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Chair

Mr. Merv Tweed

Standing Committee on Transport, Infrastructure and Communities

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● (0850)

[*English*]

The Chair (Mr. Merv Tweed (Brandon—Souris, CPC)): Welcome everybody to the Standing Committee on Transport, Infrastructure and Communities. This is meeting number 39. We have some committee business at the top of our orders.

When we left the meeting the last time, there was a motion by Ms. Michaud and an amendment proposed by Ms. Chow. We are now debating the amendment, which says that the motion be amended by deleting the words “and obtain approval from municipal and provincial governments before the development of a new aerodrome is formally considered”.

I had a list of speakers prepared. I had Monsieur Aubin and then Mr. Poilievre. We finished with Monsieur Coderre, so I'll open the floor to Monsieur Aubin.

[*Translation*]

Mr. Robert Aubin (Trois-Rivières, NDP): Thank you, Mr. Chair.

I will try to be brief so that we can have the benefit of our guests as long as possible.

From the outset, I would like to tell you what the problem is for me. One thing we often hear, and that we heard again at our last meeting, is that the motion should be disposed of quickly because it would slow economic development.

Nothing in the amendment or motion would establish conditions that would slow economic development in any region of Canada whatsoever. In fact, what we are seeking with the motion and the amendment is instead to harmonize the various areas of citizens' lives. Although economic life is important, it is not the only criterion determining the quality of life of a citizen in a region.

What is the point of investing in urban development and infrastructure plans that provide for land use plans, if a single player can thwart everyone's efforts at every turn? That is really the purpose of the motion we are debating this morning. The Supreme Court has previously held that federal legislation takes precedence over Quebec's Act respecting the Preservation of Agricultural Land.

Landing strips are rarely built in the mountains. Consequently, we constantly encroach on potential agricultural lands, which are becoming increasingly scarce, whereas they must feed a constantly growing population. It is fine to work miracles in order to increase and intensify agricultural production, but the fact remains that agricultural lands must be preserved.

Not all flatlands are necessarily agricultural lands. We believe it is essential to comply with the various legislatures, the various levels of government, municipal, provincial and federal. Those levels of government should harmonize their legislation to promote sound economic development and to enable every sector to develop.

The mayor of my city might not be very proud if I called Trois-Rivières a small city. It is a large city of 125,000 to 135,000 inhabitants, which has an airport and where there is a significant amount of aerospace development. Just this past weekend, we celebrated the 50th anniversary of Trois-Rivières' airport. There was an open house at Aviatech, Premier Aviation and Nadeau Air Service. All the businesses at the airport were open to citizens. Here again, we see a development model in which we have managed to harmonize citizens' needs with economic development. We believe this is entirely possible.

I had a bit of fun reading the Aeronautics Act, since I am quite new to this committee, and I discovered that section 4.9 states the following: "The Governor in Council may make regulations respecting aeronautics and...may make regulations respecting..." It contains the word "may", which means that action may be taken. Paragraph (*e*) of that section states that regulations may be made respecting "activities at aerodromes and the location, inspection, certification, registration, licensing and operation of aerodromes." So action may be taken respecting location.

There is no "not in my backyard" syndrome here. We are not saying that aerodromes should not be built. We are saying that, when an aerodrome is developed, the various municipal, provincial and federal stakeholders could consult each other to find a better location that would allow for the most balanced development possible.

That is not just the gist, but also the primary objective of this motion, which I hope will be supported by the largest possible number, indeed the majority.

Thank you, Mr. Chair.

[*English*]

The Chair: Thank you.

Mr. Poilievre.

Mr. Pierre Poilievre (Nepean—Carleton, CPC): Yes, Mr. Chair, we of course support continued development of our aviation system. It employs very large numbers of people and provides a service that a country with Canada's geography cannot live without.

Every single Canadian wants another airport in somebody else's municipality, and that's why we don't allow municipal governments to determine where they go. So I'm opposing this particular motion and I'm going to continue to work to promote the aviation sector in this country.

As such, I move to adjourn debate on the motion. Thank you.

● (0855)

The Chair: There's a motion that has been put and it is not debatable. It is votable. So I will call the vote on the motion to adjourn—

Ms. Olivia Chow (Trinity—Spadina, NDP): Mr. Chair, on a point of order—

The Chair: It's not debatable.

But a point of order.

Ms. Olivia Chow: If there's a motion, you can call the question, but you can't do that after you speak. So the motion is to adjourn debate, that is, to stop all discussion. Is it in order to stop any debate? So if we're in the middle of discussing a motion, or a committee member is speaking—and I know there are other speakers to come—can we just stop all discussion? Is that how it can be done normally? That's curious. I thought you could call the question, but you can't in the middle of a discussion stop all the debate on a motion.

The Chair: We had a very similar situation a couple of weeks ago, and this was the same process. So the motion is in order.

Monsieur Coderre, is it on the same point of order?

[*Translation*]

Hon. Denis Coderre (Bourassa, Lib.): Mr. Chair, I find it unfortunate that increasing efforts are being made to gag the Liberal Party every time the two parties are able to speak to each other. If you want to play at that, I will be tempted to speak at great length next time. I warn you: bring a pillow because it will last a long time.

I am saying for the record that all parties agreed to adopt this motion. I was even one of those who requested adjournment so that we could hear the witnesses and subsequently would only have to vote on this bill. Once again, we cannot trust the Conservative Party, and I find that very unfortunate.

[*English*]

The Chair: On the same point of order, Ms. Michaud.

[*Translation*]

Ms. Élaine Michaud (Portneuf—Jacques-Cartier, NDP): We are debating the amendment. If we adjourn debate, is that only on the amendment, or do we return to the motion? Here the amendment takes the government's concerns into account. We tried to allow the discussion. Now we would be coming back to the initial motion, which caused the problem. We are currently discussing the amendment, and I do not believe we can adjourn the entire debate on the matter. Unless I am mistaken, the process is done in two stages.

[*English*]

The Chair: I appreciate all the advice I'm receiving. None of the points of order raised are points of order. It can be done. Monsieur Poilievre has made a motion and I'm going to call a vote on that motion now.

All those in favour of the—

Ms. Olivia Chow: Can I challenge the chair, please?

The Chair: There hasn't—

Ms. Olivia Chow: Yes, we can challenge the chair.

The Chair: Okay.

Ms. Olivia Chow: Allow me to say why I challenge the chair. I know there's no debate on it, but I need to say why I challenge the chair.

Mr. Chair—

The Chair: Ms. Chow, please. The decision of the chair has been challenged. It is immediately votable so I will ask the committee to decide.

Shall the chair's ruling stand?

All those in favour?

(Ruling of the chair sustained [See *Minutes of Proceedings*])

The Chair: We'll now move to the vote on the motion of Mr. Poilievre that we adjourn debate.

An hon. member: A recorded vote, please.

The Chair: A recorded vote has been requested.

(Motion agreed to: yeas 6; nays 5)

● (0900)

The Chair: We will now move to the second order of business and invite our guests to the table, please.

We'll take a brief recess while they move up and take their chairs.

● (0900)

(Pause)

● (0900)

The Chair: Welcome to our guests joining us today. Pursuant to Standing Order 108(2), we are studying innovative transportation technologies.

Joining us from the Société de transport de Montréal, we have François Chamberland, director of engineering service, operations; and Étienne Lyrette, corporate advisor, governmental affairs. From the Société de gestion et d'acquisition de véhicules de transport, we have Serge Carignan, director.

Welcome, gentlemen, and thank you for your patience. I know you have a presentation, and then we'll move to questions and answers.

Please proceed.

[*Translation*]

Mr. Étienne Lyrette (Corporate Advisor, Governmental Affairs, External Relations and Strategic Planning, Société de transport de Montréal): Good morning, everyone. Thank you for this opportunity to speak to you. It is very much appreciated.

Allow me to begin with a brief presentation by the Société de transport de Montréal, the STM.

The STM is the 14th largest business in Quebec. It has more than 9,000 employees and an annual budget of over $1.6 billion. It is quite an elaborate public transit network with 4 metro lines, 68 stations, 759 metro cars, 209 bus routes and more than 1,700 buses. There are 1.2 million passenger trips per day. The STM is thus a major carrier not only in Quebec, but in Canada as well.

Mr. Serge Carignan (Director, Engineering and Technical Services, Société de gestion et d'acquisition de véhicules de transport): All transit authorities in Quebec have opted for electrification. There are eight other transit authorities apart from the STM. The STM's bus fleet represents one-half of transit vehicles in Quebec. If you multiply the STM's figures by two you will have a good idea of what is going on in the province.

We have opted for electricity because electricity is reliable in Quebec. There is an abundance of hydroelectric power. Electricity is also affordable. However, one of the main reasons is that Quebec's electricity is clean because more than 95% of it is generated by hydroelectric means.

A bus uses nearly 40,000 litres of fuel a year. That represents approximately 200 million litres for the Quebec fleet annually. We can consider the current cost of gasoline, but that amounts to a budget of more than $200 million. We want to reduce that dependence and prevent money from being taken out of our pockets and going outside the province, and outside Canada most of the time. It costs one-fifteenth of that amount to run a vehicle, a car or a bus, on electricity rather than on oil.

We also have greenhouse gas emission reduction targets, as the provincial government has stated: 20% by 2020 based on the 1990 figures. We want 95% of the transit vehicle fleet to be electric. Montreal's metro is already 100% electric. Consequently, 50% of passenger trips are already made possible by electricity, but we would like to increase that figure to 95% by 2030.

● (0905)

Mr. François Chamberland (Director , Engineering Service, Operation, Société de transport de Montréal): The STM has set its own objectives in order to achieve that target. The STM's objective is to acquire only zero-emission vehicles, but by 2025. That means that the standard bus that the STM buys in 2025 will be 100% electric and will recharge overnight and be in service all day, achieving, we hope, the same performance as the diesel buses we operate today. Performance is very important. If our buses perform at a lower level, we need more buses, drivers and depots, as a result of which operating costs are much higher. This is something that a transit company the size of Montreal's cannot really absorb.

The public transit of tomorrow will definitely be electric in Montreal by 2025. Electric buses performing to current standards are not yet available, but we have a plan to get there. We have six projects, and that is what I am going to present to you.

We have already changed the standard STM bus. In 2012, the standard bus runs on up to 5% biodiesel. All transit authorities have signed a contract for a group purchase of hybrid buses over a four-year period starting in 2013. Why a hybrid bus? We have taken advantage of a federal program, the Urban Transportation Showcase program, to test hybrid vehicles in cooperation with our colleagues from Gatineau. That is the bus that appears in the photograph. We have been able to compare the performance of this hybrid bus with that of our standard buses.

We have measured fuel savings of 30% in our actual operations in Montreal. Based on our current fuel cost, we will be able to recover our investment by the end of the buses' economic life, which is 16 years. In addition to reducing greenhouse gas emissions and fuel consumption, we will ultimately save a little money. The four-year contract, which will be awarded very soon, covers 1,000 buses for all of Quebec's transit authorities.

We also have another project to introduce electric midibuses in Montreal. Midibuses are a little smaller, 9 metres long instead of 12. They are smaller because current batteries do not perform as well. We cannot have an electric 12-metre bus that performs to the desired level. So we are going with smaller buses. With these buses, we cannot engage in massive public transit on very busy routes. We are targeting tourist routes. Initially, they will be the Old Port in Old Montreal and then Mont-Royal park and places like that.

The STM has ordered seven midibuses. The contract has been awarded, and our call for tenders was of course public. That is part of the problem we want to speak to you about this morning. We received only one bid. A single company is interested in supplying us with electric buses: DesignLine, in the United States. After conducting some checks, we awarded it the contract. For the STM, this is our first experience with electric buses. We will learn a lot about operations, maintenance and engineering. Of course, we will share all we learn with the other transit authorities interested, in both Quebec and Canada.

We cannot achieve the target set by the provincial government, which is to have 95% of passenger trips by electric public transport by 2030, using the smaller buses that I showed you. The heavy traffic is not on the tourist routes, but rather on the major routes. We have two projects addressing the major routes where there are a lot of people, where we have to go fast, where we have to move a lot of people.

The purpose of the first project is to reintroduce trolleybuses to Montreal. We have a study under way. We are looking at three very busy main lines in Montreal and some 100 articulated buses with increased capacity. The trolleybus is an completely proven technology. Today some 40,000 trolleybuses are operating on roads around the world, in snow, on ice and in the mountains, without any problem. This is really not a technological challenge. The challenge, of course, is to convince the city's urban planners to add routes, but we are working very hard on that. We are convinced the public will be very receptive to these buses.

● (0910)

The next project concerns a slightly heavier mode of transportation than trolleybuses. And it is intended for busier routes. It is a tramway system. The City of Montreal and the STM are partners on this one. The objective is to reintroduce tramways to the streets of Montreal. The studies have been completed. We are talking about three tramway lines. The City of Montreal is currently looking for funding. This is quite an expensive project.

We are future-oriented. This is not just about midibuses and trolleybuses: we have to think of all our other bus routes. We have a project under way with our partners, Nova Bus and Bombardier. The idea is to recharge a 12-metre electric bus, a standard bus for the STM, by induction, that is to say without contact. That is what you see in the picture. This is in fact very simple: a plate generates an electromagnetic field when the bus is above it, and a plate under the bus captures the energy without making contact. This is what we want to test. It is really a research and development project. This technology is currently raising more questions than it answers, but we are confident. If it works, and we hope it does, it will help offset current battery performance deficiencies and enable us to put 12-metre electric buses into circulation long before 2025.

The STM still calculates its greenhouse gas emissions by displacement. We take into account not only bus emissions, but also those associated with our buildings and service vehicles. According to a new STM policy, every time we have to replace a service vehicle, whether it be a car, a truck, a van or a special vehicle that operates in the metro at night, we conduct very serious market research to find an appropriate electric vehicle. As you can see, we recently bought a number of Chevrolet Volts. We try to find electric vehicles in every case.

Mr. Serge Carignan: There are also projects at transit corporations other than Montreal's. The nine transit authorities have joined forces and are sharing in all the projects. The people from the Laval authority have bought a fully-electric 40-foot bus and are waiting for delivery. In Quebec City, under the urban transportation showcase program, which the federal government has subsidized, they have bought seven electric microbuses, which are now in operation in Old Quebec. In addition, a project to convert a hybrid vehicle to a plug-in-type electric vehicle is being considered by the Longueuil transit system.

There are no electric bus manufacturers in Canada, and that is really a problem. Some are currently conducting research and development, but, generally speaking, there is no supply in this area in Canada. Supply is very limited even in North America. As we mentioned, in a recent call for bids, only one bidder expressed interest in manufacturing that type of vehicle. Foreign manufacturers are also not very interested in coming to North America because regulations pose numerous challenges for them. In the United States, transit authorities tend not to opt for electricity. Instead they look at natural gas and other substitute products. As electricity is not always produced cleanly, it does not necessarily represent a major advantage. The cost of electricity in the United States and elsewhere in Canada is quite high, and, in many cases, it is produced using fossil fuels.

I told you there were a number of manufacturers in Europe and Asia. However, it is difficult to buy small quantities of these vehicles as a result of regulations. For example, if we want to test four or five vehicles, it is not cost-effective for a foreign manufacturer to provide us with that kind of product on that kind of scale. There will be other challenges when we want hundreds, and that will cause other problems. North American regulations are different from those in Europe and elsewhere, and this is a challenge that we constantly have to overcome.

As previously mentioned, some federal programs have produced results in the past. The urban transportation showcase made it possible for us to evaluate the hybrid buses. Consequently, in our next call for bids, we will buy 500 hybrid buses with an option for 500 more. In other words, this program has produced positive results. The fact that seven electric buses could be tested in Quebec City has opened the door to this technology. This enables us to look into the future and to consider using a vehicle of this kind. In short, financial support has produced results in the past, and I believe the same kind of support will be necessary to enable us to move forward.

● (0915)

Mr. Étienne Lyrette: Our recommendations are similar to those already stated by my colleague. To provide some assistance in the transition to a fleet of electric buses or, as necessary, a fleet of electric vehicles, the idea would be to facilitate the importing of foreign technologies, at least in the short or medium terms. To be able to conduct trials and pilot projects, an effort should be made to address the issues of standards and compliance with the countries with which we might be doing business.

Support should obviously be provided for the electric transit file through research and development and showcase programs. This is the third time we have mentioned this, but an initiative like the urban transportation showcase program is a very big success story. A technology has been developed and we now see the actual results that has produced. We have taken part in the development of a Canadian industrial sector and we are now buying hybrid buses. These programs are not necessarily financially significant on the scale of the Government of Canada, but they are really promising and have had very positive consequences for both the environment and from an economic and social standpoint.

On a slightly larger scale, transit projects should be eligible for the next infrastructure program. We know the federal government is reviewing its building Canada plan and that public transit was an eligible category in that program. That helped support a number of projects across the country. We would obviously like public transit to remain an eligible category in the next version of the program, which is scheduled for 2014.

Thank you for your attention and for allowing us to share our views with you.

[*English*]

The Chair: Thank you.

Monsieur Aubin.

[*Translation*]

Mr. Robert Aubin: Thank you, Mr. Chair.

Good morning, gentlemen. Thank you for your presentation. I hope this will encourage you to make a quick switch to these technologies of the future. However, I admit I initially thought, that's it, we will be adopting these electric vehicles very soon, but the more I listened to you, the more I saw the barriers to establishing a full fleet.

If possible, I would like you to tell us about this regulatory flexibility you are seeking that would enable us to import technologies from countries that are clearly ahead of us. I am thinking of certain European countries, for example. Could you give us some examples of the barriers you are facing?

Mr. Serge Carignan: For motors, Canada relies on U.S. regulations. In the case of city buses, a single manufacturer in North America manufactures an eligible motor for public transit purposes. There is competition in Europe: five or six manufacturers build motors that meet European standards. If you compare European standards to those in North America, you can say that, when a North American standard is established, it is more restrictive, but that the European standard subsequently exceeds it. They follow each other and, year after year, seem quite similar to the average person. If we accepted a European standard, we would see that a bus in Paris is not that different from a bus in Ottawa. The European companies could then provide Canada with vehicles equipped with European motors. They currently have to import the motors, which is not cost-effective for them. The Canadian and North American market is very small compared to the European market.

We now have two manufacturers in Canada: one manufactures between 500 and 1,000 buses a year and the other between 2,000 and 3,000. In Europe, every manufacturer builds 4,000 to 8,000 buses a year. Our market is a small one. Standards are too strict and unappealing for European companies. If they could send us a stock bus at a reasonable price—because it should also be said that volume makes for good prices in Europe—we would be able to benefit from the technology developed there by multinationals such as Volvo, Mercedes and Scania. Our bus manufacturers here are not necessarily large companies like that. New Flyer and Orion International, for example, sometimes receive support, but we are talking about small volumes and small manufacturers.

● (0920)

Mr. Robert Aubin: Can you give me some concrete examples of the differences between those standards? We are not just talking about conversion. We are not wondering whether we are going to use a European plug or an American plug to recharge batteries.

Mr. Serge Carignan: In North America, bumpers must resist a collision at 7.5 km/hr, whereas the standard in Europe is 5 km/hr. As a result of this 2.5 km/hr difference, a European front bumper does not meet the Canadian standard.

Mr. Robert Aubin: Consequently, electric technology is not necessarily the problem.

Mr. Serge Carignan: I see, it is not the electric technology. There is something lacking in the standards. The problem stems from all the other parts of the bus. It is in that area that this does not meet the standards. In Europe, you have to break the glass in an emergency. In Canada, the glass must open in response to a blow, but it must not break. As a result of these choices, which each party has made, standards are incompatible.

Mr. Robert Aubin: So we could make the technological switch, but we would have to find a bridge in the very design of the buses, which would at least make it possible to conduct pilot projects.

Have there been any requests for a pilot project with buses that meet European standards?

Mr. Serge Carignan: Transport Canada allows us to import a vehicle for one year, but it has to be destroyed at the end of the year or it must leave Canadian soil. A Fiat IVECO is currently being tested in Montreal. Several thousands of units of that vehicle are being manufactured in Europe. We are entitled to one, but we will test it over eight months because we must not exceed one year. Then we will return it. We cannot acquire it; that would be too expensive since we can only test it for one year. We have reached an agreement with the manufacturer that is lending it to us for a year.

Mr. Robert Aubin: Has a request been made to the federal government to amend that rule, which would make it possible to introduce a pilot project?

Mr. Serge Carignan: Requests beyond one year are denied.

Mr. Robert Aubin: Have you been given a reason or are you just denied?

Mr. Serge Carignan: I have no answer to that question.

Mr. Robert Aubin: Do you believe that this target of changing over 95% of the fleet is realistic? The objective is to reach 95% of transit trips in electric vehicles, if possible. However, the more I listen to you, the less I see how that can be achieved unless there is a substantial change in the rules that would allow us to move the file forward.

Mr. François Chamberland: As Serge said at the start of the presentation, the target is for 95% of trips to be done by electricity. So we are not talking about 95% of the vehicles, but about 95% of trips.

Currently in Quebec, half of public transit trips are done by vehicles powered by electricity. We are already at 50%. The Montreal metro transports people on electric power.

We are trying to introduce two heavy means of transportation in Montreal: the tramway and the trolleybus. These two modes of transport will be used for the six or seven busiest routes in the Montreal system. So we should make a jump of 20% or 25% with those two systems alone. They are proven technologies. This is not really a technological challenge since tramways and trolleybuses run everywhere. Money is the issue.

Then we should look at batteries. We do not have a choice since we will not be installing wires across Montreal Island to run the trolleybuses and definitely will not be installing rails across Montreal. So we have to look to rechargeable buses, and that is the objective of our research and development project. We want to try to increase the range of existing buses beyond what batteries currently permit.

Today you have to add a 6,000-kg battery to a normal 12-metre bus in order to have a 500-km range like a diesel bus. That is a really big challenge. It is a technological challenge for battery manufacturers.

What helps us a lot—

● (0925)

Mr. Robert Aubin: At what level of government are the obstacles preventing you from further developing this bus and tramway project?

Mr. François Chamberland: The biggest obstacle in the case of the tramway is currently funding. So that is at the provincial level. As for the trolleybus, the project is currently under review, but we are confident. Hydro-Québec will help us with the fixed equipment that comes with the trolleybus. Quebec's department of transport would be prepared to pay the difference between the cost of a normal vehicle and that of an electric vehicle, in other words the difference in price for a trolleybus.

Funding for the trolleybus project is going very well. Where the trolleybus project could bog down a little is really over the issue whether it is acceptable to reinstall wires. It was very expensive to bury all the wires in Montreal, and now we want to add wires. One factor is working in our favour: modern trolleybuses do not always need to be touching electric wires. We can lower the poles, run a few kilometres on batteries or accumulators and reinstall the poles a little farther on. So if the trolley is in an area where we do not really want to reinstall wires, that will not be an obstacle.

For example, in China—

[*English*]

The Chair: I have to interrupt there. I'm sorry.

[*Translation*]

Mr. Coderre, it is your turn.

Hon. Denis Coderre: Thank you very much, gentlemen.

This is important in two respects. First, we have talked a lot about natural gas since the start. Here we are showing that there is another alternative solution. The purpose of our work is to produce a range of recommendations. I would like to thank you for your presentation. Then there is the issue of recommendations. We are going to go directly to the heart of the matter.

I am referring to what my colleague told you earlier about regulations. I understand that you are recommending, for example, if there is a free trade agreement between Canada and the European Union, that there be an intellectual property and regulatory factor that would permit greater vehicle traffic. Is that correct?

Mr. Serge Carignan: Yes, that is exactly it.

Hon. Denis Coderre: As for regulations, are we able to enter into bilateral agreements without having an extensive free trade agreement? Are there any countries in Europe with which we could work more? Can we talk about France or Germany? Could that be a possibility? It can take a lot of time to establish an agreement with the European Union. Do you think we could proceed in that way?

Mr. Serge Carignan: The members of the European community have standardized their regulations. A major step has been taken in that area. They have also raised their standards. The United States has traditionally had very high standards respecting vehicle pollution. As I explained earlier, now it is similar. When the United States Environmental Protection Agency issues a new standard, the United States is ahead of Europe. Two years later, however, Europe adopts a new standard and moves ahead of North America.

For a transporter whose vehicle we hold on to for 16 years, we do not necessarily need to comply with standards every month. The two standards are quite equivalent, depending on the time of year when we select the vehicle. I remind you that Canada does not write its own standards, but bases them on those of the United States. If we had a vehicle that complied with European standards and that we were allowed to operate in Canada, we would be in a position to say that it is good for us because it complies with the American or European standard. In that case, we would have a greater extension.

Hon. Denis Coderre: That is purely bureaucratic, a little like what the United States is doing with natural gas, in particular. Shouldn't we create a secretariat that would report to Transport Canada and that could rely solely on those regulations? Would that be a good idea?

Mr. Serge Carignan: That would be a very good idea. I did not mention that European standards have been adopted in South America and Asia. We can virtually say that the rest of the world is adopting those standards. A large volume of the buses produced in Brazil meet European standards. That would open the door to a promising market, in addition to improving the competitiveness of our suppliers in this country relative to other suppliers.

Hon. Denis Coderre: Do you have the IACO standards? For ground transportation, could this situation be an opportunity for an international treaty as well, since we are not far from it? We can think of the United Nations. Is that kind of thing conceivable? I imagine that is being talked about.

● (0930)

Mr. Serge Carignan: Not only is it feasible, but it would also be easy because the standards are very similar. It would not be difficult to put forward that kind of proposition since a committee could examine the matter.

Hon. Denis Coderre: So to help you with electric vehicles, for example, it is appropriate to recommend that our committee give priority to the issue of equipment standards.

Mr. Serge Carignan: Absolutely.

Hon. Denis Coderre: That's good.

Representatives of other municipalities have come to see us and have talked about natural gas. Quebec, as a society, has chosen electricity. However, there is natural gas. Have you done any studies on vehicles powered by natural gas? What is your opinion, particularly with regard to greenhouse gases? We are told this is the best invention since sliced bread.

Mr. François Chamberland: Yes, before selecting electrification and even before the provincial government announced its objective of electrifying public transit, we did our homework. So we studied buses with hydrogen fuel batteries, buses powered by natural gas and all kinds of other buses. I will spare you the list; I do not need to talk about that. For buses powered by gas fuels, such as natural gas or hydrogen, especially natural gas, Montreal commissioned studies from the École polytechnique de Montréal. When we study the full energy cycle of the bus, it ranges from the well to the wheel; it is utilization and everything else. According to those studies, natural gas produces the most greenhouse gas, much more than even the gas-hybrid buses currently being used. When we consider that in relation to electric buses and trolleybuses, which are powered by very clean Quebec hydroelectricity, there is no comparison. Natural gas produces four times more greenhouse gas. That is the case for Montreal.

Another problem caused by buses running on natural gas and hydrogen is that they run on fuel that is lighter than air. That means we would not be able to put them in our garages because of electrical code compliance issues. This means we would have to maintain those buses outdoors or in new buildings constructed in accordance with much stricter safety standards than what we have now.

Furthermore, the large fleets of natural gas buses that we have seen are located in countries with much warmer climates than ours, where they can be left outdoors at night and can even be refuelled outdoors. I have even seen people maintain them outdoors. Modifying our infrastructure to suit those kinds of buses would involve a very significant investment for us. As I mentioned to you, for natural gas buses in Montreal, we would wind up with more greenhouse gas than we have today. That is why the STM has clearly chosen electricity for Montreal.

Hon. Denis Coderre: Is there a technology for trolleybuses? There is obviously the wire syndrome. It is a matter not just of expanding the roads, but also of being stuck with the wires. Have you looked into the matter or checked to see whether there were other technologies, such as magnetic energy, for example, or something else? Do we really need wires? If there were a plate underneath the trolley, could that do?

Mr. François Chamberland: With trolleybuses, the wires are a very serious issue. Unfortunately, induction, magnetic and other technologies are mainly applied to tramways, and that is very recent even in that case. We are still talking about demonstration projects; this is not really in service. For trolleybuses, it must be understood that a trolleybus is not guided. The driver drives the vehicle. It is difficult to align the plate and the sensor.

No similar technology is available today, and there is not even one being demonstrated or tested. Our induction demonstration project is the closest thing to it. It must be understood that the bus must stop on the plate and stay over it for several minutes in order to recharge. This is entirely incompatible with what we want to do with the trolleybuses, which is to move people quickly. We do not want to stop to recharge; we want to stop, let people off, let people on and leave.

[*English*]

The Chair: Merci.

Mr. Richards.

M. Blake Richards (Wild Rose, PCC): Thank you, Mr. Chair.

● (0935)

[*Translation*]

Good morning, my friends. Thank you for your presentations today.

[*English*]

I would like to first delve a little further into some of the regulatory barriers that you are suggesting exist to our being able to bring the fully electric model into Canada.

You mentioned earlier something about how there was a one-year rule in terms of the trial. I am still a little unclear on that. Can you tell me exactly what that barrier is? Can you explain that a little further to me?

Mr. Serge Carignan: To import a vehicle and to be able to put the plates on it and use it on a daily basis, you need to meet the CMVSS standards. These vehicles do not comply with the CMVSS. These vehicles have different lengths, angles, whatnot, and different security measures that may be equivalent but not exactly the same. So they can't be used on a regular, daily basis. If you were to purchase more than one vehicle, even keeping them one year would not be possible.

But since we're asking for one, two or three buses, depending on the project, we're permitted to keep that bus for the duration of one year. That's a derogation that we're asking for and we have special permission for that.

Mr. Blake Richards: But where's that through? Is it Transport Canada?

Mr. Serge Carignan: It's Transport Canada that mandates this.

Mr. Blake Richards: What specific section, rule, or regulation is that?

Mr. Serge Carignan: It's the Canadian motor vehicle safety standards that have to apply. You can't buy a European car if it doesn't meet the safety standards. So European carmakers sell thousands of buses here so they can modify their vehicle to comply with the CMVSS. But if we're purchasing a hundred buses, a lot of engineering has to go into them to meet the standards. That's why it's not done in cars.

Mr. Blake Richards: Okay.

So essentially, what you're suggesting or asking for is an exemption from that rule when looking at trials, or something to that effect?

Mr. Serge Carignan: We'd like to purchase these vehicles. For one year it's not worth the million dollars that an electric vehicle might cost. They produce a lot of electric buses in Asia, Japan, and Korea, but to European standards, because the Europeans are most likely to purchase these vehicles in the near future. If we want to purchase them, they comply with European standards and not North American standards, and so we can't import them and use them for a reasonable number of years. These vehicles have to be kept for at least seven or eight years to make the original purchase cost worthwhile.

Mr. Blake Richards: I'm always interesting in hearing ways that government can help to allow the adoption of new technologies and things.

Can you tell me any other hurdles or barriers that are put up by the government, or regulations that you feel need to be changed or tweaked in any way? Just tell me anything else that you can suggest that maybe we could do to help remove some of the barriers that exist for you.

Mr. Serge Carignan: Certainly we lack funding right now to do these projects. There is no funding for public transit work. We've discussed the fact that financing is looked at on a provincial basis. Why is that? It is because there's no federal money to help us, so we have to analyze it on a provincial basis.

Mr. Blake Richards: I have to interrupt you there. Certainly over the last few years, through the economic action plan, there's been all kinds of federal investment in transit in this country, despite the fact that it's not really a federal jurisdiction. So I would have to disagree with you on that.

But what I was asking you specifically is whether there are any regulatory barriers or hurdles—you know those types of things—that we can address to help you to be able to adopt these technologies. That's the question I was asking.

Mr. Serge Carignan: The regulatory measures are our biggest hurdle right now. We'd like to attract foreign companies to invest in building buses here, or to help us by bringing the technology that they have abroad. If there could be any type of encouragement to do that, that would also help us.

● (0940)

Mr. Blake Richards: Can you give me specific examples?

Mr. Serge Carignan: Well, there were three Canadian bus manufacturers. There are now two. It's not a Toyota, it's not a big brand, so they don't have millions of dollars to invest in developing these technologies. They're forced to do little projects and try, as best they can, to get together an electric bus. But it's nothing like dealing with what we have abroad, where big companies are making them.

Mr. Blake Richards: You're suggesting that there are regulatory barriers to that. I understand but I'm not hearing what those barriers are. I'm asking for specifics, if you can provide them. If you'd like us to try to be able to make changes and recommend changes, we need to know what specifically those barriers are so that we can make a recommendation.

Mr. Serge Carignan: It's a case of our either accepting their regulatory measures or modifying our own to comply with their measures. I am referring specifically to lengths, angles, types of windows, and other safety issues. I mentioned the bumper a while ago. The bumpers are good for five kilometres in Europe. We ask for 7.5 here in North America.

So it's all about these little things throughout the vehicle; it's not the propulsion system, not the electric system, that's the hurdle. It is, however, the engine. This is a big hurdle in itself, because we have just one manufacturer in North America that can build an engine for a city bus, whereas there are dozens in Europe.

So these types of measures are what the big hurdles are right now.

Mr. Blake Richards: Not to belabour the point any further, would you be willing to table with the committee a list of some of the specific things you might like to see changed? That would be helpful to us when we are looking at doing our report.

The Chair: Thank you. I have to stop you there.

I'm going to Mr. Leung.

Mr. Chungsen Leung (Willowdale, CPC): Thank you, Mr. Chairman.

Let me first say that I used to work for UTDC, 30 years ago. What I would like to know is, can you bring me up to date on the status of the fuel cell with, say, Ballard in Vancouver? Why is it not widely used in urban transit applications?

Mr. François Chamberland: As I explained a little earlier, fuel cell buses are electric buses: you merely replace the batteries with fuel cells. All the traction system in the bus is the same.

The problem with fuel cells is with the hydrogen in them. Once you put hydrogen in a bus, you cannot put the bus into our depot. In Montreal we have seven very huge depots. It's quite simple; it's a problem with the electricity on the ceiling. It has to be explosion-proof. You need have to have special detectors, you have to even have some part of the roof or the wall that can be blown off, if there's a problem. Our huge depots were never meant to have these inside.

Also, the way the hydrogen is produced, it's not that clean. If you look at the bus itself, the bus produces no pollution at all. But you have to know that hydrogen is produced by natural gas. It needs energy; it's not zero-emission, when you look at it.

Mr. Chungsen Leung: Let me go to my next question, then.

Currently, in your calculation for your bus routes, what is the person-per-hour, per-direction capacity that you're looking at for urban transit, for either gas or electric buses? What factor do you use?

Mr. François Chamberland: That's a tough one. We don't look at it this way.

STM bus service is built around 12-metre buses that can accommodate 60 people. The service is built with buses of this capacity that can be left outside for more than 24 hours without refuelling. I think the range is 500 kilometres.

If you change that, we have to buy more buses. If you go to smaller buses or to buses that need to be recharged or refuelled in less time, we need more depots, we need more drivers, and our operational costs would go up very fast.

Mr. Chungsen Leung: In my experience with Asian transit systems, a lot of them expressed to me that an urban transit system, especially those using buses, is a closed system. When it is a closed system, why are we concerned about the safety regulations that we have imposed upon ourselves in Canada?

For example, Montreal itself is a closed system. I don't expect you ever to export your buses, unless, when they're finished their service life, you send them down to South America. But before that, within the seven-year economic life that you mentioned, because it is a closed system, why, if we buy enough of them, wouldn't the suppliers around the world—the Fiats, the Volvos, and all of those—not meet our requirements for the windows, for example? As far as the propulsion system is concerned, it's not a problem. Most of the stuff is just very minor cosmetic changes to the bus.

● (0945)

Mr. François Chamberland: You have to understand that the transit bus market in Canada is not very big. Even if we have thousands of buses to buy in the next four years, those thousands of buses are for a big European company that builds every year....what?

A Voice: It might be 8,000.

Mr. François Chamberland: You have one company that builds 8,000 a year, and you have many companies like that.

They would be interested in coming to us and selling the buses and putting them in conformity with our rules and regulations if they could sell those buses to the United States, but they will never sell a bus in the United States because of the Buy American Act. That's a big problem for us.

We saw it with the midibus I showed you, the smaller electric bus. When we go to big industrial shows, they are all after me to sell me electric buses. Then I tell them that I am from Canada.

“Oh, tough luck!” That's what they told me.

Mr. Chungsen Leung: That's the same problem that existed 30 years ago with a lot of the Japanese and the Korean bus makers. At that time, the suggestion was that they should set up in the United States. Is there still a barrier to their building buses in the United States? I know that we've lost our Blue Birds, our Flyers, our Orions, and so on. Is that still the situation with the Buy American Act?

Mr. François Chamberland: Yes.

You have to understand that North American buses are built to the Americans' liking. They're very huge buses. They're very tough, they're like tanks, and they're very heavy. We have them in service for 16 years in Montreal. They're very tough.

European buses are lighter, smaller, and cheaper, but they will not make 16 years in our streets, the way we use them. They will not meet the standards of NYCT, for example, which has very high standards for big buses. They have a big test, a mandatory test, for every bus, which is called the Altoona test. I'm sure that if we put a European bus through that, it would be destroyed by the end of the test, and the bus is supposed to survive this.

The European and the Asian manufacturers are not very interested in engineering a big bus like that to try to compete with big, well-established, American bus companies. So the Europeans and the Asians have no interest in the United States.

Mr. Chungsen Leung: But if you look at the MAN buses in Germany, are those not built to U.S. standards? If they're being used in U.S. airports, then do they not have buses that meet those standards?

Mr. François Chamberland: In an airport, you—

Mr. Chungsen Leung: I mean MAN, the German makers.

Mr. François Chamberland: Airport buses are special buses. They're much bigger, and since they don't go into the streets, the rule doesn't apply. You can buy whatever you want to ride on your private property. It's not a street, so they can use anything.

The Chair: Thank you.

Ms. Chow.

Ms. Olivia Chow: I noticed that recently your ridership has gone up. Is that because of new technologies that you have used? I know that electric trains that I've taken are very precise and show up at the right time. Would it be the same with buses? What kinds of technology were you able to use to increase your ridership, or is it just that you run a good ship and more people like to take public transit?

● (0950)

Mr. François Chamberland: You're right that our ridership has been rising, with record figures over the last years. Unfortunately, it's not because of technology. STM has been very aggressive with publicity, in a big public campaign saying that it's very intelligent for someone to take the bus or take the métro, and that it's not only economical, but that you're doing it not only for you but also for the planet. We're very aggressive about this, and the message is getting through.

The other thing we did was add service. I think on the bus side we added 27% more kilometres within the last four or five years, so that you wait less time for buses. It's very linked to the increase of service.

Over the years we have had financial difficulties at STM. Our budget was cut year in, year out, so we had to cut in service. But now, over the last five years, the money is back, so we put on more and more service. Even in the métro we have had a huge increase of ridership because we've added some more service.

Ms. Olivia Chow: Do you know whether there's a body that would take all the emerging technologies, whether they're hybrid buses or things that are happening in different cities...?

Does CUTA, the Canadian Urban Transit Association, bring together all the best practices for emerging technologies, and then do they collectively identify the regulatory barriers?

For example, it was surprising to hear that you can only pilot something for one year. Why not for five years?

Is there a list of all the regulatory barriers that are preventing different transit authorities across Canada, especially big ones, from going ahead with using emerging technologies?

Mr. François Chamberland: There are two sides to your question. The first side is about best practices. For the last 15 years I have been a member of many international committees. The UITP, which is the international union of transporters, makes exchanges with all the major metros of the world and all the major bus transit societies around the world. We participate in NAPTA, which is a North American association of all the operators. And of course, with CUTA, in Canada, we exchange all the best practices.

We work very closely with BC Transit on our demonstration project on the recharging of buses with induction, which I showed you. So BC Transit will be with us on this, not at this stage, because it's too early, but on the next stage when we put more buses into service. We also hope to put some buses like this in Vancouver.

It's very difficult when you gather a lot of different people to speak about the rules and standards, because internationally you have the European standards and you have the North American ones. But in CUTA, certainly, they're looking at this. We are a member of it and we work with them on this issue.

Ms. Olivia Chow: I know there's a second part of the.... Calgary, for example, wants to pilot the natural gas bus. So if they're able to do so, then you would see whether it works or not. Do you share that kind of information with each other?

Mr. François Chamberland: Yes, through CUTA we do that. But you have to understand that natural gas buses have been around for more than 20 years. I don't see the point of having a demonstration of natural gas buses. You can buy them off the shelf today. Even New Flyer offered them. So it's not new technology.

The Chair: Mr. Holder.

Mr. Ed Holder (London West, CPC): Thank you. I'd like to thank our guests for being here today.

I'd just like to make the point that something not being new technology doesn't necessarily make it bad technology. I really appreciate the testimony that you've provided today, because if you've followed our hearings thus far, we've been getting more information about the use of propane, natural gas, and the like. So I find it very fascinating to have your testimony today.

Mr. Carignan, I'd like to understand this a little better. I do appreciate that STM is responsible for the Island of Montréal, the bus systems, and you seem to be responsible for everything.

● (0955)

Mr. Serge Carignan: It's for the nine transit authorities, including STM. We do joint procurements when we purchase buses. The buses that are used in Quebec City are the same as those used in Montreal, except for the colours of the seats and the exterior.

Mr. Ed Holder: How did that come about? I ask because you have, dare I say, a monopoly, a leadership role in guiding all of the various municipalities in *la belle province*. I'm just trying to understand better how that came to be, because that will help frame my next couple of questions, please.

Mr. Serge Carignan: It started actually when Montreal Transit was purchasing a high volume of vehicles. Trois-Rivières, which purchased 20 buses for three years, wanted to buy into the contract. So STM was buying buses for everyone, but at some point they said, well, this is a full-time job and a full-time team should take care of it. So we created what we called ATUQ. It's the nine transit authorities brought together. And we have an office now with permanent employees who purchase the buses for the nine transit authorities. You must understand that we have to compromise, that we have to discuss with the nine of them to make sure that the product we're purchasing is sufficient and that it meets the needs of all nine transit authorities.

Added to that, we've given ourselves a role of looking at what's being done throughout the world. And if something is done in Montreal, we want to share that information with the rest of them, and if something is done outside of Montreal, we want Montreal to share the data. So we provide that service and that commonality.

Mr. François Chamberland: Perhaps I can add something. STM is a huge bus operator, so we have a responsibility to the smaller ones to test new things. I have many engineers and technicians working for me. If you take the Trois-Rivières society, they have no engineers. So they use AVT, Serge's group, to get information from us and it's really a matter of coordination among everybody.

Huge bus companies like those in Montreal and probably in Toronto and Vancouver have this responsibility to test these things with our knowledge, with our engineers, with our mechanics, with our technicians. For example, we don't do that too much with the metro, because on the metro side, we're not a big metro, so we leave those experimentations to the Paris metro, to the New York metro. Because even if it's very big, the metro in Montreal in comparison to other metros is small.

So these big metros have a responsibility to us to test all those new technologies. But we do that on the bus side, because I think we're the fourth largest bus fleet in North America, in Montreal.

Mr. Ed Holder: Your focus, though, would be on hydroelectricity, because of the natural circumstances in Quebec where hydro power is so readily available. Have you found any application for that same technology throughout Canada? Have you shared that with others?

Mr. François Chamberland: Yes, in Vancouver they have the same hydroelectricity that we have. They have a lot of it. If you look at the whole picture, if you look at all the pollution you make from well to wheel, throughout the cycle, it changes if you're in Montreal or in Calgary. I can understand that Calgary wants to use natural gas. It's right there. To use natural gas in Montreal, we have 4,000 kilometres of pipelines, with leaks, so it changes the amount of pollution you make on the way. You have to make sure the electricity you're using is clean, because in some countries they burn very nasty things to make electricity. It's not because it's electric that it's clean. You have to have clean electrical sources.

Mr. Ed Holder: Based on that, Mr. Carignan, a couple of us around the table have talked about regulatory barriers. You mentioned the Fiat bus from Europe. You said that you would like to be able to acquire a vehicle for more than one year, but there were some regulatory barriers. I thought you said you'd like to purchase the vehicles, but it wasn't practical. But when you were asked why, I think I heard you say you didn't have an answer. But there has to be some reason behind that. I think this committee would be interested in knowing it.

● (1000)

Mr. Serge Carignan: I worked for Transport Canada in the past, and they have very strict rules. It's hard to change any of them. It would be a major overhaul and a major introspection for them to look at the European standards, compare them with our own, and then decide to accept what the Europeans are doing. If they have a new standard coming up in two years, they're going to accept that voluntarily without having anything to say about it. In Canada, the safety standards are based on the American standards, although they differ a little with daytime running lights, labels, and stuff.

The Chair: I have to stop there, sorry.

Mr. Sullivan.

Mr. Mike Sullivan (York South—Weston, NDP): Thank you, Mr. Chair, and my thanks to our guests.

Tramways are very expensive to install because the infrastructure is expensive—laying rails, etc. Have you considered tramways on existing rail corridors?

Mr. François Chamberland: No, the existing railway corridors in Montreal are already used by suburb trains. You don't have enough people around those tracks to use a tramway there efficiently. A tramway has more capacity than a trolley bus, because a tramway can be six cars or eight cars in length. It's like a small train. To make it worth it, you need a huge number of people living around the tramway or travelling in that corridor for short distances. A tramway does not go that fast; it's not a suburb train.

When you have very few people to transport, you use small buses. If you want to transport more people in one direction, you use 12-metre buses. After that, you have articulated buses. You can use trolley buses on these sites. At one point, all the buses are in line, one behind the other, so you need something bigger. Then you can look at maybe double-articulated buses, which I haven't seen in North America yet. Then you look at tramways, and if the tramway does not do it, you have to look at the metro.

Mr. Mike Sullivan: In Europe, they already use contactless tramways—they are electric, but without wires. Is that something you're considering in the future?

Mr. François Chamberland: I have to correct you. They're not contactless. The one in Bordeaux has a power pickup in the ground. That would not work in the snow and ice in Montreal, that's for sure.

The other system is from Alstom, and it also touches the ground. They would have to show me that it works with two inches of ice, like we have in Montreal. So on the ground, if it's not induction, magnetic or something, I don't think it would work in our winter.

Mr. Mike Sullivan: And nobody has built any of those yet?

Mr. François Chamberland: No, magnetic...is too expensive.

Mr. Mike Sullivan: It's like my toothbrush.

The Chair: Do you have a magnetic toothbrush?

Voices: Oh, oh!

Mr. François Chamberland: Yes, but with a little more power.

Mr. Mike Sullivan: Everybody who's got a little powered toothbrush has contact with the inductive battery charging that goes on.

Mr. Serge Carignan: It has to be close. The proximity is essential for that type of technology.

Mr. Mike Sullivan: Right, and so snow might get in the way of that.

Mr. Serge Carignan: Well, if you're an inch too high, you're not going to get the....

Mr. Mike Sullivan: In Toronto there are hybrid buses but my understanding is that their implementation has not been as successful in terms of fuel savings as they would have liked, because the batteries have not had the life that they would have liked.

Have you learned from their folly?

Mr. François Chamberland: With hybrid buses, you have to understand that for them to work, to save fuel, you have to use them wisely. You have to brake a lot, because the hybrid buses use electric braking to recharge the battery. If you go on a highway with a hybrid, it's worthless; and even on the highway, the hybrid will probably consume more fuel because you have the weight of the battery and you have this extra volume too.

In Montreal our commercial speed is 18 kilometres an hour, which is very slow, because we're always downtown in the traffic. So with the batteries that we have, to save the 30% of the fuel, as we've shown you, we have to use the buses at 18 kilometres an hour. So it's all downtown Montreal. We would not put these hybrid buses on the highways at first to go to either end of the island, because they would not save fuel. I think in Toronto they use the hybrids everywhere and I think they save less than 10% in doing so.

So it's very expensive. But in Montreal with the slow speed that we have, as we're always on the brakes, it will work perfectly. We've tested it with the federal program, the PDTU that we have, and we're quite sure that it's resulting in a 30% fuel saving.

● (1005)

Mr. Mike Sullivan: I listened with interest to your comment about the regulations that prevent you from bringing readily available European fleets into Canada. One of the things you commented on was that to open a window on a bus you have to be able to push it out, but in Europe you can break the glass. And yet, on a VIA train you can break the glass. It's the same Transport Canada making the regulations for trains and buses, and yet they accept it on a train but don't accept it on a bus. It boggles the mind—but I see that they're taking notes over there. So I think that's one of the kinds of things that this committee can make recommendations about.

The Chair: Thank you, Mr. Sullivan.

Monsieur Poilievre.

Mr. Pierre Poilievre: Before beginning, I have to correct you on one point. You did say there's just no federal money to help with these matters. I'm sorry, but 20 years ago you would have been right: there was no federal money then, because, as a rule, federal governments did not fund municipal infrastructure of this kind. Budgets were literally zero.

Today we not only have a permanent gas tax fund, which transfers a continuous and predictable flow of money to municipalities like Montreal, which is the second-largest recipient in the entire country, but there's also a capital fund called Building Canada, which provided a record number of dollars. In addition to that, we just concluded a stimulus program that lasted two years and stacked another multi-billion dollar commitment, of which Montreal was an enormous beneficiary. Even in your presentation, you pointed to the federal contribution to one of your buses.

So I am sorry. We absolutely have to correct the record when witnesses come here and say there's just no federal help and they're not getting any assistance from our level of government.

Do you want to accept that correction? Or do you dispute it?

Mr. Étienne Lyrette: I just want to make it clear here. We totally recognize the effort that has been made, especially with the Building Canada fund, in which we know there is a tremendous amount of money. That's why, for the next generation, or what I would call the next program that will come in 2014, we want to make sure that public transit stays in the eligible category.

So we recognize that. We recognize as well the gas tax fund transfer, which is quite useful for our own municipality as well.

I think the point here was specifically about R and D, for a program like the program we have here. In English it's the urban transportation showcase program. That was a very, very small program, but very useful for testing new technology like hybrid or electric.

But I totally agree with you.

Mr. Pierre Poilievre: I also agree that the Hippocratic oath for doctors should apply to government policy, and that is to start by saying “do no harm”. Before we talk about what government should do to help, let's make sure government actions are not the problem in the first place.

You have identified some challenges with regulation on the importation of foreign vehicles and so on. Just to reiterate the request of my colleague, Mr. Richards, I'm interested if you could provide us with a very specific list, including the articles, the sections, and the wording, of what is problematic for your permanent importation of transportation technology that would help you be cleaner, more affordable, and better for the city.

Could you provide us with a very highly specific list of those things because then we can take those to a group of Transport Canada officials before this committee, ask them why those rules exist, and potentially recommend their amendment.? Would you be able to provide us with that list of problems and also proposed amendments?

● (1010)

Mr. Serge Carignan: Sure. We could do that. We will do it.

Mr. Pierre Poilievre: Those are all my questions. Are there any others who want to take the rest of my time?

Mr. Richards.

Mr. Blake Richards: Thanks, Mr. Poilievre, for sharing a little bit of time with me.

You made a comment earlier in response to someone else's question regarding natural gas and its use in transit. Maybe I heard you incorrectly, and I want to make sure that I didn't, but you seemed to indicate that you had some evidence or a study from somewhere indicating that these vehicles produce four times the greenhouse gas emissions of regular, conventional gasoline powered buses or vehicles. Was I correct when I heard that?

Mr. François Chamberland: The four times is not in comparison with diesel buses, but electric buses in Montreal. You always have to look at this for your specific application. Montreal is very far away from a gas source and we're readily plugged into very clean electricity. That's what you have to compare.

If you move to another city, like Calgary, you have to make a study. These studies are very complicated. They have to be made by a university. They have to be checked and challenged by international experts. We're in the process of getting all of these challenges. That's why I cannot show you these figures because it's still in a study.

Mr. Blake Richards: You haven't got anything you can provide the committee that demonstrates the evidence behind that or the study that's behind that statement?

Mr. François Chamberland: I could provide you a study comparing a Euro 3 bus with a diesel and natural gas bus, the same bus, and you will see that it produces more GHG emissions.

Mr. Blake Richards: I find it troubling that statement like that is made without your being able to provide us with evidence to back it up. I find it fairly hard to believe, actually, to be honest. I'm not going to suggest that you're misleading the committee by any means. I would ask that if you're going to make a statement like that, it would be useful to have some evidence you could provide. So if there is something you can provide the committee in writing or verbally today, I would ask that you do so.

The Chair: I have to stop you there. Thank you.

Ms. Michaud.

[*Translation*]

Ms. Élaine Michaud: Thank you very much.

Thank you for your presentations. That was very interesting.

In fact, I wanted to continue on this same subject. I was interested too, but perhaps in a different way.

In your assessment of greenhouse gas emissions, you also include transportation through pipelines. This is a whole; it is not just about the use of buses in the city. Have I understood correctly?

Mr. Serge Carignan: When it is used, a natural gas-powered vehicle produces greenhouse gases. These are carbon chains. In addition to CO_2, you have to look at the gas molecule itself. A gas molecule may escape along the way while the vehicle is being fuelled or repaired. A CO_2 molecule leaving the vehicle's exhaust pipe counts as 1 molecule, but a CH_3 molecule, natural gas, that escapes into the environment is the equivalent of 20 molecules burned. So the molecules lost throughout the circuit are punished 20 times more than 1 molecule leaving the vehicle's exhaust pipe.

That is what the studies often do not take into account. They take into account what comes out of the vehicle, but they do not take into account the entire chain that the gas must go through. It is not necessarily only the distance that the natural gas must travel, but also the way it is handled. Emptying a vehicle's tank by mistake has disastrous consequences, when you know that you have to multiply by 20 to obtain the CO_2 equivalent.

Mr. François Chamberland: As Mr. Carignan explained, a bus running on natural gas has a vent that allows gas to escape. There is no exhaust on an electric bus. Consequently operating an electric bus in downtown Montreal generates no pollution.

And there is not just air pollution; there is also the noise. An electric bus makes no noise, nor does a trolleybus or a tramway. A bus running on natural gas uses a combustion engine, similar to a diesel engine: that makes noise. The noise levels of the STM's buses are a problem. The STM cannot offer certain routes at night because they are too noisy. We will be able to offer them with electric buses.

So there are a lot of benefits for us in switching to electric buses.

● (1015)

Ms. Élaine Michaud: As you said so well, the noise, greenhouse gas and weather issues are very important and relevant for the City of Montreal. Your call for more test programs has been heard, at least on our side. I hope that can happen for you.

You also talked about the ecolobus in Quebec City, which I am very much interested in. I come from the greater Quebec City area, so I have had a chance to try them a little. Are you at the STM cooperating directly with the people of the Réseau de transport de la capitale on your midibus project?

Mr. François Chamberland: Yes, absolutely. We share all the demonstration projects with the AVT group, where Mr. Carignan is the director. We have meetings several times a year. We share our experiences, our good and bad efforts and our results. We have agreed not to conduct the same demonstration twice in two different cities. The small six-metre bus project is being done in Quebec City, whereas the inductive recharging project is being carried out in Montreal. The bus project in which batteries are recharged at night is being done in Laval, whereas the project involving the hybrid buses that will be plugged in is being carried out in Longueuil. We are sharing all that with each other. We can share it with all the other transit authorities in Canada. There are no secrets within the Canadian Urban Transit Association.

To get back to the urban transportation showcase program, I must say that the hybrid test we are carrying out is the only scientific study on hybrid bus performance being conducted in the world. Our study has gone around the world I do not know how many times. We are getting calls from Asia, Europe and Africa. Everyone is asking us questions about our study, which is available on our website. There are no secrets. We are a public corporation. So it was not a partisan study. The idea was simply to take measurements, to compare and to provide results.

Ms. Élaine Michaud: This is very interesting. It would definitely be interesting to look at that study.

Are you considering using midibuses in Montreal in the same way as the ecolobuses are being used in Quebec City?

Mr. François Chamberland: No. The ecolobuses in Quebec City are very small and very limited. You are familiar with them. I believe their maximum speed is 33 km/h. That is tough on the hills.

In fact, the midibuses are as wide as normal buses. They are bigger than the ecolobuses. I believe those buses can reach a maximum of 120 km/h. They can travel 120 km in a day and are also equipped with air conditioning. The midibuses are really used for public transit and can transport a lot more people than the buses of the small tourist line you have in Quebec City. They are bigger.

Ms. Élaine Michaud: That is interesting.

My speaking time is already up. So thank you.

[*English*]

The Chair: Thank you.

Just before I recognize Mr. Toet, I think it's important to note that when you talk about the benefits of electricity and electricity-driven vehicles, coming from the province of Manitoba, where we have large resources and large hydro projects, I would point out that there certainly are environmental impacts from developing those dams and displacing communities. In fact, in Manitoba we're still paying for dams that we built 30 years ago.

So just to balance the record out, as much as I believe that electricity-driven vehicles are more efficient compared to gas-driven ones, we're not looking at all the factors necessarily on the electrical side of it, too.

Mr. Toet.

Mr. Lawrence Toet (Elmwood—Transcona, CPC): Thank you, Mr. Chair

And thank you to our guests. It's been very informative and very appreciated. I wanted to ask you a couple of questions, though, regarding the buses from Europe.

You're going with the minibus here in North America, a 9-metre bus compared to a 12-metre bus. Are the buses that are being used in Europe on an ongoing basis 12-metre buses?

Mr. François Chamberland: No. Actually, we only saw 12-metre electric buses in Shanghai. These buses were only able to do a hundred kilometres with the battery charge. They have another type of 12-metre bus in Shanghai that they recharge at every stop. They have a rig on the roof that goes up and connects to a wire that they lower, like a trolley. They go to the next stop and they recharge. They don't use a battery, but a supercapacitor.

We are not very interested in this because it's very slow. At every stop you have recharge. I think it's an academic exercise: they wanted to prove something, and that's what they did. It's not really transit-oriented technology, but a technological demonstration.

In Europe they have a lot of smaller electric buses. They have four companies that build them. They use them in Paris and Rome, in the historical centres of many cities, or where it's sensible to have no noise, no pollution, and smaller buses. We were hoping that these companies would offer us some buses when we went for public tenders to get some, but with all of the regulations and changes that were required of them, with the differences involved, they would have had to make investments in doing so. And it was only for seven buses, so they were not interested in bidding for a contract. That's why we got buses that are to be built in the United States by DesignLine.

● (1020)

Mr. Lawrence Toet: That does answer my question very clearly, but it brings me to another question. My sense was that by making changes in the regulations and opening up the European market, we were going to allow you to bring in the 12-metre buses that you need. Now I'm hearing that would not be the case.

Is there a huge advantage over the 9-metre buses in Europe compared to the seven buses that you're bringing in? Are they far superior in how they're made? Are they far superior in lifespan? In fact, I guess that ties in a little bit because you were talking about the life cycle of a bus from Europe compared to a North American bus, that a European bus probably wouldn't even survive the testing phase in the United States. I'm looking at it and asking if you are getting a far superior bus. I would assume so, based on the standard testing that this North American bus would have to go through.

Where is the rationale for this huge need for this European bus? I'm not saying it's not there, but I'd like you to maybe explain to me why we have this huge need for the European market.

Mr. François Chamberland: For the electric buses, as I explained, the problem is not the traction, it's not that technology, but only the batteries. If you want to have some range, you have to have a smaller bus. That's why electric buses in Europe today are only smaller buses, 9 metres long. But within the next 5 or 6 years, and maybe 10 years if we're unlucky, the battery industry is really gearing up for the auto industry. They are investing millions and millions of dollars to develop the electric battery because they want to sell it to the car industry.

Mr. Lawrence Toet: I'm sorry to interrupt you, but we did have a witness a little while ago regarding battery technology who essentially said to us that nobody knows when battery technology is going to get to where it needs to get. Even though they've done more than 30 years of research, he indicated that there's a good chance we're looking at another 30-plus years before we actually get to that point. I think we've got to be careful making assumptions that we're that close, because we've had experts on battery technology who have told us they don't believe they're even that close.

Mr. François Chamberland: I showed you that STM is aiming to get a 12-metre bus with a decent range by 2025. This is not out of nowhere: it's a consensus that we have with international experts from the industry and from our involvement in UITP, a consensus with STM and other big operators around the world. We have a battery industry in every country, and we're very confident of this figure, that 2025 will be it. Maybe it will be 2027 or....

In Quebec we have IREQ. I don't know what it is in English. It's the research centre from Hydro-Québec. They already have a battery that can do the job, but it's a prototype. It costs so much. We cannot put that in a bus today because it's not readily industrialized. But it's a 10-year process, and maybe we're three years into it. I'm quite confident that within less than 10 years we can get more than 300 kilometres out of an electric 12-metre bus. Then it will be interesting.

You have to understand that there's no challenge with doing the traction. Electric traction is very old; it was in the streets of Montreal in the 1940s. It's only a matter of the batteries and whether we can get energy sources that can be stocked somewhere. We're getting there. My comment was about the amount of money that they put into the battery industry now.

The Chair: Thank you. That ends the first round.

I'm going to open the floor for one more round of a couple minutes each.

I'll start with Monsieur Aubin.

● (1025)

[*Translation*]

Mr. Robert Aubin: Thank you, Mr. Chair.

In fact, before we let you go, there is one topic that we have said virtually nothing about and that I would like to hear you talk about for a few minutes. And that is your inductive recharging research project.

I would like to know how that works. Unless I am mistaken, earlier you said that you have to stop for at least a few minutes above the plate. So it is not a plate that you install at red lights, where the buses pass and take advantage of that to recharge. What system is it?

Mr. François Chamberland: A lot of promises have been made about the induction system. A lot of things have been shown and a lot of ideas about it have been bandied about. We are working on this project and we are trying to make it work with our partners, which are Bombardier and Nova Bus.

We have seen that there are a lot of genuine constraints. For example, you have to protect the passengers from electromagnetic radiation. As you will understand, the energy radiating underneath a bus is very intense.

As for the plate, it is not easy to get a bus with a floor 1 cm off the ground. That cannot work. The plate has to be as close as possible, with a mechanism that can lower the plate to pick up the energy. We have not yet designed an operating bus, but we believe it will be necessary to recharge the bus for 10 minutes so that it can operate for 50 minutes. We want to test all that. That is the point we have reached in our current calculations.

Consequently, it would not apply to an express bus route or a busy route. We anticipate installing the service at Parc des Îles in Montreal. That would be perfect because the bus would do a short loop in 30 minutes and wait 10 minutes at the metro station, where we would install the plate. If there were 2 plates, the waiting time would be 5 minutes for each plate, and if there were 10 plates, it would be 1 minute. However, the plates are equipped with a small electric device, which involves a lot of money. So that has its limits.

We cannot really deploy it as such. There are still a lot of questions that must be answered. This is really a research and development project.

Mr. Robert Aubin: Thank you.

[*English*]

The Chair: Monsieur Coderre.

[*Translation*]

Hon. Denis Coderre: Thank you, Mr. Chair.

First I want to thank you and to congratulate you. We should not give our thousands of listeners the impression that you misled people when you talked about federal government funding. I understand that public transit must remain eligible under the next program and that there should be a greater investment in research and development. That is what must be understood and that is what you said. Those who did not understand that may have been listening to something else during this time, or were playing with their machines rather than listening to you, but that is their problem.

It would be important to mention and to understand that the purpose of all the regulations on standards and norms is to give you a broader range in this environment. The idea is thus to have the opportunity to get the necessary tools so that your plan for 2025 can be implemented.

You talked about motors, but there is obviously the whole question of batteries. Am I to understand that, if the Canadian government invested more in research and development, that might speed matters up with regard to battery storage capacity? That would enable us to reduce battery size and weight in order to achieve your ends.

Mr. Serge Carignan: That is correct. We do not necessarily want to buy vehicles manufactured outside Canada or North America. That is not the objective.

There are currently products available only in those locations. The authorities do not know exactly what technology they will want to adopt or what technology will be best for the future. We have to test a large number of technologies, to learn from those technologies and perhaps to demonstrate to the North American industry that such and such a technology could meet our criteria and that development could be done in that area.

Since projects are currently under development in North America, we cannot test them. However, there are other projects outside North America that we can test. It is by testing four technologies that we will be able to determine, for example, that we need the third one. In so doing, we would be able to focus our energies in order to acquire those vehicles in three, four or five years, for example.

Hon. Denis Coderre: Among the standardization problems—that is what we are talking about, in particular—there is also this whole notion of the transition from research and development findings to commercialization.

In your recommendations, you talk about working on intellectual property. It is important to protect what we produce here, just as it is to ensure that we can reproduce what we transfer from elsewhere. In intellectual property, would that be one of the elements that could also help you in a potential agreement with Europe, for example?

● (1030)

Mr. Serge Carignan: This is something important. François explained that IREQ had developed new battery technologies that have been used by others, not necessarily under licence. So when we study those products, we will obviously have to comply with the patents.

Here, however, we have no finished products that use the battery technology we have developed here. Once the patents have been accepted and bought elsewhere, we could test a bus that is made in China, for example, using technology designed in Quebec. However, the battery is integrated into the Chinese bus; it is not integrated into the bus here right now.

Hon. Denis Coderre: Mr. Carignan, I am not asking you to be partisan because that is not your job. However, we talked a lot about Transport Canada's way of being and behaving within the machine. For example, we like to protect our standards from outside interests, and that is normal.

Do you think we are ready to do some serious thinking? Lastly, should we come to the conclusion that there are no more borders and recommend that Transport Canada also play a role in its way of addressing this entire regulatory issue?

Mr. Serge Carignan: Earlier we mentioned that this was a closed circuit. Transit authorities are closed units. A City of Montreal bus never leaves the island. We are talking about a closed circuit, closed garages. These are not products that the general public can acquire. For that reason, there may be different things from the delivery point where the person goes to buy his materials. They are used for a specific purpose, to meet specific needs.

There is nevertheless a lot of work. I am not criticizing Transport Canada's inaction, on the contrary. It is something important to examine. It is important to conduct that analysis if we want to advance at the same speed as the rest of the world.

Hon. Denis Coderre: Do you believe that all the safety and regulatory measures are satisfactory, in the way you operate?

You obviously come from a municipality. There is a constitutional reality, and we will not get into that. However, Transport Canada has a role to play in safety. Are you satisfied with the regulations, or are there things that we should improve or at the very least examine right now?

Mr. Serge Carignan: The safety standards are very high.

[*English*]

The Chair: Thank you.

Mr. Richards, a final question and comment.

Mr. Blake Richards: Thank you.

I want to pick up on a little conversation that we had earlier but which was cut-off in that round.

Regarding natural gas versus fully electric vehicles, I think you stated that there were actually next to no emissions from the electric bus in Montreal and that the greenhouse gas emissions from natural gas compared to electric buses there were four times greater. That was based on a study you had indicated was done by a university somewhere. I wanted to ask a couple of questions relating to that.

I know that when the batteries for an electric vehicle are produced, there will certainly be some greenhouse gas emissions produced by that. Was that taken into consideration as part of that study as well?

Mr. François Chamberland: Yes. The study was made by a group of experts at École Polytechnique de Montréal and we have a preliminary report. Before it can be published, this report needs to be challenged by international experts. That is ongoing now.

When I said there were no emissions from electric buses, it's when you look at a bus in Montreal. That bus has no emissions, when you look only at the bus compared to a natural gas bus. But the study takes into account—

Mr. Blake Richards: Can I stop you there for a second?

My understanding was that you had indicated, or at least it sounded to me as though you had, that you were factoring in a lot of things, including the transportation. You were indicating that it was specifically for Montreal, which was further away from where the gas was produced. So it sounds to me as though you're factoring in those kinds of things in the study, yet the production of the battery wouldn't have been factored into it. It seems odd to me that it wouldn't be factored in as well.

I guess what I'm suggesting is that you find it difficult to share with the committee the actual study itself—which, as you're saying, is a preliminary study that hasn't been peer reviewed or anything of that nature—but are willing to make statements at this point from that the preliminary study. I find that a little troubling, to be honest. I would suggest that the committee would like to know when that study has been verified or peer reviewed. I find it very troubling that you'd make a verbal statement that you're not able to back up with the study itself. I just find that a little troubling.

We'll maybe move on from there.

I guess what I'd like to ask, concerning the fully electric vehicle itself, is about the testing that has been done. I know you've mentioned some of the specifics with respect to the winters we have here in Canada, but you can tell me a little bit about the testing that has been done concerning the climates we deal with? How certain are you that the fully electric buses can be fully implemented in Canadian kinds of climate?Would we be simply looking at hybrids? What kind of comparisons have been done in that regard with other technologies?

● (1035)

Mr. François Chamberland: Just to reassure you with a final note on this, the study about the total greenhouse effect of every technology is taking care, in the case of electricity, of even the impact of the *barrage* and the battery recycling from all the cycles. There are greenhouse gases produced by electric buses, but the emissions are very low. The lowest of them all is from the trolley buses, because you have no batteries.

Mr. Blake Richards: Sir, just give me one second to interrupt.

I appreciate that. It's just that I find it difficult when you can't provide us with a study, the background that is the basis of your statement. So I certainly would love to see that when it's been done.

The Chair: Monsieur Coderre has a point of order.

[*Translation*]

Hon. Denis Coderre: I see my colleague is very troubled this morning; that is the eighth time he has said so. I do not believe we should doubt the relevance of our witnesses' remarks. They clearly said that they were waiting for international ratification and that the work had been done scientifically at the École polytechnique de Montréal. Why not consult the people from that school? It is a university. They are serious people and they are not on strike.

[*English*]

The Chair: That's not a point of order, but a good interjection.

Mr. Richards, do you have a final comment or final question?

Mr. Blake Richards: Certainly, nobody was debating the institution and its merits, but again, when a statement is being made, the evidence is always helpful. So if we could have that when it's available....

The Chair: I'm going to stop it there.

With that, I'll thank our guests today for being here. We appreciate your time and input into our study.

For the committee members, Thursday we have Nav Canada for the first hour, and then a subcommittee to plan the rest of the schedule until June.

Ms. Chow.

Ms. Olivia Chow: I gave notice today on the supplementary estimates (A). We need to study them also.

And I think there are timing issues, because these have to be done by June 6, I believe, or something of that nature.

This is just notice that we may have to see whether the minister is available to come before that deadline.

The Chair: Okay. We'll see that at our subcommittee and also at the committee as a whole on Thursday.

Monsieur Coderre.

[*Translation*]

Hon. Denis Coderre: Mr. Chair, since we very much enjoy adjourning debates, I would like us to review that from the first point and to be the first person to take the floor. If we wanted, we could already determine whether that is a previous question so that we can put this motion to a vote and then move on to something else.

[*English*]

The Chair: Just for clarification, are you moving a motion to put yourself on the agenda at the meeting on Thursday?

● (1040)

[*Translation*]

Hon. Denis Coderre: Organize matters as you wish, Mr. Chair, but when we adjourn a debate, it implies that we can resume it.

If you want a motion, so be it. Since we have time to hold a subcommittee meeting, it would be possible to do so, even after NAV Canada. However, this motion must be resolved once and for all. There are too many issues, and this involves many other municipalities besides Neuville.

If we study the first point, I would like you to put me at the top of the list. I am officially asking to be first on the list. If this is only about that, let's opt for a previous question, but let's stop playing the procedural game and undermining people's quality of life. This is ridiculous.

[*English*]

The Chair: Regrettably, you can't move it from a previous committee, but we do have a list and when the issue is brought back to the table, the list will be—

Hon. Denis Coderre: That's fine.

The Chair: Monsieur Poilievre, in making his motion had the floor and would resume from there. Then you are the next person on the list.

[*Translation*]

Hon. Denis Coderre: Mr. Chair, when we meet in subcommittee, it can be as a result of there being no further points to address. In those circumstances, could we redirect debate onto Ms. Michaud's motion?

[*English*]

The Chair: The reason we had the subcommittee called is that we had a cancellation of one of our witnesses. I thought it would be important for the committee to plan for the future as far as where we want to be at the end of June is concerned.

[*Translation*]

Hon. Denis Coderre: In that case, could we do it after the subcommittee meeting? I do not see any problem in that.

[*English*]

The Chair: If that's the will of the committee, the motion can be brought back to the floor.

[*Translation*]

Hon. Denis Coderre: Then I am going to request the committee's consent.

[*English*]

The Chair: It's not really that consent is necessary: you can raise it at the next meeting at your will.

Hon. Denis Coderre: So be it. Thank you.

The Chair: The meeting is adjourned.

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