of RTM when that happens and neither the City nor OC Transpo nor the public really are involved in that.

So there's kind of a curtain that's hiding part of the operation that might not be there if the maintenance were a public operation.

For example, OC Transpo has always welcomed the public to go and view their maintenance operations at events like "Doors Open".

I think the public have a fairly good understanding or at least an opportunity to understand how bus maintenance works. And the bus maintenance garages have been built by the City, you know, with public processes and so on.

Whereas in the case of the

Confederation line, most of that maintenance activity is happening behind a curtain that we can't see through.

KATE McGRANN: What in your view are the benefits of the kind of public access that you've been describing to the maintenance facilities?

DAVID JEANES: Well, I guess people can perhaps have more pride in their work when they know other people are seeing what they do. And I think, you know, pride in workmanship and good working conditions are essential to good maintenance.

And your inquiry may be delving into that, because you already have reports from the Transportation Safety Board that indicate that there were significant maintenance deficiencies that led, particularly, to the two derailments and to the wheel cracks.

So those are kinds of issues that became public because of failures. But a more open operation might lead to a better process.

I know the City does audit the training and maintenance policies of RTG and RTM and they've employed a consultant specifically to do that.

But that's not the same as having, you know, day-to-day visibility as to what's going on. And I think that the quality of maintenance and the pride in workmanship and so on would be higher with a more open operation.

KATE McGRANN: That brings me to the end of the specific questions that I have for you. Mr. Imbesi, did you have any other questions?

ANTHONY IMBESI: No.

KATE McGRANN: So my last general question for you, Mr. Jeanes, is were there any other topics that we haven't discussed related to the breakdowns and derailments of Stage 1 that you'd like to discuss now? Is there any other information you'd like to share with the Commission?

DAVID JEANES: Okay, just trying to think through it. I mean, I mentioned briefly sort of value engineering and the decisions that were made at various points during the process to bring down some of the costs and, I don't know, the whole range of decisions that may have been taken during that process.

Some of them would have been taken by the contractor in consultation with the City.

Possibly some were taken without having to be revealed to the City. I don't know about that.

But we do know, for example, that somebody made the decision that it wasn't necessary to have temperature sensors on the axle bearings, and that that led to the failure in August 2021, the derailment at Tunney's Pasture.

And it's normal in the rail industry to monitor the temperature of axle bearings. Every main line railway has what are called hot box detectors, which are devices that are located beside the track and actually measure the temperature of every axle as a train goes by.

And that's normal, because you do get bearing problems on all kinds of trains, and bearings do overheat, and they do lead to derailments, and they can lead to axle failures.

In this case, because of the design of the bogie, the bearing box was on the inside of the wheel, wasn't visible during normal maintenance, couldn't be got at easily because of where it was under the train.

And because of the incorrectly torqued bolts, overheated, you had bearing failure, you had very high temperature, you had axle failure, none

of which was detected because there was no temperature sensor built into the system.

They couldn't use an external one because the bearing box was on the inside of the wheel, unlike most railways, where you can detect the temperature from the outside. And they didn't have sensors actually mounted.

Now they could have at a price, and for some reason they didn't. So was that value engineering during the project? Was it something the City agreed to; that the City was prepared to take that risk and so on. I don't know.

But I think that's an issue you need to look at because it was definitely related to the axle failure on the -- in August of last year.

I guess there's an issue, I don't know exactly what the status is, Transportation Safety Board reports can't be used as evidence in judicial proceedings, so I don't know to what extent you have access to the Transportation Safety Board reports.

They are public documents; we've certainly read them and are very concerned about some of those issues that happened.

We still don't know exactly why and how

the gear box fell off the train on the 19th of September when you had the derailment at Tremblay Station, but, again, it's a similar kind of thing.

As I mentioned earlier these Iponam bogies are extremely complex. They have very large number of bolts on them all of which have to be very precisely torqued.

They're subject to all kinds of stresses. Not only the interaction between the wheel and the rail, but the disk brakes, the gearing between the motor and the wheel and the complexity of the suspension.

So there's a lot of stuff there that needs -- very intensive maintenance is required and has to be done exactly right.

So you know, that's an issue for the derailment at Tremblay that you know we haven't seen a final report on that yet. So not clear exactly how that happened. But of course that was fairly catastrophic because it tore up several hundred metres -- or it required the replacement of several hundred metres of track, destroyed part of the signalling system.

Serious damage to one of the train sets and fortunately no injuries to any member of the

public, although it did happen on an inservice train and there were passengers on that train. Unlike the derailment at Tunney's Pasture the previous month, where the train was already out of service when it derailed. But you know, it could have been more serious. If those trains had been operating under rush hour crowd conditions, those could have been quite serious incidents.

I think that's probably all I have to say right now. I will get to you the articles related to Ottawa LRT from the Transport Action newsletter.

Also, the presentation that I made to the Rapid Transit Task Force under David Collenette and a list of the transit systems that I visited and also the presentations that we arranged for Transport Action from people from other transit systems.

And I think I mentioned already that included the Toronto Transit Commission, the Calgary Transit, also the Canada Line in Vancouver, we had a presentation from senior management of the Canada Line at one of our national board meetings that we had held in Vancouver. So plus other things like that.

So I will submit that to you. And if there are any other things that you feel that I need to document in terms of dates or specifics, I will also give you the list of board members of Transport Action Canada. And I could do the same for Transport Action Ontario as well if that would be relevant for you, because -- for the Board for Transport Action Ontario.

KATE McGRANN: Yes, that would be helpful, thank you.

DAVID JEANES: If there's anything else you feel I should submit to you, I'll try and do that as quickly as I can.

I understand your absolutely drop dead date is the end of April, but I want to be much sooner than in terms of getting the information to you. I'll try to get it to you within a few days.

KATE McGRANN: Much appreciated. I think this will end the mark the end of the interview.

If we have any further questions, we'll be in touch and if you come across further information that you want to share, please feel free to send it to me.

-- Concluded at 11:05 a.m.

REPORTER'S CERTIFICATE

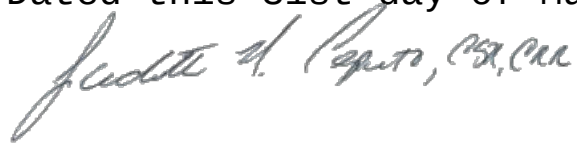
I, JUDITH M. CAPUTO, RPR, CSR, CRR, Certified Shorthand Reporter, certify;

That the foregoing proceedings were taken before me at the time and place therein set forth;

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

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

Dated this 31st day of March, 2022.



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