

Please note: This is a transcript of the questions and answers at the two public meetings held to discuss the matter of future trolley operations in Edmonton. Errors or omissions in this transcription may have occurred as a result of the quality of the recording, the audibility of speakers, the use of microphones, etc.

May 11, 2004 ETS PUBLIC MEETING
HARRY AINLAY SCHOOL CAFETERIA

CHAIR INTRODUCES QUESTION AND ANSWER SESSION:

(Limited to two questions at a time)

AUDIENCE QUESTION:

Tony said there was fifty-nine trolley buses. I understood that , twenty years ago, they bought one hundred and sold two to Dayton, Ohio. That would leave ninety-eight. So, where did the thirty go?

TONY KERNAHAN RESPONSE:

The thirty-nine, I think it is, are in storage. They were ones that were leased to Toronto. They came back from Toronto after a few years. They were put into storage, and Booz Allen Hamilton claims they are not runnable. And yet, there have been several on the streets in the last two weeks. So, I don't know what it all means.

AUDIENCE QUESTION:

I understand that you can put low floor lifts in these buses, and put the emergency propulsion in them for 100 thousand dollars. And, in fact, Dayton, Ohio, who bought two of them have done that in one or two of the buses.

TONY KERNAHAN RESPONSE:

Yes, as far as I know, the first thing Dayton did when they bought the two BBC buses from Edmonton was to install lifts. I can't comment on whether they put apu's (auxiliary power packs) in. I'm not sure about that. But certainly they did put lifts in.

AUDIENCE QUESTION:

Then, to follow that up. I understand that ETS owns five or six apu units but they haven't installed them?

TONY KERNAHAN RESPONSE:

Well, I'm sure Mr. Mandryk could comment on that better than I. I do know they put them in one. It was tested out down a hill, and the four other units, as far as I am aware, are still sitting in crates.

WAYNE MANDRYK RESPONSE:

There was buses leased to Toronto in 1993, as was indicated. The buses that were taken out of service were not necessarily the ones that were leased to Toronto. Council did request that Administration look at the disposition of excess fleet as part of the 1993 direction. The extensions to the trolley system never did take place -that were meant to take place - to justify or to basically use up the one hundred trolley buses. And that was a financial decision that was made back in the 80's.

Around the issue of the lifts and the auxiliary power packs - you can fit lifts on those buses. There's examples of both - the trolley and the high floor, diesel buses. Very unsuccessfully.. They're high maintenance and not easy to use.

An auxiliary power pack (apu) was developed and tested. As it runs on batteries, it can only run a short distance. Any new buses, like Vancouver's buses, would have apu on them. AUP are generally used for short distances. In areas, like BC that has them on, you also need pole pullers. Pole pullers are people at each end of a construction site that pull the poles down and pull the poles up. These are additional costs associated with running apu on buses. Perhaps the apu used now are fairly reliable but there is a sad history of the reliability of these power packs as well.

TONY KERNAHAN COMMENT:

On page 3 of the consultant report, it says thirty-nine trolley buses were leased to Toronto and are presently in storage, unserviceable.

AUDIENCE QUESTION:

Did the consultants go to those cities that seem okay using trolleys (Dayton, San Francisco, Boston and Seattle) and talk to them?

KEVIN BROWN RESPONSE:

Booz Allen Hamilton has been involved in the procurements in some of those cities (Vancouver, San Francisco, Dayton) so the consultants, who did the report, are certainly aware of what is going on in these cities.

Your comment is similar to what our organization has been saying, what we have observed to be the case in cities that have trolley bus systems, even those cities that have very small trolley bus systems, like Dayton, Ohio. Boston only has three trolley lines in the whole city. They have a huge diesel system. But they have renewed that trolley fleet. Now, they haven't bought as many trolley buses as they used to have when they renewed the trolley fleet because of the fact that their service requirements may be different now and the cost of the trolley buses are higher, so they may have pared down somewhat. But they have stuck with trolleys. That's been the observation that we've made.

WAYNE MANDRYK RESPONSE:

There were, I think the number in the report was 67 cities in North America that had trolley systems. There are now nine cities in North America, seven in Canada and the

United States. We had fifteen or sixteen in Canada at one time. There are a lot of cities that have gotten rid of trolleys when the opportunity was there. The cities that retain trolleys struggle with the same decision we have, and gone through, probably, some of the same type of meetings we are having here to decide whether to retain them or not. Each city has a slightly different operating characteristic and reasons for doing what they did. And, in fact, a city like Seattle is refurbishing some of their old electronics. They are buying just new bus bodies because their overhead is going to need a major refurbishment in 2010 so they have decided to extend their trolley life simply by a few years. They are going to have to go through the same decision again very shortly. In a nutshell, yes, we have talked to the other properties that have trolley systems. We are familiar with some of the discussions they are going through in their cities.

AUDIENCE QUESTION:

I'm concerned about this because I work at the University so I'm involved in competing to get people to relocate to Edmonton to work at the University or to come for conferences - to try and get groups to bring conferences here. When we're competing with comparable cities, particularly in the U.S., to bring people from the U.S., organizations from the U.S. and abroad here, what do we got as a selling point? Practically the only thing is a really civilized, attractive urban environment. That's what brings them here. We don't have the mountains. We don't have the ocean. We don't have a lot of other features. So, if we are competing with Cleveland, or Milwaukee, or St. Louis, or a lot of other places, for these kinds of things which bring in dollars, which ultimately helps pay for the transit system. We need both to have that good quality of life but we also need the symbols of it. Now some other cities have streetcars, like Toronto and Winnipeg; but we, in Vancouver, have trolley buses. And I can tell you, Americans see the trolley buses and think that's really cool. And suddenly, they realize it, when they walk out of their hotels into the street, their eyes don't start streaming from fumes - they way they do in other places. They notice things they wouldn't see if they didn't see these symbols. Now, I realize, you know, symbols can be expensive, and maybe the thought is that there are other things. But when you consider what people have to see when they drive in from the airport to the centre of Edmonton, a couple of those painted bison don't outweigh the crap and, I'm sorry, in terms of businesses and other things they see. It's really off-putting; and so, to try and sell people on doing this, we need all these other things. We need to get them past that and show them lots of wonderful things. We try very hard - it's a hard sell often, but quality of life, quality of the urban environment, the fact that it's so much nicer and preferable to so many U.S. cities and some other Canadian cities, of course, as well, seems to me to be really important to doing business in the city in all these different ways. And, so, I am wondering how that got factored into the decision because where the trolley buses are seen are exactly where you want them to be seen - high traffic, core areas. The service seems to be a really important symbolic function in helping to sell the city outside the city.

WAYNE MANDRYK RESPONSE:

Well, certainly, Edmonton has a lot of attractions that have been mentioned, Very infrequently, in fact I am not aware that we have attracted any conferences to Edmonton because of the trolley bus system. The trolley bus system doesn't run through the University. It doesn't run through most of Edmonton. And one of the overheads that I had there showed the limited areas that we do run the trolley buses. It doesn't run down the Gateway from the airport into the downtown.

AUDIENCE QUESTION:

But they see it on 109th Street because anyone who is around the University is on 109th Street at some point - so, they do see it. And, I am not just doing this for my benefit. I don't live right near the University. I don't live in Belgravia. I don't ever get to ride these as they don't serve an area that I am in so I appreciate that point, but they are actually quite visible.

WAYNE MANDRYK RESPONSE:

Now the one that is visible is one you come down Stony Plain and you hit 156th, you'll see a spiders network of wires on that particular intersection, along with three or four other intersections around the city, which I certainly wouldn't call attractive. That's one of the issues.

With respect to the trolley system, it requires a lot of effort to maintain it, and in fact, there are a lot of people that would argue about the attractiveness of having the wire systems on our mainline routes. And, certainly, to try and put a trolley system anywhere in a newer area of Edmonton would be met with absolute disaster.

AUDIENCE QUESTION:

So, the answer is no - this wasn't considered?

WAYNE MANDRYK RESPONSE:

No, it wasn't considered. It wasn't factored in as part of the study - this particular study or recommendation.

AUDIENCE QUESTION:

I hope it might be reconsidered as a serious point. Thank you.

TONY KERNAHAN COMMENT:

I simply say to Mr. Mandryk - no one in their right mind is advocating that every route be converted to trolley bus. The point is the existing network - 140 kilometers, investment of \$75 million, all the routes go through downtown, there are more people starting to live downtown, the point was made about quality of life - you pay for that. You have to pay for that.

What about the LRT? The roof leaks - five million bucks. No problem. The power fails. The LRT seems to be a sacred cow but it is only one line. It does carry a lot of

people - I agree. And, hopefully, it will be extended. But, for some reason, it's untouchable.

AUDIENCE QUESTION:

Did you measure the cost of our health from inhaling the smoke from the diesel buses, or is this question for the Health Department to solve?

WAYNE MANDRYK RESPONSE:

Well, certainly, the environment was one of the points that I raised in our presentation. In fact, pointing out that the considerable difference between the assessment that was done ten years ago and the emissions that we were seeing in the buses from ten years ago compared to what we're buying today and what we're buying in the future. And, I think, the number we're looking at was 98% reduction in the regulated emissions. So, that's significant. And, it does become a value judgement. And, at the end of the day, City Council is going to place a value on that.

From an administrative point of view, I think we would be irresponsible not to bring forward the savings that were available from removing the trolley system, given the significant change in the emissions that are being produced.

AUDIENCE QUESTION:

So, actually, we don't care much about the health instead of the cost to pay for the trolley bus.

WAYNE MANDRYK RESPONSE:

That certainly is not the case. In fact, another part of the report alludes to the emissions that are produced at the power plant through the production of power in Alberta which is mostly coal produced. And, in fact, there is the argument that, on a total basis, the new diesel buses will produce less emissions on a per kilometer basis than the power it will take to power the trolleys on an area-wide basis.

AUDIENCE QUESTION;

I think you guys should make more decision to do more research on human health before you make your final decision on taking off the trolley buses.

KEVIN BROWN COMMENT:

One issue that comes to mind when we discuss new technology diesel buses versus older-technology, diesel buses: As a spokesperson for the "Citizens for Better Transit", I would applaud the efforts that are taking place in the diesel bus industry to reduce the emissions from diesel buses.

We know that the emissions from diesel buses are toxic - that they are much more toxic than gasoline exhaust, and that it's not simply a case of the emissions being belched out into the streets, and people along the streets breathing them in, or the people in cars. The people who ride in these diesel buses are actually also exposed to

these emissions. I think it was about two and a half years ago, there was a study done in the United States about school children that were riding to school in diesel school buses. They came out showing that there was an increase risk of cancer because of the exposure to these diesel fumes.

It doesn't take much of a stretch to apply that to a transit bus. You're driving down the street in the bus, the windows are open on a warmer day, those diesel fumes are going inside the bus - maybe in a very small quantity, but you remember the government says there is "no safe level of exposure". So, we applaud the fact that the emissions are being reduced. Also, though, one must keep in mind that with the new diesel buses - the emissions that do come out of them are much finer than the old diesel buses. The old diesel buses produced large particles, and that's why you saw black smoke from them when they pulled away from a stop because the particles were large enough for your eye to see.

On a new diesel bus - with all the filtration technology, the trap oxidizer, the various technologies that are used to reduce those emissions, what comes out in the end is the finest emissions - the finest particles. And in fact, there was a report in *Automotive Engineering* in February 2001 that stated that even fitting exhaust after-treatment devices, such as the popular Johnson Matthey Continuous Regenerating Trap, which is the one tested here a short time ago, was mostly ineffective in reducing the proliferation of fine, that is - sub 40 nano-micron particles. So, the finest particles in the diesel exhaust were still coming out although the amount, by weight, is reduced.

GRAEME FELTHAM COMMENT:

We could go on all day about emissions. I just want to make it clear to people in the audience today that there are basically two conventions around evaluating emissions.

There's one where you evaluate the tailpipe. So, you compare the tailpipe of your two vehicles and take a look at what comes out. So, on a trolley, you have no tailpipe; and, on a diesel, you do. So you compare the emissions; and on that basis, a trolley is a zero emissions vehicle.

Or you can compare life cycle or 'wellhead-to-wheel' emissions. So that would be, in the case of a trolley, everything that has to happen to generate the power - to get the power to the wheels. So that would be the case where you are burning your coal. I think that was some of the emissions that were quoted. But you have to do the same thing to your other alternative. So you have to do the wellhead-to-wheels for your diesel bus too. So, you can't compare the tailpipe output of a diesel bus to the life cycle emissions of a trolley. You have to compare the life cycle output of your diesel bus. So all the emissions that are coming from your, getting the oil out of the ground and refining it, and getting it into the diesel bus. We all know, on the east side of Edmonton, there are a whole lot of refineries, which are cranking out diesel. So, there are emissions from that too. I don't know the numbers. I am a little bit familiar with greenhouse gas emissions associated with that stuff, but I haven't seen any number on

wellhead-to-wheels. So, I just want to make sure people understand. You want to make sure you do the apples to apples, my opinion, comparison - tailpipe to tailpipe, or life cycle to life cycle.

TONY KERNAHAN COMMENT:

I would just like to comment on that. The consultant's report did not do that. They simply looked at tailpipe emissions.

AUDIENCE QUESTION:

Hi. I'm an urban planning student. I just have a couple of comments first.

The first comment is that we see cities from across North America that either are expanding their system - like Boston, or Cleveland, Ohio, is thinking of putting a BRT system. It wouldn't seem very proactive for Edmonton to scrap trolley buses.

I just want to say a rebuttal to another comment. A comment made by Mr. Mandryk that back in the 60's and 70's Canadian and American cities back in the 60's and 70's replaced the trolley systems back in the 60's and 70's because there was no reliable vehicle replacement for them. We don't have that case right now. Cities are ordering predominantly low floor trolley buses. The question that I have is mainly, regarding Vancouver Translink just ordered 200 plus new flyer trolleybuses. Has the consultant or ETS looked at basically piggybacking on an order with Vancouver to get a lower per-unit cost? Was that factored into the report?

WAYNE MANDRYK RESPONSE:

No because, the price is 900,000 dollars for a trolley bus. It is not going to change substantially by adding thirty or forty buses on that. It is still going to be in that neighborhood. It might come down slightly but we are still looking over twice the cost of a trolley bus in compared to a diesel bus. That is incorporated into the recommendation of the analysis that we provided our City Council. One thing to note about the production of buses in North America, when Vancouver went out, there was no trolley bus producer in North America and that is the same situation that existed back in 1982. Seattle bought an AM General bus body with a Randtronic power package. Vancouver went with Westinghouse propulsion equipment and we went with a GM body and BBC electronics. Each one of those was unique. Each one of those had starting problems when they went into production because they were new units that were just going in. Vancouver is now looking at a combination again. New Flyer is going to be producing the bus in North America. It is the first trolley that they produced in awhile and it is going to be a new design again. I hope it is very successful, but I am sure they are going to experience some teething problems. There is no off-the-shelf trolley bus in North America - in Europe yes, but not in North America.

Does that address your question sir?

ANSWER : Yes it does.

CHAIR:

Thank you. Any further questions or comments from the panel? OK Tony quickly please.

TONY KERNAHAN COMMENT:

We learned that apparently a diesel costs \$400 thousand and a trolley \$900 thousand. There was some mention of hybrid diesel electronic buses.

Can Mr. Mandryk give me a figure for the projected cost or the current cost of a hybrid 40-foot bus?

WAYNE MANDRYK RESPONSE:

Well the numbers are very preliminary. The discussions that I have had with Toronto that is looking at the system that New York currently has on order. They are looking at about a two hundred thousand dollar premium. So that would be six hundred thousand dollars per bus. Budget figures given to us by Flyer looking at something like the bus that was just recently demonstrated in town here, we would be looking at a three hundred thousand dollar premium right now, so that would be in the seven hundred thousand dollar range.

TONY KERNAHAN COMMENT:

So 39 or 40 buses, we are looking at an extra 14 million dollars.

AUDIENCE: Thank you. Ok thank you sir.

CHAIR:

Thank you to the two patient ladies that have been standing there for quite awhile. I will go with the person on my right please.

AUDIENCE QUESTION:

Ok, I have to admit up front that I haven't read the whole consultant's report. I also have a couple of comments to make before I ask my question. On May the 5th, the University of Alberta sponsored a competition called *City of the Future* and they invited grade 8 students across the city to present their viewpoint about what the future would look like. About seven or eight of those groups chose to address the issue of transportation and I have to say that there isn't a single one of them that say that we should be investing in diesel buses. Every single one of those students looking at the future, saw us investing in trolley buses, electric generation, some hybrid buses more LRT and no diesels. They were very clear on the fact that they did not want to see us investing in diesels. It made me wonder how far in the future are we looking when we are having these debates about money? Is this a short term today's money crunch that we are going to pay twice as much for in the future. I

guess the question that I have is, is that I was struck when I was reading some of the mandate of the consultants that it was to look at the absolute worst case scenario. What is the most cost is it going to cost us? Not a whole lot of alternatives, as was stated by one of the gentlemen, I think it was Mr. Kernahan. We have the capacity of having all these trolley lines to be used and we are not using them.

(END OF TAPE ONE)...TAPE 2 SIDE ONE DOES NOT START AT THIS WOMEN'S CONVERSATION.....

NEW QUESTION: (ONLY PART OF IT WAS RECORDED)...

...and as well, in the construction months, when trolleys aren't feasible has this caused any service inconvenience? Probably to Mr. Mandryk....

WAYNE MANDRYK RESPONSE:

Yes, the Highlands routes were basically discontinued as part of the Horizon 2000 in 1997 I believe, and so that was part of the program that was put before Council and approved. No, we have got very very little reaction from the Highlands area. Now whether it is because the people are simply used to the diesels running in the neighborhoods for a certain percentage of the time or not I don't know but we haven't got much reaction from the areas in the south where we are running diesels for a good portion of the time.

AUDIENCE QUESTION:

Ok, how does the fuel prices at the pumps affect the price of diesel, and if the City did decide to keep the trolleys, spend the necessary money for upkeep for the new trolleys will this affect the bus ticket prices and my taxes?

WAYNE MANDRYK RESPONSE:

Well I certainly wish I could say that we could take all the savings and sink it back into transit as a transit advocate that would be the thing to do. The savings and numbers, I think there were some numbers thrown around about what our budget is, the operational savings of 1.9 million. If we were to try and put that in perspective of what it amounts to, it amounts to probably providing all the service requests for new and off peak service that we included in last year's budget. That is new peak service to four or five areas and off-peak service to about the same amount of areas. So yes, there is a funding that could be provided through the savings if Council chooses. That is certainly Council's decision and that would limit our cost increases and would certainly be part of the decision on how we financed transit which is fares and taxes and perhaps it could lead to avoiding a fare increase.

AUDIENCE COMMENT:

Ok, just one final comment. I agree on this emission control especially with this fossil fuel. I read in an article that in the year 2025 that there will be no fossil fueled vehicles and all will be outlawed and will be replaced by propane or electrical. That is my final comment.

CHAIR:

Thank you...other comments from the panel to those comments and questions. Tony, quickly...

TONY KERNAHAN COMMENT:

Sure...Well I think it is worth looking at future costs and availability of fuel. The consultants, in their reports, suggest a rise of two cents a litre to take a kind of low sulphur diesel. In the last few months, we have seen costs rise by about 30% not 4%. Now some analysts believe that oil prices will fall back again, and I am sure they will, however, many other analysts say that the good old days, if they were that, are not going to return. The price of oil is determined by the world market. We have countries coming on stream demanding more and more oil. We have turbulence in the Middle East. There are too many uncertainties, in my opinion, for Edmonton Transit to put all of it's eggs in one basket. Now again, I am not saying electrify every route but I am saying you have core routes going through downtown. Keep them electric.

CHAIR: "Thank you." Sir....It is alright, we still got time if you want..

AUDIENCE MEMBER: "No"

AUDIENCE QUESTION:

Alright there was a question asked earlier, when you went in the black book there about the actual motion when what was actually in the motion about further public consultation and was there anything specific about surveying people on the trolley routes? Did you have an answer to that.

CHAIR

Let me read the motion. That a non- statutory public hearing be deferred until late June 2004 so that Administration can adequately consult with the community and appropriate bodies such as the Edmonton Transit Advisory Board and the Edmonton Federation of Community Leagues on the future of trolley operations in Edmonton. And that is available on the Internet as well.

AUDIENCE MEMBER:

Thank you.

CHAIR:

Our high tech projection screen. Just to end the meeting tonight and just a review of the next steps in the consultation process. Certainly we are gathering input at this

public meeting tonight and you are all more than welcome to attend tomorrow night. It is at the Stanley Milner Library and at the same time at 7 o'clock tomorrow evening. And, again, we ask that you complete the question and return it in the box provided at the meeting. There is other research currently underway. There is a telephone survey of all Edmontonians and when I was part of the meeting when the market research firm briefed us, there is a number of questions. If they answer question number 3 "yes" then move to question 4a which suggests this and there is some delineation and some cross tabbing in there of who is riding trolleys on diesel bus routes etc. etc. So there is some of that going on as part of the general survey of Edmontonians and then a specific survey of transit users where people are being recruited at various transit stops and on the buses and those people and that will be a separate sample. That is ongoing and all of that research will be built into what goes forward on the public meeting.

The public meeting on June 22 it is a non-staff public hearing. The non statutory public hearing on June 22 and it will be at 1 30 PM in the afternoon in Council Chambers where Administration will present the findings of the community consultation of which this is a part and make a report on that to Council and the citizens and anybody else is welcome to speak on the topic at that time.

Across the bottom of the screen to register, either go online on the City of Edmonton website or call the City Clerk's office at that number 496 8178. So the next opportunity beyond tomorrow night's public hearing, unless you get engaged by the marketing research as you are riding the bus or get a phone call, will be at the public meeting.

I would like to thank you all for coming tonight. Certainly would like to recognize the panel for their presentations. Certainly Graeme and Tony, Kevin and Wayne thank you very much for your presentations tonight. (Audience clapping)...And also for your frank and concise responses to the questions and comments. So I would like to recognize the people that were behind planning all these events and the logistics behind and have been a great deal of help to all of us in terms of making this a good meeting tonight. Last, but certainly not least, thank you very very much to all of you for coming out tonight. For asking your questions and participating in the meeting and for those of you who wish to turn in the question sheets that you have used, and I noticed some of you reading off of them at the microphones. If you wish to hand them in then they will also become the public record of tonight's meeting.

They are handing out the surveys right now, so please take time to fill one in now or take it with you and send it back to the research company. The address is on the bottom of it.

Thank you very much. Have a good evening. Drive safely and we might see you tomorrow night or on the 22nd. Thank you bye for now...(Audience applause).

Meeting adjourned. 9:00 PM

**MAY 12, 2004 QUESTION AND ANSWER SESSION, ETS PUBLIC MEETING
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So, I would welcome anybody has any comments or questions to come forward to the microphone. There are two microphones, one on the far right hand side and one in the middle here and come forward and ask your questions if you have any. If you have written it down on a sheet of paper and wish me to answer the question on your behalf, please hold it up and we will be able to do that also. So have at 'er!

AUDIENCE QUESTION:

I have a question and a comment. Somebody mentioned this, I forgot your name, you sir right there in the white shirt. Yes. The good looking one (Al's response). You were saying about style and perception and how people perceive transit affects how they take it. And of course, you do have to have a good quality service in place or else no one is going to take it but at the same time, if transit appears to be quick and efficient, and well priced, people will take it. No matter how good a system it is, if it appears to be sluggish and boring and dangerous and so forth, people won't take it. For example, the LRT, has just been repainted and I think it looks a lot better or sleeker now. People drive cars despite the fact that they are expensive enough and slow because they perceive them enough as means to freedom. So I guess my question to everybody, I guess mainly the City...how much to you consider the perception people have of our transit system when you are considering making things like trolleys. To me and I think a lot of other people, are perceived as being superior for whatever reason, just perceptually just because of their style. How do you consider that and do you think that is an important consideration or do you think it is just kind of a trivial side note. What do you think about that?

Thank you. Wayne can respond.

WAYNE MANDRYK RESPONSE:

Well certainly we do think it is important. I think the marketing of the system, it's appearance ensuring to our customers that the system is safe, that it is reliable, that it is efficient is very important. If we are looking at things like BRT's which we are right now in the High Speed Transit Study. That has been sited as a very important component of introducing bus rapid transit lines into the city and that is marketing them properly and giving them a proper image.

The trolley system, I am not sure that it is. It is certainly seen by some as mentioned here as sort of part of the character of Edmonton. They have been around since 1939. We have had wires around the system but I am not sure it is an item that is attracting new riders or would make that large of a difference compared to a clean efficient line that is running. I guess the one example that I can offer is when the Route 9 was combined with the Route 29, it used to be a trolley route and it is now a diesel route and I think it is the second busiest route that we have in the City. Thank you.

Kevin did you want to comment too.

KEVIN BROWN SPEAKING:

Yes, I can make a comment. I don't know if I am going to say anything earth shattering here but certainly it is the case than in order to promote public transit you have to make it appear attractive to the public and make them want to ride transit. And there are many things that appeal to different members of the public. Some people are interested in the time, and that is the only relevant part to them, is the time that it takes them to get from A to B, and if you put in an LRT line or bus rapid transit line and it does that trick for them, that's fine, they will use it. Other people, there are different things that appeal to them. Some people the frequency of the service is very important, and in fact usually it has been shown that is the number one persuasive factor to get people to use public transit is the frequency of the service. So there are all sorts of different things. I know that in a number of cities around the world there have been various attempts to "sex up" buses, as it were, to make them appealing to the riding public. So somebody buys a nice red sports car and they feel that appeals to them because of the look of it or the color of it, there have been various attempts to do that. And, it has not only happened with trolley buses, it has happened with diesel buses, it has happened with LRT equipment as well. If you go to Leon, France for example, they have got a whole set of new trolley buses running there that actually look very very modern and very sleek, rather like the image that was on the cover page of the presentation that I gave you. So I don't know if that answers your question but it is..

CHAIR:

All right, thank you. Other questions from the floor.

Oh sorry, sorry I apologize, sorry.

TONY KERNAHAN SPEAKING:

Well I just come back to the transparency that I had showing results from Booz/Allan and Hamilton who did surveys for another transit property showing at an average that when the route is electrified the increase in rider ship is between 12 and 20 percent and an electrified route is dieselised, there is a 15% drop in rider ship. Now in regard to the 9 and the 29, the 29 section of that route never was trolley and again the population of the City has gone up. Again let's compare apples with apples.

Thank you.

CHAIR:

Any other comments from the panel. Alright sir.

AUDIENCE QUESTION:

First of all, I would like to commend whoever wrote this advertisement that appeared in the Examiner. The headline is *Future Directions for ETS Trolley Bus Operations* not discontinue of trolley, so thank you for that.

This year we are celebrating 100 years of civic history and as Mr. Mandryk just mentioned, trolley buses have been part of that history for 65 years. Edmonton has not always been the best steward of its historical resources. Think about the buildings that have been allowed to be demolished. We almost let the Macdonald Hotel go. We lost the Tegler Building. Of course we let the streetcars go. We didn't even bother to save any for historical purposes. They had to be dragged in from farms and refurbished. We didn't save one of them at the end of 1951. The trolleys do add distinctive character especially to the downtown streetscapes. Why don't we consider painting them in the original red and white colors to make them even more distinctive? Why not operate a downtown belt line that serves the expanding and populous residential and retail developments along 104 Avenue. Yes, the trolleys don't cover a large area of the city but they serve a large densely populated area of the city.

Not much pride has been shown by ETS in our trolleys. Not one of them has been painted in the new colors of blue and silver. This seems deliberate. Now the ETS showed innovation and leadership by assembling the LRT cars in Edmonton. I understand that this resulted in considerable cost saving in bringing the LRT cars from Dusseldorf, Germany because they were not delivered as finished products. In essence, were partially made in Canada. Why could not new trolley buses be partially assembled in Edmonton, as were the BBC's.. I keep hearing about 59 trolleys. Where are the other thirty-nine? And one more point, if I may, how long does it take to fuel the diesels and how much does it cost to maintain fuel facilities in our garages. The diesels do not fuel themselves, there must be a maintenance cost or a personnel cost in fueling those buses everyday. Is it more than maintaining the trolley wires?
Thank you

CHAIR:

Thank you. Comments from any of the panelists please.

WAYNE MANDRYK RESPONSE:

Well there was a lot. Yeah, all eleven questions I think. All good questions. Thank you. The cost of servicing yes is included in the analysis, of the fuelling of the diesel buses. The fleet that was bought in 1981, 1982 in fact was 100 buses. Two of them are in Dayton. There was thirty-nine that were leased out to Toronto and brought back. I believe that most of those thirty-nine are the one's in storage. We are only running thirty -seven right now. And, that is really all we need to run the system. The reason we never used a hundred is because the wire was never put up to utilize that. Back after the 80's when the economy went in the tank a bit, the extensions that were planned for the trolley systems were in fact never put in place.

I should point out that when we are talking about future fuel and electricity costs, in fact the decision to buy a hundred buses and continue on with the trolley operation was based on tremendous increases projected in the fuel costs through the 80's. That was part of the OPEC scare in the late 70's. In fact that never did happen. So it is always a little bit of a crapshoot when you start projecting what electrical and fuel costs are going to be in the future. And I wish I had that crystal ball that would tell me exactly what they were going to be but the assumptions that were made were based on the consultant by future costs that were generally accepted assumptions in the industry and that is what is included in the analysis that was done by Booz /Allan that led to the large savings that have been indicated in the report.

KEVIN BROWN COMMENTS:

I just wanted to offer some comments on a statement you made with regard to repainting the trolley buses in the original colors. In the 1980's, there was a gentleman, in charge of transit planning in the City of Edmonton. He produced a paper in 1984 on the operation of trolley buses in the City of Edmonton. One of the points which he made in there was that the trolley buses should be painted in a distinctive livery and marketed as a distinctive service. In fact we do that with LRT. It is seen as a distinct service. I certainly think that if the trolley buses were painted differently or there was something done to them to sell them as a distinct service, they would stand out in people's minds and it would be a good way to market trolley buses. I also think that if you had brand new trolley buses, new low-floor trolley buses and they were painted distinctively and marketed as a distinctive service, you would really be able to increase your patronage on those lines.

Thank you. Tony.

TONY KERNAHAN COMMENTS:

With regard to extensions being put in, in the early to mid 80's, Mr. Mandryk, of course is correct except there were some extensions put in, including express wires on 102 Avenue. Several kilometers as part of a route going out to West Edmonton Mall and those wires were never used in revenue service, never. They are still up for most of the way. Those wires are totally unused. They could be salvaged and used to electrify up to Northgate where the poles were also set for overhead wire and hence it would be a kick-start to high-speed bus line into the City center.

CHAIR:

Thank you. Any other comments from the panel.
Ok, next. Thank you.

AUDIENCE QUESTION

I noticed in your presentations you were comparing the trolley buses to diesel buses but I noticed you didn't include LRT's in your comparisons. From what I gather the LRT's they have the same amount of emissions, the same kind of wiring as the

trolleys. So, and as Mr. Mandryk pointed out that trolleys are a very small portion of the City whereas LRT's, well when you are finished, will go from one end to the other. At this moment it is just northeast to University. Now the way I see it, if you are planning to include more LRT routes, which I certainly hope is down the road, you could cover more parts of the city and of course an LRT train holds a lot more people than a trolley bus. In fact, there is one aisle that has one seat down the rows. That doesn't hold as nearly as much people as say one of the low-floor diesels.

CHAIR:

So is there a question or comment...go ahead please.

AUDIENCE:

Well it is mostly a comment. I guess my basic question is, my basic question is how much does an LRT cost compare to say running a trolley bus or a diesel?

WAYNE MANDRYK RESPONSE:

Well, to answer or I guess to comment on your first point. The LRT, comparing LRT to a bus is certainly not an apples to apples comparison as was alluded to earlier. The buses, we were comparing really different forms of propulsion between buses that provide roughly capacity. In fact, the BBC trolleys that we have are basically, they were produced by General Motors, and they are the same body that was used on the diesel buses at the time. So, we are talking really the same capacity, the same type of service for our normal buses and our trolley buses, whereas, the LRT is a high-speed, a very high volume system. When you are talking an LRT car, we are talking in the neighborhood of \$4 or \$5 million dollars per car. And in fact, to give you a comparison of cost, the current extension to the University is \$100 million and we are trying to find some federal money, and provincial money, and other money to spit \$500 million worth to go south to Heritage.

CHAIR:

Kevin.

KEVIN BROWN RESPONSE:

There are high-speed transit plans on the books for the long-range future. And more LRT is envisioned. Whether that will actually ever happen or not though, of course, is something we don't know. But it is worth mentioning though, in reference to your comments, that back in the 80's there was the intent that a lot of the routes on which you currently see trolley buses today, that those eventually would become LRT lines. And the intent was to put in some of the infrastructure, at least sub-stations and what not in place with the long-range plan that eventually in those corridors, you would have LRT operating. That hasn't happened, but it was the intent.

Tony please.

TONY KERNAHAN COMMENTS:

That is why I come back to my point about kick starting bus rapid transit. If it was electrified, the substations required could then be used if and when the line was upgraded to LRT.

LRT is certainly an efficient mode in this City. In my opinion, and it is only my opinion, our LRT was over designed. The only thing light about it are the cars. The system is heavy. It is underground. The amount of power consumed because of lighting, heating, escalators, etc. etc. virtually doubles the electricity consumed. There are safety concerns at night. The place is like a morgue if you walk through it at night. Calgary started after Edmonton. Admittedly they borrowed. They are carrying close to 200,000 patrons a day on their LRT. In fact, it is getting to the point where they have crunch loads and they have to extend platforms. We are carrying, what 38,000 a day. I am not saying we don't do a good job. We do. But the LRT seems to be a sacred car. We had roofs that leaked. Millions of dollars spent. We have escalators that continually break down. We have all sorts of things if it is for the LRT, no problem, blank cheque. Trolley buses, no funding, forget it.

CHAIR:

Thank you.

Just while the gentleman is moving toward the microphone, please come forward. We received one comment on the notepaper. The diesel motors which will allegedly, and I put emphasizes on it as it did in written word. The diesel motor, which will allegedly produce those greatly reduced emissions, don't even exist. This is not a certainty that the 2007 and 2008 date will reflect practical working diesel engines producing these lower emissions. So that is the comment from the floor. Any comments from the panel?

WAYNE MANDRYK COMMENT:

When the regulations were put in place in the States by the Environmental Protection Agency, there certainly, they had to give notice and there were a lot of discussions that took place with the engine manufacturers. The engine manufacturers have said they will meet those standards. Those are legislated regulations in place and in fact, they apply to basically the on-highway or the transportation vehicles. In the States, in fact recently, if not just recently, they have also moved towards applying those standards to all the off road equipment. So like construction equipment the same standards will be applying shortly.

Kevin

KEVIN BROWN COMMENTS:

There is technology available that will or should at least enable engine manufacturers to meet the standards, or at least come close to them. There are many unknowns about this technology. It is very new, and of course one thing which we don't know about it in the long term is the maintenance costs of that technology. It certainly may

impact the maintenance cost of vehicles and drive them upwards. How much is uncertain.

The other thing relating to that, is of course, when you have a standard, an emission standard that is put in place. The vehicles that are tested and certified to meet that emission standard, don't necessarily meet that emission standard a 100% of the time when they are in actual use on the streets. Vehicles, as they age, of course, there is deterioration that takes place in the engine and in other components and the emissions profile tends to deteriorate. There are an awful lot of other factors like maintenance and other things that are involved there. So it is often the case that a vehicle in real world conditions doesn't exactly meet the requirements that are set forth in the legislation. They may come close. You also have engine manufacturers or vehicle manufacturers that are required to meet an average emission for the engines that they produce but you may get some that are dirtier and some that are cleaner amongst the entire batch. So you won't always get the vehicle that is promised to you under the legislation.

TONY KERNAHAN COMMENTS:

The year 2007 seems to be the magic year. Now, at that time, by that time the current low-floor bus fleet will probably be 450 units if purchases continue the same rate. These buses do not have the 2007 emission standards. The lifetime of a diesel bus is presumably, according to various reports 18 years on average. Although the first series of low-floor have all already been rebuilt in 10 years, but that is another point. So the point is, is probably half to two thirds of the diesel fleet will not be in a position to benefit from the 2007 standards because they will not be replaced until close to 2020.

So, that is one point and I would like to bring up the question of hybrid buses. These have been mentioned and certainly are promising in the way they would apply in reducing emissions and so on. It is my understanding, and Mr. Mandryk could confirm this, that the extra cost over and above a current day diesel for a hybrid is \$300 to \$350 thousand dollars. So you are looking somewhere between \$700 and \$750 thousand dollars for a hybrid. A trolley, at the moment, is quoted at \$900,000 and a current diesel is quoted at \$400,000. So, in fact, if you were to buy hybrid instead of diesels for the current thing, there goes \$14 million of the reported savings, you know, that have been reported.

CHAIR'S QUESTION:

Can you explain you using the term *hybrid* Tony. Can you explain what you mean by hybrid please?

TONY KERNANHAN'S RESPONSE:

Well hybrid has two motor propulsion, electric and diesel. The diesel can drive the bus or it can be used as a generator to provide the electricity to run the bus. Now in

Seattle they had articulated buses that went way out in the suburbs. Express buses out in the suburbs and they ran in diesel mode. These are not the hybrids that have been mentioned but anyway, when they come into the city center, they went into a transit tunnel and they put their poles up and ran as electric buses. But, I am not too familiar with the current technology of hybrid. Maybe Mr. Mandryk or Mr. Brown could explain it in more detail.

Graeme you had a comment please, and then we will go to Kevin or Wayne.

GRAEME FELTHAM SPEAKING:

Yeah, I just wanted to make sure you guys thought I was still paying attention up here. Audience Laugh.

CHAIR:

"we were wondering" (laugh in audience)

GRAEME FELTHAM SPEAKING:

So, maybe I have been riding the bus too long but I am just starting to get a little bit uncomfortable about, it is a small point perhaps but buses are better than cars period. We all agree...(other panelists...yes...as long as they have passengers)...yeah that is right as long as they have passengers on them I agree with you Kevin. Now, so the difference now between this, there is a marginal benefit for operating trolleys over operating diesels and it is cleaner on our streets and it is quieter on our streets because we operate trolleys over diesels. That gap is getting smaller, not that the diesels are getting quieter but they are getting cleaner. The latest emissions standards in 2002 that came in were generally speaking, the trucking public anyway, suggests that there is a fuel economy penalty that they are paying because of that. 2007 they are sort of anticipating the same sort of thing. But they are getting cleaner, those standards, you know, everyone it would be wonderful to have a great crystal ball, and everything to know what exactly is going to happen. Is unrest in the Middle East going to drive that price of oil to \$100 bucks who knows but bottom line you know, these diesels are going to get a little bit cleaner and they are going to get more expensive too. The trolleys will continue to be a zero emission vehicle. The diesels will always be dirtier than a trolley. The diesels will always be louder than a trolley and the costs so. That is why you guys are here is because Administration feels that the benefits from operating the trolley are smaller than the costs that they expect that they will have to pay to keep them running. And the two gentlemen on my right think that the benefits from operating the trolleys are significant and that the costs are insignificant and there you have it. So I am just interested, I am still listening. I just want to hear what a few more people have to say about which side they sit on.

CHAIR:

Thank you. He is awake isn't he. That is pretty good. Sorry to tease...Wayne please.

WAYNE MANDRYK'S COMMENTS:

I would just like to clarify about the hybrid buses. The regulations apply to the engines, not to the bus. So, the buses in 2007, the engines will have to meet those regulations. There will be clean diesels. If we use a hybrid bus, then the diesel engine on that hybrid if it happens to be a diesel electric hybrid will have to meet the same regulations. In other words, what I am saying is without hybrid technology, the buses in 2007 will have to meet those emission standards. We will be sitting, I am sure most cities will be looking at the decision as to whether they want to get even cleaner and more efficient and spend that extra two to three hundred thousand dollars that Mr. Kernahan eluded to and that is correct. Flyer, the current supplier of our buses, is indicating about a \$300,000 premium at the outset for a hybrid bus and that is today's prices. They may come down with a future greater production but the high end, on the low end New York is looking at around \$200 thousand dollars for a different type of hybrid vehicle, so two to three hundred thousand dollars.

CHAIR:

Thank you. Any other comments. Alright, thank you for your patience sir.

AUDIENCE QUESTION:

You're most welcome. I thought I would say a few words about my credentials that I have been riding trolley buses since 1940. I have ridden transit systems in Canada, United States, England, France, Germany, Spain and Australia and New Zealand. Pardon me, I can't print anymore. So I have been around the transit field a fair amount in my world, although never as an inside professional. I think that this meeting tonight has concentrated very much on an expense question but you have never discussed in any way shape or form the revenue question. And that is why the hell would I get on one of your buses? I think that is a question that has to be considered very carefully, very very carefully because there is no way that a transit vehicle, because of stopping and starting and stopping and starting, you will never approach that of a private automobile. So if I am going to get on that bus, I have got to have something to keep myself satisfied for the extra journey time. Now I can look out the window and see that they are putting up another high rise. I can maybe talk to my friend next door if he happens not to take his car that day or I can read some sort of publication. Publication of some form or other like newspapers or books is usually what a lot of people read come back to. So then I want to go back a little bit in history. In the middle 30's when we were talking electric streetcars. They wanted a better vehicle to compete with the rising automobile and they did a lot of research and development and they got standards. They had standards for noise. They put rubber everywhere and those cars which are now in Toronto as Red Rockets are completely and utterly silent, as anybody who has been in Toronto knows. They had standards on acceleration. How smooth can it be and how fast it can it be because we are stopping and starting and we still don't want to have zero average speed. We want to get to the destination. So they set standards, standards that just about but really didn't knock people down and I submit that the present vehicles at transit are terrible in that sense. Secondly, they developed a braking standard very similar deceleration curb and

finally they had a vertical ride so you were sitting there not trying to read your paper like this. And finally, as I discussed, noise and fumes, we don't have any because they were electric.

Now I think there is another question that has to be looked at to some extent and that is ETS is a horrible system right now. They only own drivers. All the maintenance of their vehicles is done by the mobile equipment section. ETS has got no control over how well they maintain them. They can break down and what do you do? Well, you can complain. I know what that is like when I was in the railway. I complained to Transportation but it didn't work. And similarly EPCOR maintains the overhead. The wires fell down, who do I blame. Oh well, we will try to get the guy out there after his coffee break. I think there is a real divided responsibility that has to be looked at for ETS so that they can in fact get reliability.

Another audience member said "Right on".

CHAIR:

Ok just a couple of comments sir.

AUDIENCE MEMBER:

I would like to just finish, I am almost finished.

CHAIR:

Thank you sure, great.

AUDIENCE MEMBER CONTINUES:

I think that one of the points that has not been mentioned, the electric's on those trolley buses are something like twenty some odd years old probably twenty-five when you go back to the design stage. I am sure that there has been an increase in efficiency since then, and that hasn't been discussed. And the other thing that hasn't been discussed is what is the economic life of a bus? Usually I think the trolley buses had at least 50 percent more economic life.

CHAIR:

Comments from the panel. If any your responses. Ok. Thank you.

Ok sir.

AUDIENCE MEMBER:

I would like to go back and address economics. I have actually read the consultants report and I am curious as to why the City of Edmonton didn't instruct the consultant to provide a professional life cycle cost analysis reflecting things like net present value, internal rate of return. There was a little bit of sensitivity analysis but it only dealt with fuel. And in fact, one of the things my colleague has reflected on here is the fact that a trolley bus costs more but it's probably worth more. So if a trolley bus

has a life expectancy of twenty-five years probably at the end of twenty-five years I would surmise that it is probably worth more than a diesel bus which is probably a piece of scrap at the end of eighteen to twenty years. Maybe it is not but a true life cycle cost analysis will include the cost of money and it will take a look at different energy rates and provide some kind of selective but independent analysis of what we are trying to compare.

The figures that are in the report in a summary form and they aren't collected very well in my opinion and I would just suggest if that could be incorporated before any decision is made, it would be a wise thing to do.

CHAIR:

Thank you. Comments?

WAYNE MANDRYK SPEAKING:

Well I should point out that in the report and in Administration's report that went forward, you are quite correct that it is not a life-cycle-costing basis. What was presented was the dollars over the next ten years that are expected to be expended in the different scenarios. The ten-year time frame was chosen because it does represent the current long-range financial plan that the City has. We go from a ten-year long-range plan to a five-year capital plan and a year-to-year budget. So we are trying to reflect the actual savings that we would see in our budgets over the course of the next ten years. So the \$2 million and \$1.9 million in the operating side that is indicated there would in fact would be a reduction to transit's budget in 2005. So we tried to simplify the exercise. It is in dollars that are represented in our existing budgeting process.

CHAIR:

Graeme please.

GRAEME FELTHAM COMMENTS:

I just wanted to make another comment here about net present value analysis and cost of money. I have been on this transit advisory board for two years, and I have been trying to get that cost of money out of the City as well and I can tell you....

(TAPE 2 SIDE 2)...END OF GRAEME'S CONVERSATION WAS CUT OFF...

TAPE 3 SIDE ONE

And it is an issue. I wish you luck in getting that answer and if you get it, please tell me.

CHAIR:

Ok...other comments.

No I am sorry I have to come to the mike. Hold on to you thought though, because I am sure that it will be important. There is a couple of people at the back of the room. One that I will recognize because it is a younger person who I suspect asked the question and they do have to leave so I will ask this question of the panel that came forward and then I will go back to the microphones.

AUDIENCE QUESTION:

How much will a bus ticket cost if fuel costs double or if fuel costs triple? Quickly.

WAYNE MANDRYK RESPONSE:

Quickly. Like a lawyer, it depends. We have two sources of revenue, the fare box and the tax revenue. The more we put into taxes the less we put into the fares. Our fuel budget is in the neighborhood of \$10 - \$12 million dollars just to give you some perspective of it. It is roughly about 8 percent of our budget so I really can't give you that answer because at the end of the day it is up to Council to determine the tax support versus the fare support for operating the system.

CHAIR'S QUESTION:

But there will probably be an impact in terms of budgets as fuel costs?

WAYNE MANDRYK RESPONSE:

Certainly fuel is a large component of our budget.

CHAIR:

Thank you and Tony please.

TONY KERNAHAN COMMENTS:

It is my understanding Mr. Mandryk that in fact a considerable fraction of the total budget of transit is for operators wages. And so while the fuel costs would inevitably affect the cost of providing the service, hopefully fares wouldn't have to go up too much. As Mr. Mandryk said, it is really up to City Council to determine the level of support from the taxpayers be it 55 cents on the dollar or 45 cents on the dollar, whatever it is. But don't forget, it is a city wide service that is being provide for all the citizens of Edmonton.

CHAIR:

Thank you. Thank you for your patience.

AUDIENCE QUESTION:

Hi. I am currently an engineer in training.

CHAIR:

Just up to the microphone a little bit closer please, thank you.

AUDIENCE QUESTION

Is this good. (Chair) Yep Ok. I am an engineer in training. I just have a couple of questions. Mr. Mandryk keeps referring to savings, savings and savings. What about our health? What about the children, the adults, and the neighborhoods that have all these diesel buses running? You know, Health Canada has stated that there is no safe level of diesel emissions. Zero would be best for zero emissions. What is zero emissions? What gives you zero emissions, trolley buses. Think about that.

Also, I would like to request that all the slides that have been put up here today be put on line please.

CHAIR:

That request was made last night, and I believe we're taking....

AUDIENCE CONTINUED:

And also I would like to draw you to the Booz /Allan/ Hamilton report. On page 28 you have referred to the NOX. Primarily NO is a non-toxic visible tailpipe gas. There is something wrong with that because Alan Roc and David Anderson both have stated that NO or any particular emissions from diesel or what not are actually toxic. So, I am telling you now there is a problem in this report and the problem is they are stating things they shouldn't state. It is a toxic gas.

And I also draw you to page 55 of the Booz/ Allan report. It says "retiring the trolley fleet would reduce fleet emissions". In the small print it states "it is reasonable to assume that fleet emissions will be largely unaffected by the diesel versus trolley decision. So why are the two contradictory statements here? The top, in bold, stating there would be retiring the trolley fleet would also reduce fleet emissions but at the bottom it doesn't say that. It just says it is mainly unaffected.

Also on Page 24, there is this big graph. Edmonton's ambient air quality is not perceived as a major problem as it is for many other North American cities. Air quality in Edmonton and Alberta overall was reported as good. Well, think about this. A person that waits at a diesel bus route everyday would not be experiencing good or even fair, I would even think, air quality. And remember, let me go back. Health Canada has stated that there is no safe levels to diesel emissions. So how could this report generalize and say that people who are on these, waiting for buses, or even in the diesel buses, or waiting for diesel buses be experiencing good air quality. That is impossible.

CHAIR:

Ok. Just one more question because the panel has got to sort of keep track of your questions. Thank you.

AUDIENCE CONTINUED:

Also, I know from reports that usually the Administration would need to provide to the consultants something called "Terms of Reference". I would really like to get a

copy of these Terms of Reference because I believe these are important for people to know and if it is possible, put this on line.

CHAIR:

Terms of Reference for the Booz/ Allan Report.

AUDIENCE CONTINUED:

For the Booz/ Allan/ Hamilton Report please. And the very last thing, this is short. I would just like to get from the panel any comments they have about the Booz/ Allan/ Hamilton Report. Thank you.

CHAIR:

So specific questions, and some general comments. Perhaps I could start with Tony. If you, please.

TONY KERNAHAN RESPONDS:

You are quite right about the Booz/Allan Report on air quality. On page 25 from six to ten meters from stops the transit level of emissions can be ten times greater than ambient for short periods and may increase by an additional factor of four times for distances of less than six meters. So you are quite right. So that would be a factor of 40.

Now with regard to the consulting company, I am not in a position to really comment. I do know that when my wife was recently in Ireland and came back, she bought the Manchester Guardian at London Airport. She brought it back for me to read. By coincidence there is a whole article about the signaling of the West Coast line in Britain. A new signaling system that was to be developed for the West Coast railway electrified railway in England. It has cost more than it cost to send a man to the moon. \$6.7 billion pounds. One of the consultants who was hired to advise on that project was Booz /Allan/ Hamilton.

CHAIR:

Thank you. Kevin or Wayne and Graeme of course.

KEVIN BROWN RESPONSE:

You asked for comments on the Booz/ Allan/ Hamilton Report. And without going into detail, I know you sited some specific references there. The pages numbers seem to be slightly different than what we have here, so I couldn't find all the things that you were citing. It goes without saying, you know, in looking through the Booz/ Alan report, we have found many many contradictions in it. They say one thing on one page and then a couple pages later they say something else which seems to contradict what they said earlier. Or, or in other cases, sort of invalidates the conclusion they have made. For instance, they were saying that power plants by 2020 or 2023, diesel buses would be cleaner than power plants, measuring the emissions per kilometer coming out of the bus and coming out of the power plant to power a trolley. And

then, at the end of that scenario that they developed, then they say 'but there are so many uncertainties that we are not really sure'. So, you find a lot of things like this in the Booz/Allan Report. What surprised me, I have seen other reports by Booz/Allan/Hamilton, and it goes without saying that this firm has done a lot of work with trolley bus systems in North America, and it is a known name in the trolley bus industry if you will, or in the bus industry, associated with trolley systems. So, it is very curious as to why this report was so nebulous in many respects and why some of the errors and contradictions that it has in it, crept into the report.

There are other things that we found were missing in the report. Very salient items. One was a ridership analysis. When you run a transit system, one of the most important things is the revenue you gain from hauling passengers. And if you were going to build a trolley bus system, you would build it on those routes that haul a lot of passengers because that is how you would justify paying for the overhead. Now suddenly, we have a trolley bus system in Edmonton here, we have had it for years, and you are evaluating whether or not to continue the system, and suddenly that becomes irrelevant. If it were a relevant consideration to put in a trolley bus system, why is it now suddenly irrelevant. So there are other questions like that that come out of the Booz/ Allan Report, which for a firm that is supposed to have a background and expertise in trolley operations, it just leaves you dumbfounded as to why the report is that way. So those are my comments on the Booz/ Alan Report. I don't know if Wayne has anything further to add.

WAYNE MANDRYK RESPONSE:

Well, we have gone around a lot of comments and questions here. I guess maybe to start off with the author of the report from Booz /Allan will be coming to the public hearing and certainly be available to answer a number of the questions that have risen here.

I would like to comment on one of the comments that was made about the reduction, the overall reduction in the emissions. And one of the points that is made in the report is because we are buying clean diesels or we are buying buses that have diesel engines that meet the standards that are reducing the emissions from the buses, in fact our overall fleet emissions are being reduced. I think that is one of the graphs that is in there, and regardless of whether we continue with trolleys or not, just simply because of the number of diesels that we have in the fleet relative to trolleys and their operation that trend is going to continue. We are going to see in the neighborhood of about a 60% reduction in particulate matters overall from the fleet by 2015 simply because the engines we are buying are cleaner. And whether we buy trolleys or not that 60 might be 59 or 62 but it is not going to change very much simply because of the number of vehicles that are in the fleet. So that is, I guess that is my comments in terms of the air quality.

The other thing, again is magnitude. As I started off with my presentation, we recognize that certainly you are always going to have an exhaust coming out of the

diesel which has components on it that are recognized as harmful components. But we are really talking about a magnitude here. And we really have to put a value on that. What we are saying at this point is that the magnitude of emissions that is going to be coming out of the clean diesels, in fact, are very very low compared to what we have seen in the past. I don't think the argument about the emissions coming out of the power plants is irrelevant. Our power plants are only about 40 or 50 kms east of the city that produce emissions from coal and they produce emissions in the air. To suggest, that they are out in the country and irrelevant to Edmontonians is certainly a flawed argument.

CHAIR:

Graeme you had a comment.

GRAEME FELTHAM COMMENTS:

Just a quick one. I said this one last night too. There are kind of two ways to compare emissions. You can compare tail pipes of your different vehicles and that is a sort of a legitimate, considered a legitimate way to compare emissions. Or you can compare a life cycle so you take into account everything that happens to get that fuel into the vehicle including the burning of the fuel. So the life cycle stuff that is talked about on trolley, it's not quite complete. You should actually also consider the emissions that are produced when you mine the coal and then get it into the power plant, burn it to get it into electricity, the losses in the transmission and then finally at your bus. But conversely, if you are going to talk about that you need to declare that to the life cycle of emissions of diesel and diesel doesn't just magically appear at the pump. Diesel gets, you drill a hole in the ground, you produce it, and then you refine it on the East Side of Edmonton and then truck it and usually you spill a little and then you put it in your bus and then you burn it. So you need to consider the emissions that happen every where along that step and I just want to say that the data that I seen let's us compare tail pipe to tail pipe and that is ok and I haven't seen the rest of the data that would let you compare the whole life cycle stuff.

CHAIR:

Ok, just quickly Tony and then we'll move on to the next couple of questions please.

TONY KERNAHAN COMMENTS:

I think if we accept the fact that the total emissions from the diesel fleet is very small in comparison to the total vehicular traffic in Edmonton. I don't think that's a good approach because if we all take that attitude there will never be any improvement in the air quality in any city and so if transit is seen to be doing it's bit, however small, then that is a positive for transit and people will start to recognize that.

CHAIR:

Now it is getting close, it is about five to nine. I recognize there is three people on the floor on a point of privilege and I have two sets of questions here so we will wind up when we go through.

Go ahead please.

AUDIENCE QUESTION:

Ok, I rode both the trolley and the gas for over 30 years. In the 60's and then back here in Edmonton in the 80's till now. I have never seen such a despicable system the way the transit has been allowed to go down hill. The only improvement is the new diesel buses. They are nice new colors but they are breaking down, every time, every week when I have been going all the way to the south side where I work, the buses are constantly breaking down. We have too many old buses. Nothing has been done to maintain the trolley buses. You yourself sir, admitted that you have eliminated many trolley routes. When I was here in the 60's there was plans to extend the trolley routes right out to Jasper Place, right out to Beverly and it was done and most of that trolley route has been abandoned. You got gas buses on there that keep on breaking down. That 35 degree weather that was mentioned, I was one of the people freezing for an hour and a half waiting for another gas bus to come. That is about it because your fleet of buses right now is ridiculous.

CHAIR:

Thank you sir. Comment, Tony

TONY KERNAHAN RESPONDS:

Well I think I, in spite of my views, I do have to come to the defense of transit. Transit is limited by the funds that are allocated to them by City Council and if City Council decide to allocate less money to transit, then transit has to do their best.

CHAIR:

A couple of questions from the floor, and then I will come to the person at the microphone.

AUDIENCE QUESTION:

Specifically to Mr. Mandryk re: the 105 Street bridge disruption. Why not install the trolley wires over both lanes on the bridge with a switch at either end? So if you are repairing one side, trolleys can still run on the other side.

WAYNE MANDRYK RESPONDS:

It is simply a matter of cost. Well, not simply a matter of cost. There is also a matter of safety. Running the trolley buses in an area where there is construction equipment is a hazard. I think there is a regulation that you have to be three meters away. You can get around that by having on site continuous supervision. So, any way you look at it, there is a cost involved in trying to attempt to continue to run the trolley buses across the Walterdale Bridge.

CHAIR:

Ok. And one other follow up question re: emissions, I believe it has already been discussed to some degree but re: emissions Does the refining of oil not produce emissions?

GRAEME FELTHAM RESPONDS:

Yes it does...(laughter in audience)

TONY KERNAHAN COMMENTS:

When the LRT was being constructed under Jasper Avenue, it is my recollection that the trolley buses continued to run. The wires were simply pulled over to the north side of Jasper Avenue and the whole road, the whole street was one big construction site, yet the trolleys continued.

AUDIENCE COMMENT: COULD NOT BE HEARD.

CHAIR:

Sir, please if people in the crowd could wait until the microphones thank you or I won't let you get to the microphone. So there. Sir, please go ahead.

AUDIENCE MEMBER:

I just want to. I live in the McKernan Belgravia area and we feel very very disappointed that given a least excuse our Number 7 trolleys are no longer trolleys, they are diesels and in fact also our service is dropped from once every 20 minutes to once every half hour. What I do, is in fact, I ride my bicycle to HUB and take the LRT because it is faster and more convenient.

OTHER AUDIENCE MEMBER: "Right On"

CHAIR:

Comment.

AUDIENCE COMMENT: Could not hear.

CHAIR:

Ok I will get your indulgence folks. We are at nine o'clock that was the planned conclusion but if we could run for an extra five minutes or so, I just have a couple of questions and one more comment from the floor and then I will have to shut us down.

So another question to Mr. Mandryk. With regards to construction, trolley wires can be moved along the span to allow trolley to skirt past obstructions. Why isn't this done? Why aren't incidents managed more wisely? Why haven't the trolleys been more proactively maintained i.e. Painted, rust fixed little things wrong but not being attended to?

Thank you sir. Now let's let Wayne speak.

WAYNE MANDRYK RESPONDS:

Well certainly, to address the issue of why can't the wires be moved. I think as I mentioned in the last question, it is a matter of cost. If we move wires around a road repair or a construction project, there is a cost associated with relocating the wires. Even if we get into a situation in the future where we use auxiliary power packs there is going to be a cost associated with pulling poles down and putting poles up and going around, or through that particular section of construction. It can be done. It is done in Vancouver. There is restricted hours for some of the road repairs and construction and there is a cost that is applied to construction projects in Vancouver. They are in a situation where they run 235 trolley buses. That is a significant portion of their fleet and they can't afford, in fact, to be down. You can imagine in their main line routes taking out that many buses. So, they do spend a lot of extra effort in maintaining the service on their trolley lines.

CHAIR:

Ok. And one follow up question. Why haven't APU's been installed rather than sitting on pallets? Is this deliberate?

WAYNE MANDRYK RESPONDS:

We developed an APU that was a new design. It was several years ago, and bought some parts for them, I believe there was six. We did develop and test one. We haven't used it in a service. It was more or less an experiment to try and run the system, run the system effectively, but that was really never the case. We've had diesel buses to back up the trolley buses and in fact, that's what we have been using, I guess, as our APU's. In fact, replacing the trolley buses with diesel around the construction sites is more efficient and probably more cost effective as well.

CHAIR:

Ok, any other comments? Kevin?

KEVIN BROWN COMMENTS:

I just want to make one comment about the previous question. The first one you had there Al which was relating to construction sites and what not. First of all, when you operate trolley buses, there are going to be certain circumstances during which it just really isn't practical to operate trolley buses in the construction zone. You're going to get that. And probably even if you have APU's there are going to be some circumstances that will arise that you may want to replace the vehicle with a diesel. There are certain conveniences. But what an APU, an auxiliary propulsion unit, allows you to do is it allows you to get rid of a lot of those cases where you would be doing that just out of convenience and make more use of your trolley buses. It also enables you, in situations where you have a problem with the overhead, where there is a power outage or something like that, to get around that and continue the service, and keep the service relatively on time and reliable and not have a disruption where you

have to dispatch other vehicles out of the garage to take over that route, diesel vehicles out of the garage.

So those are basically the advantages to an auxiliary propulsion unit. But one thing which I should point out with new trolley buses, Vancouver does use what Mr. Mandryk referred to as “pole pullers”. When they have a construction site, there will be someone stationed at the beginning of the site. And if the wires have had to be moved to the side or something so the trolley bus cannot stay connected to the wire, then someone will pull those poles and the trolley bus will move through the construction zone, and someone on the other end will put the poles up so that the driver doesn't have to get out of his seat and do all that himself and it keeps the vehicles on time. They run a fair number of trolley buses so that is a practical approach.

With a new trolley bus, there is a technology on a lot of the new trolley buses that allows the driver to retract the poles without getting out of his seat. He flips a switch and they are pulled down in the back and they are put into the rack. The driver drives the vehicle through. If you have a construction zone in which the trolley bus is going to operate, and the wire has to be moved to the side, the power company going to have to come out to move that wire to the side anyway. So they are going to be on the scene and you are going to have the expense involved of them moving the wire anyway. So what you do if you have a new trolley bus is on the opposite side of the construction zone, you have the power company put up what is called a *pan*. It's a metal device at the end of the construction zone. So that the trolley bus would pass through it, and at the end of the construction zone, the driver could flip his switch again. The poles would pop back up and be mounted on the wires and the trolley bus continues on. And you don't have the labor then associated with paying this person to pull the poles at one end of the zone and put them back up at the other end of the zone. So technology does solve some problems in that regard. I just wanted to point that out.

CHAIR:

Ok Tony. Last comment.

TONY KERNANHAN COMMENTS:

I was in the city of Lyon, France in the early 80's and I had been there in 73 I think and there was a number four route that had been dieselised. The wires were still up and it had been dieselised. Anyhow I was back in the early 80's and I got on a number 4 bus and low and behold it was a trolley bus but when we started off from the terminus at Perrache, the poles were down but there was sort of a chugging noise at the back. The bus started off and went down a few blocks and then I saw the reason for the auxiliary power unit. There was massive road works. The bus then made a left turn, proceeded about another 100 yards and low and behold suddenly it was at a stop and suddenly the poles went up and I heard the compressor chugging

and we took off under the wire. So the route had been re-electrified with these new trolley buses in the early 80's in Lyon with APU's. So in fact they do work.

CHAIR:

Thank you. Two more comments from the floor and then we are going to close down the meeting for tonight. So, first and then this gentleman here please.

AUDIENCE COMMENT:

Thank you very much. I would just like to respond to the gentleman tonight, right who said trolley buses do have a value at the end of their twenty years. Edmonton Transit is a good example of this. Think back to 1966 when our Pullman's wore out. We wanted more trolleys. We bought ten from the City of Regina, ten 1949 model Brills. Does anyone remember what we paid for them? \$700 each. We bought them to cannibalize to keep our Brills going. Instead we kept the Regina Brills, 121 to 130 running for ten years to the credit of ETS for having done that. We also bought some from Vancouver. Thank you.

CHAIR:

Thank you very much. Always impressed. Thank you very much. Sir, last comment or question to the panel.

AUDIENCE COMMENT:

Comments I guess. Yeah so as far as the Board goes, I recognize that some people are obviously transit riders. As far as ETS and some of the planners that are making these decisions at the City go though I don't think that is necessarily the case and I will explain further why I think that is. I have taken transits since I was in grade four so you can make your own judgement. But for a long while, every day, multiple times a day and I know based on my rider ship that diesel buses pollute. I mean I get off the bus and I am surrounded by a cloud of smoke and gas, which can't be good for me. It is diesel particulate matters. It is bad news. It can't be what the report states as safe levels by any means. On campus at the U of A the transit station that was moved there when the LRT was moved there, there is a constant cloud and haze over campus where ten's of thousands of people walk by every day. So is the health of those people considered in these matters? I don't know. Anyway, so I guess getting to a point here, I have talk to a bus driver on the Number 7 when the city was, once again, considering _____(cannot understand...he speaks too fast)..trolleys and he said he had been driving trolleys for fifteen years and his opinion they were superior and problems with them were overstated basically. He said if operators knew how to use them properly. For the most part they are very efficient and he had no problems with them. He walked with a cane. He didn't have any problem putting these things back on. On the line. So, anyway, another thing about electrical engines here, like inherently they are more efficient. Anybody who knows a little about science knows they are more efficient. Buses are constantly stopping and starting. Electricity and electrical engines are the way to go. I think there really a lack of vision regarding emissions and even in this report. Electrical generation while here is predominantly

coal powered, alternatives do exist to this. So you look at Calgary. They ride the wind. Their whole LRT they buy wind power from Pincher Creek area and use that as a selling point for their transit. So why can't we consider something like this? Why can't we have some here in the City of Edmonton?

Again, so basically, have riders been extensively consulted? With their, you know, opinions on trolley buses? And I guess number two, as the City considered the electrical generation while right now is predominately coal, done by coal, have they considered in 20 years or more that might not necessarily be the case due to things like Kyoto and other alternative forms of energy?

CHAIR:

Thank you sir. Comments or response from the panel. Pretty good points raised.

Yes Wayne.

WAYNE MANDRYK RESPONDS:

Well with respect to the drivers. Yes, we have consulted the drivers. The Union has in fact, stated officially that they support the removal of the trolleys and don't support the continued trolley operation. I think we will bring that information forward to the public hearing as part of our consultation.

With respect to the production of power. There is in the report some forecasts of electrical production in Alberta. I think about 95 percent of the electrical production right now is coal and gas and that is not going to change substantially in the future. It should be also be noted that the consultant, in his report, made some assumptions on the continued improvement on the technology of electrical production as well in terms of reductions in the emissions from the power plants. So that has been also incorporated in the review that was done by the consultant.

AUDIENCE MEMBER: MADE STATEMENT THAT COULD NOT BE HEARD...

WAYNE MANDRYK RESPONDS:

Yes as part of, as Mr. Parson's mentioned earlier there are two surveys being conducted now. One is of Edmontonians in general and the second one that is an intercept survey of specifically of riders, and that information is being currently put together.

CHAIR:

Tony last comment from the panel please.

TONY KERNAHAN COMMENTS:

Would it be possible to see the questionnaires for those two surveys tonight?

CHAIR:

It is essentially the questionnaire that is being handed out tonight.

TONY KERNAHAN RESPONDS:

I think it is worth remembering that the whole transit system is supported by the Edmonton taxpayer and therefore, management, operators, union, maintenance people, are technically the servants of the citizens of Edmonton. It is the citizens of Edmonton that will ultimately decide, through City Council, what is available for transit to operate. If City Council say we are going to go to horses and carts, transit will have to tow the line. So whether or not the union likes trolleys or don't like trolleys is irrelevant. It is what City Council decide is best for the citizens of Edmonton. The mix of diesel and trolley and LRT .

AUDIENCE: Applaud.

CHAIR:

Thank you and thank you for your indulgence in taking about 15 minutes longer than the scheduled time. Just wish to run over quickly in terms of the next steps in the consultation process. We are asking you again, or to remind you again, I notice that most of you have filled out the questionnaire that is with you and if you could return it to the box at the end of this evening.

We have also mentioned on a couple of occasions there is other research currently underway. The telephone survey of all Edmontonians, as well as a specific survey of transit users. And a public meeting, which is a non-statutory public hearing, is scheduled for Council Chambers on June 22 at 1:30 PM in the afternoon and at that time Administration will be presenting the results of this consultation, the research and other components to further indicate or further backup their current recommendation to discontinue trolley lines. And citizens, like yourselves will be able to speak at to this topic at that non-statutory public hearing.

To register to speak, and I have it up here on the site. It is either the general website which will direct you to Edmonton Transit www.edmonton.ca or by phoning the City Clerk's office at 496 8178. Also, as Graeme mentioned at the beginning of the session, you also have the opportunity to contact your councilor, or contact the Mayor or the Citizen's Action Center at 496 8200 to make your feelings known. So there is still lots of opportunities beyond this public meeting, and the one last night, to express your feelings about the issue at hand.

So I would certainly like to thank you for your participation tonight. Hopefully, we have achieved the meeting purposes of presenting some points of view and some persuasive arguments either for or against the recommendation on the floor. And I would like to recognize the panelists who prepared good presentations and certainly answered your questions frankly and fairly and completely. So thank you to Graeme

and Tony and Kevin, I am sorry, Kevin and Wayne. It was when you looked around at me that I laughed. Anyway, thank you to the panel for their participation tonight.

Also, I would like to recognize the other people from Edmonton Transit system who have supported this tonight and supported the public meetings. So for that, I thank you very much and how about a hand for them.

AUDIENCE APPLAUDED...

CHAIR

So thank you all. Drive safely or may your bus be on time. Thank you. Goodnight.

Meeting adjourned at 9:15 PM.