

Friday, August 28, 2009

The Honourable John Gerretsen
Minister of the Environment
Floor 12A, 135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

Dear Minister Gerretsen:

Re: Objection to Metrolinx' Proposed Diesel Expansion of Georgetown South GO Service and Union-Pearson Rail Link

Brief Description of Proposed Project and Location

On November 28, 2008, the Metrolinx Board of Directors formally adopted *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area*. *The Big Move* identified nine priority actions, called "Big Moves," one of which (Big Move #1) is to build "A fast and expanded regional rapid transit network [to] ...bring fast frequent, all-day, two-way express rail service and expanded regional rapid transit service to every region of the GTHA..." The second Big Move (Big Move #2) "has a goal to establish high-order transit connectivity to the Pearson Airport district from all directions, which includes a fast transit link from downtown Toronto to Pearson Airport."

The Georgetown South Service Expansion (GSSE) and Union Pearson Rail Link (UPRL) were conceived to address these two priorities by greatly expanding the track capacity through the Georgetown South Corridor and by adding a spur to connect the Georgetown line to Pearson International Airport. This project, as currently conceived, will see an eight-fold increase in rail traffic along the Georgetown corridor, increasing the number of trains to in excess of 400 per day, up from the current level of approximately 50 trains per day.

Contact Name and Address of Proponent

Metrolinx (formerly Greater Toronto Transportation Authority)
20 Bay Street, Toronto
M5J 2N8
416-874-5920

Primary Contact: Rob Prichard, President and CEO

Secondary Contact: J. O'Mara, Executive Lead: Environment Policy and Planning

Introducing the Clean Train Coalition

The Clean Train Coalition (CTC) was formed in April 2009 in response to Metrolinx' plans for the Georgetown South Service Expansion and the Union-Pearson Rail Link (GSSE/UPRL). Members of the Clean Train Coalition include representatives from neighbourhoods and communities throughout the Greater Toronto Area. We represent thousands of concerned citizens and dozens of groups across Ontario.

We are supporters of increased public transit. We have read *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area* and know there is much to admire in this plan's extraordinary scope. Its vision is indeed laudable. But there is a startling disconnect between this vision and the actual plan for implementation. *The Big Move* purports to prioritize public and environmental health, and acknowledges that electrification is the preferred technology for rail transit, particularly in densely populated environments. However, the current plan for the GSSE/UPRL relies exclusively on diesel technology, which will have adverse health effects on residents and fails to capitalize on an extraordinary opportunity to reduce smog and greenhouse gas emissions.

Framing our Objection

We have participated in the limited public consultation process, attending open houses, engaging in dialogue with representatives of Metrolinx, and submitting a detailed comment outlining our concerns with the plan (appended below). We participated in this public consultation in good faith, acting under the belief that the concerns voiced by community members and their representatives would be heeded and addressed. However, despite our efforts and the efforts of numerous other community members, our primary concerns have been ignored. Furthermore, our investigations have concluded that the proponent has failed to meet the legal obligations of the Transit Project Assessment Process. Many thousands of residents were not alerted to the project and did not have the opportunity to participate in the consultation process.

Due to our profound concern with the plan and in light of a number of deficiencies in the Environmental Project Report, we formally register our objection to the Georgetown South Service Expansion and Union Pearson Rail Link.

We call upon the Minister to reject the current environmental assessment because it is deeply flawed and does not comply with the law. Given the compressed timeline for assessment under Ontario Regulation 231/08, it was absolutely essential that Metrolinx, the proponent, faithfully adhere to the provisions of the regulation. It did not. For this reason, we believe that the only legitimate decision available to the Minister is to require a new environmental assessment. It is our hope that following an appropriate and legal environmental assessment process, the Minister will conclude that the use of diesel trains is utterly inappropriate for this project and will seriously harm the health and well being of the residents of Toronto's west end.

However, we understand that the Minister may choose to allow the project to proceed subject to conditions. Moreover, as supporters of public transit, the Clean Train Coalition would like to see

work begin as soon as possible in a manner that genuinely advances the goals of clean and sustainable public transit. Should the Minister choose to allow this project to proceed despite the fatal flaws in the EA process (which we state he cannot legally do), then we submit that, in the alternative, electrification be a necessary element of any expansion of rail traffic. This is an alternative which we include only out of an abundance of caution in case the Minister chooses to allow the proponent to proceed with this project despite the lack of legally required notice to the affected communities.

Please find below a summary of the grounds for our objection:

- 1) We will demonstrate that Metrolinx, the proponent, failed to notify landowners and interested parties as it was required to do under O.Reg. 231/08.
- 2) We will identify the severe health risks associated with diesel exhaust, and argue that these health risks have not been adequately assessed.
- 3) We will show that the claims that this expansion will reduce transportation-related emissions of greenhouse gases have not been substantiated.
- 4) We will illustrate that electrification of the Georgetown Corridor would mitigate entirely the health risks and greatly reduce this expansion's contributions to global warming. Further, electrification is feasible, affordable, and can be done in a timely fashion.
- 5) Finally, we will re-iterate our call and respectfully ask the Minister to intervene and protect the health of hundreds of thousands of Ontario residents. We ask that he not allow the project to proceed as described in the EPR.

1. Legal Argument

It is incumbent upon the proponent to issue a Notice of Commencement to all owners of land within 30 metres of the rail corridor. This is not only a legal obligation, but is especially important due to the accelerated timeline of the TPAP. Metrolinx explicitly acknowledges this requirement, indicating in the Environmental Project Report that it went "above and beyond" the legal requirements by reaching out to residents within 40 metres of the corridor.

However, according to a CTC survey, only 10% of assessed owners of land within 30 meters of the project received the formal Notice of Commencement from Metrolinx.

This is a gross failure. It is not possible to conduct a meaningful EA of this project without the involvement of the communities lining the tracks. While a small portion of residents were made officially aware of the project and attempted to alert others, this in no way satisfies the requirement on the part of the proponent to provide notice to allow the affected communities to participate in the EA in a meaningful way.

It is also incumbent upon the proponent to provide notice to any other persons or parties which they think may be interested in the transit project. This requirement is in the Regulation for a reason. It is intended to ensure that, in circumstances like a densely populated urban area, where notice to owners of property within 30 meters is insufficient, the proponent must give thought to providing notice to other affected parties. In this instance, these parties would include thousands

of low-income renters, schools, churches, business owners and many property owners in close proximity to the tracks, but whose property does not meet the minimum 30 metre cutoff. Again, the CTC has evidence which indicates these interested parties did not receive notice.

Due to the failure of the proponent to adhere to the Regulation and its consequent impact on public consultation, the GSSE/UPRL project must be reconsidered. A decision to allow this destructive project to move forward without adequate consultation will be subject to major public outcry and result in significant repercussions for the government's credibility.

2. Health Concerns

The proposed plan for the GSSE/UPRL relies exclusively on diesel power, which will result in increased air pollution and health risk in adjacent communities. Diesel exhaust is a complex mixture which includes particulate matter, exposure to which is associated with cancer, cardiovascular disease and premature death. The nitrogen oxides and hydrocarbons in diesel exhaust contribute to elevated ground level ozone, a highly irritating gas that produces acute effects including cough, shortness of breath and reductions in lung function. At greatest risk are children and the elderly.

There is growing concern among the public and environmental health-related organizations with respect to the health impacts of this proposed expansion. Most recently, the Toronto District School Board, the Toronto Board of Health, the Canadian Environmental Law Association, Canadian Association of Physicians for the Environment, Toronto Environmental Alliance, Toronto City Council and Transport 2000 Ontario, have all expressed concern over the health impacts resultant from this project's increase in diesel rail traffic, and its effects on air quality and local residents.

In his letter dated August 19, 2009, David McKeown, Toronto's Medical Officer of Health, thoroughly and forcefully itemizes the dangers associated with the proposed increase in diesel train traffic along the Georgetown Corridor. He notes that "operation of the proposed new and expanded train services with diesel engines will result in adverse human health impacts in the adjacent communities."

The Medical Officer of Health further itemizes bias in the Environmental Project Report, noting that "the assessment underestimates air quality impacts, and the predictions do not really represent a worst-case scenario as suggested. Actual air quality impacts of the diesel expansion would be higher than those represented in the EPR." A similar conclusion was arrived at by Environ EC, who undertook a third party review of Metrolinx' EPR and *Human Health Assessment of Air Quality Impacts* at the behest of the Toronto District School Board. Their key conclusion was that "the Draft HHRA does not provide an adequate assessment of the health impacts associated with the project (future-build) scenario."

Metrolinx has consistently underestimated the risks associated with this expansion. The entire Environmental Assessment has been predicated on false assumptions and has therefore underestimated the resulting air pollution and under-represented the associated health risks.

We are particularly concerned with the impact of diesel exhaust on children's health. A recent longitudinal study conducted by U.S.C (Smog May Cause Lifelong Lung Deficits, 2004) indicated that where children experience long-term exposure to particulate matter, lung function and normal lung growth is compromised; by age 18 years, this compromised lung function is irreversible. A study from The Columbia Center for Children's Environmental Health (Prenatal Airborne Polycyclic Aromatic Hydrocarbon Exposure and Child IQ at Age 5 Years, July 2009), shows that prenatal exposure to environmental pollutants known as polycyclic aromatic hydrocarbons (PAHs) can adversely affect a child's intelligence quotient or IQ. PAHs are chemicals released into the air from the burning of coal, oil, gas – and diesel.

In addition there are numerous studies from the World Health Organization, the Canadian Medical Association and the Ontario Medical Association linking diesel exhaust to increased incidences of asthma in the population. Our scientific research clearly indicates links between increased exposure to diesel exhaust and adverse health effects; a summary of peer reviewed materials cited in this health impacts overview is attached for your information.

We made known many of our concerns in a letter dated July 29, 2009. In its response, Metrolinx claims that the adverse health effects on residents who live in close proximity to the line is balanced by the reduction in automobile traffic, noting that “The health effects of growing single passenger vehicle use are the real health threat to people living in the greater Toronto and Hamilton Area (GTHA) and close to the Georgetown line.” This is a specious argument. First, as Toronto's population grows, it is likely that this project will, at best, keep pace with this growth, and therefore fail to achieve a reduction in automobile traffic. We have not encountered – or been provided with – any study that shows a reduction in vehicular traffic in any growing region around the world as a result of investment in rail. Second, Metrolinx argues that single passenger traffic is a threat to those who live along the corridor. These residents are not currently exposed to elevated health risks associated with vehicular exhaust any more than other residents of the GTHA. In fact, the current proposal will create a concentrated band of air pollution along a residential corridor, thereby dramatically elevating the risk exposure on local communities. Finally, this argument creates a ‘straw man’ by implying that diesel trains are the only possible alternative.

Metrolinx further states that they have “carried out extensive studies on air quality impacts and the effects of emissions associated with the corridor on human health” and that these studies do not support the conclusion that levels of diesel exhaust resulting from this intensification pose a risk of cancer. However, contrary to Metrolinx' opinion of the carcinogenicity of diesel exhaust, an epidemiological review found that 41 of 47 studies indicated an association between exposure to diesel particulate matter and lung cancer¹. In addition to this review, several studies around

¹ [Weight of the Evidence or Wait for the Evidence? Protecting Underground Miners from Diesel Particulate Matter](http://www.defending-science.org/case_studies/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=2631/) *American Journal of Public Health*, 2006;96(2):271-276.
http://www.defending-science.org/case_studies/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=2631/

¹ US EPA Diesel Particulates: “Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.”
http://www.defending-science.org/case_studies/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=2631/

the world, including Toronto Public Health's Review, have linked diesel exhaust and diesel locomotives to increased rates of cancer and premature death. A full and complete review of all epidemiological studies of diesel exhaust and diesel rail corridors should be added to the HRA.

Before undertaking such a dramatic service expansion, it would also be prudent to complete an empirical assessment. Surprisingly, no actual empirical data was reviewed for this health risk assessment. Intrinsic's HRA claims that the incremental cancer risks would be close to 1 in 1,000,000. However, real-world epidemiological studies have found statistically significant risks that are greater than what is being presented by Intrinsic's HRA. A full and complete review of all epidemiological studies of diesel exhaust and diesel rail corridors should be added to the HRA.

Metrolinx has also indicated that "The potential health impact of ultra fine particulate matter is an emerging area of science for which there are no benchmarks or standardized approaches to evaluation". The fact that methodology and standard benchmarks have not yet been developed does not mean that this analysis should be ignored: the precautionary principle should be followed.

Finally, Metrolinx offers as its ultimate defence references to "clean diesel". So-called "clean diesel" may indeed be cleaner than diesel of past generations, but it still presents a severe and unacceptable health risk to Ontarians.

In short – and consistent with the Medical Officer of Health's analysis – Metrolinx has continuously understated or under-examined the risks associated with the proposed corridor diesel intensification.

It must also be noted that this is not a sparsely populated environment. There are over 300,000 people living within one kilometre of the proposed expansion, as well as 76 schools, 96 daycares, a number of parks, and four long term care facilities. The health of all these residents will be at risk.

Furthermore, this rail corridor runs through communities with the lowest socio-economic status and highest incidence of illness in the Greater Toronto. Metrolinx argues that the "Medical Officer's report presents no analysis to support the assertion about the socio-economic status of all of the communities adjacent to the line." We admit, it is true, that not *all* communities are of low socio-economic status, but *some* of them, including the Weston- Mount Dennis community, are dramatically below Ontario's averages with respect to socioeconomic status. This community has been identified by the City of Toronto as one of thirteen "priority neighbourhoods" and is, according to provincial statistics, the second poorest riding in Ontario next to Kenora-Rainy River.

The proposed plan is an unacceptable risk to an already vulnerable population, and cannot be justified by reference to an abstract "regional health benefit". It is unjust to condemn hundreds of thousands of Ontarians to acute health risks in favour of an ill-developed regional plan.

Threshold of Concern: This value is similar to the National Ambient Air Quality Standard established for fine particulate matter which is 15ug/m3.

There is an alternative. Electric trains would not merely shift pollutants, but immediately nullify localized health risks and set the conditions for a dramatic reduction in pollution levels across the region as Ontario increasingly pursues clean and renewable forms of energy.

In short, the evidence of adverse health impacts is overwhelming. Ignoring this evidence would be a drastic misjudgment by the province and will result in liability for the government and a backlash from voters.

We know this government has prioritized the health of our province, our communities, and our residents. We know this government is investing in the health of Ontario's citizens. What we cannot understand is the extraordinary contradiction between the government's explicit goals and the possibility of approving this project. The health of our citizens should be the highest priority for this government, and the risks of the proposed project are too great to accept.

3. Environmental Concerns

According to the EPR, this expansion will lead to increases in both particulate matter and nitrogen oxides. In fact, as a result of this expansion both of these contaminants will be brought to near or above the allowable regulatory limit. Increases in particulate matter and nitrogen oxides (NO₂) not only impact human health, but will also lead to an increase in the number of smog events. Smog is generally considered to be an environmental, rather than human health, concern.

Metrolix has dismissed these increases, arguing that they present only an incremental worsening of already poor air quality. This logic is deeply flawed: poor air quality cannot justify increases in pollution. In fact, if air quality is already poor, then there is all the more reason to make any available improvements. Furthermore, we find it surprising that Metrolix dismisses this expansion's anticipated emissions of smog-forming nitrogen oxides and particulate matter, when the Federal government has set a target to reduce the emissions of NO_x and PM by 40% and 20% respectively from 2006 levels.

Moreover, we believe that the incidence of smog-events has been understated in this EPR due to the fact that 90th percentile numbers have been used. We do understand that modeling using the 90th percentile is common practice. However, when the concern has to do with relatively rare, acute events, modeling of this type is inappropriate, and certainly does not present a "worst-case scenario" as Metrolix claims. Using 90th percentile numbers would exclude all smog days and is therefore misleading.

Global Warming

By Metrolix' estimates, this project will contribute 62,000 tonnes of greenhouse gases annually. Metrolix characterizes this contribution as insignificant, stating it will account for a mere fraction of total GHG emission in the GTHA. This characterization misses the point: global warming is one of the more severe environmental issues we face today, and it is prudent to seize

all possible opportunities to reduce emissions. We have before us an opportunity to dramatically reduce GHG emissions caused by the proposed expansion rail traffic along this corridor. It is irresponsible to squander this opportunity.

Metrolinx has stated that this project will lead to an overall reduction in greenhouse gases because it will, in principle, lead to fewer car trips. While we accept the general argument that public transit presents the opportunity to take cars off the road, the calculations presented in this EPR are misleading. In an effort to show reductions in emissions, Metrolinx has assumed that each train will run at full capacity, seating 1,900 riders, but each private automobile will only have one rider. This is a gross overestimation. Furthermore, none of these sources of emission have actually been measured, and the numbers stated as facts are merely estimations. The claims that this project will reduce greenhouse gases are grossly exaggerated and unsubstantiated.

If this project were in fact intended to affect a reduction in emissions, thereby improving air quality and reducing this province's contributions to global warming, this expansion would be planned using electrified trains. Electrification of this corridor would entirely eliminate the local emissions of nitrogen oxides and particulate matter, and greatly reduce this project's contributions to global warming. This government has recognized the merits of electrified transit and has recently announced a rebate program for electric vehicles. And while this is a welcome move, it is inconsistent and illogical to subsidize private electric transit and build new fossil fuel-powered public transit.

This expansion presents an opportunity to improve local air quality and to reduce our contributions to global warming. It would be a great shame to miss this opportunity. Undertaking an expansion that relies on diesel-powered locomotives is a second-rate solution that is dramatically out of step with this government's purported commitment to shifting Ontario toward a green economy.

4. The Solution: Electrification

The most grievous flaw in this EPR is the failure to treat the electrification of this corridor as an alternative. The discussion of alternatives has been extraordinarily limited, addressing only minor design options while ignoring the single most substantial alternative, electrification.

During the public consultation period of this project, Metrolinx received over 700 comments and over 600 emails in favour of electrification. In addition to these comments, the Clean Train Coalition collected over 2,000 on-line signatures and thousands of printed signatures in favour of electrification. The public has made its preference perfectly clear: this rail line should be electrified from the outset. Furthermore, Toronto City Council, the Toronto Board of Health and Chief Medical officer of Health, the Toronto Environmental Alliance, the Canadian Environmental Law Association, and the Canadian Physicians for the Environment have all argued in favour of electrification in advance of expanded service.

Metrolinx has dismissed these calls for electrification, pointing to the system-wide electrification study that was recently announced. The Clean Train Coalition welcomes this study, but asserts

that it fails to address the concerns voiced by thousands of residents and dozens of community and public organizations. This study is simply too broad in scope to be of practical value and immediate relevance. The Terms of Reference may or may not be accepted by the Metrolinx Board, may or may not lead to a study, which may take up to two years to complete, and which may or may not lead to action. Metrolinx is burying the pressing issue of expanded electrified rail traffic in the GSSE/UPRL by enfolding it within such a comprehensive study. A more focused study could build on existing research and lead to quick implementation of electrified rail transit in this corridor.

Indeed, our research, which included a review of a 2001 study commissioned by GO transit, indicates that electrification can be accomplished in a timely manner, and that electrified service could be operational by 2015, in time for the targeted rail expansion completion date. Other modifications to the rail line, such as grade separations, bridge clearances, and renovations to Union Station are all set to be ready in 2015. But this deadline can only be met if detailed planning commences soon.

GO Transit has studied electrification close to a dozen times before. The answers are always the same: electrification is desirable but requires a higher upfront investment. Consecutive governments have failed to make the investment, and now look back and wish that electrification had already been put in place. There is no better time than now to plan for the future and to build a progressive transit network for our region.

The benefits of electrified service are well established.

- *There are no local health or environmental impacts from electric trains.* Electric trains receive their power from the grid - they have no emissions and they don't pollute.
- *Electric Trains can be powered using renewable, green energy such as wind or solar.* As our province continues to work towards cleaner, greener energy sources, electric trains will immediately benefit from these technological advancements.
- *Electric trains are more energy efficient.* They reduce our carbon footprint and our contributions to global climate change. By some estimate, electric vehicles are approximately four times more efficient than vehicles using internal combustion engines.
- *Electric trains are lighter and quieter.* They don't disrupt the activities of residents and businesses. Lighter trains also require less energy to operate.
- *Electric Trains are faster.* Electric trains can accelerate much faster than diesel locomotives, thus permitting more stops without sacrificing travel times. Using electric trains will better support the overall transit needs along this growing corridor.

In sum, electrification would entirely mitigate the local health impacts, it would greatly reduce the noise and vibration impacts, and it would also significantly reduce this expansion's contributions to smog and global warming.

Metrolinx has itself indicated a desire to electrify this line at some point "in the future". But they claim that the necessary work needed to electrify this service has not been completed. If the detailed work needs to be completed, then we urge Metrolinx to proceed with this work.

Metrolinx claims that the work is being designed with “future electrification” in mind. But it is inefficient and impractical to undertake an infrastructure project of this magnitude in two stages.

The Clean Train Coalition also takes exception to the argument that funding is not available. By Metrolinx’ own estimates, electrification is not prohibitively expensive, and would cost somewhere in the order of hundreds of millions of dollars. We recognize that this is not insignificant, but given the serious and irreversible health effects associated with diesel exhaust, and in the context of a \$1 billion expansion initiative, this is a modest added expense. Further, because Metrolinx indicates a desire to electrify the corridor in the future, these costs will be paid at some time or another. It therefore seems logical that the relative cost of electrification would be less if it were carried out while the line is undergoing a massive service expansion, rather than at some later date when the expanded service is up and running and a significant investment has been made in diesel rolling stock and other infrastructure.

Finally, according to the Benefit Cost Analysis prepared for Metrolinx earlier this year, the initial capital costs of electrification would be recouped in approximately 10 years based on operational savings alone. When one factors in the greater residual value of electric rolling stock versus that of diesel, the avoided costs to the health care system, and the savings resultant from prudent investment in the preferred technology from the outset, electrification emerges as the only reasonable choice for this project.

Request to the Minister

In light of the above noted considerations, we ask that the Minister require further consideration of the GSSE/UPRL project. Specifically, we ask the Minister to:

- Reject the EPR on the grounds that the proponent failed to meet its legal obligations
- Require that electrification of the corridor is a prerequisite for any expanded rail traffic for both the GSSE and UPRL.
- Require that Metrolinx put in place an electrification implementation plan for the GSSE that will make electrification concurrent with service expansion

Minister, we implore you to heed this request. You carry with you the responsibility for the future health and well-being of our province, and you have been entrusted to represent and advance the best interests of Ontario’s citizens. There is overwhelming evidence that the current plan is a second-rate solution that will endanger the health of citizens. You must intervene to protect the health of hundreds of thousands of Ontario residents. This is a matter of *provincial importance*, as the environmental pollutants resulting from the current plan pose a grave threat to human health

Electrification is the only reasonable option for the GSSE/UPRL. It is affordable, it is achievable, and now is the right time to make this decision. With a targeted and focussed effort we can implement a solution that solves our infrastructure needs, protects the health of our citizens, safeguards our environment, and advances us along the road toward a green economy.

Respectfully,

The Clean Train Coalition Executive

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Bibliography

World Health Organization: Air Quality Guidelines for particulate matter, ozone, nitrogen dioxide, and sulphur dioxide Global update 2005 Summary of Risk Assessment
www.euro.who.int/Document/E87950.pdf

Journal of Environmental Science and Health: Part C 2005

Airborne Particulate Matter and Human Health: Toxicology Assessment and Importance of Size and Composition of Particles for Oxidative Damage and Carcinogenic Mechanisms
<http://www.informaworld.com/smpp/content~db=all?content=10.1080/10590500802494538>

The Lancet Volume 360 October 2002

Association between mortality indicators of Traffic Related Air Pollution in the Netherlands: a cohort study
<http://www.thelancet.com> journals

Journal of the American Medical Association (JAMA) 2002

Lung Cancer, Cardio-Pulmonary Mortality and Long Term Exposure to Fine Particulate Matter Air Pollution
<http://jama.ama-assn.org/cgi/content/full/287/9/1132>

Elsevier: Toxicology 2002

Department of Hygiene and Public Health Tokyo Women's Medical University School of Medicine
Health effects of diesel exhaust emissions - a mixture of air pollutants of world wide concern
www.elsevier.com/locate/toxicol

Canadian Medical Association (CMA)

No Breathing Room: National Illness Costs of Air Pollution
August 2008
www.cma.ca publications

Ontario Medical Association (OMA)

Illness Costs of Air Pollution 2000
Submitted to the OMA by DSS Management Consultants Inc.
www.oma.ca request copy

American Lung Association

State of the Air 2009
www.LungUSA.org

Journal of Epidemiology and Community Health

Environmental Influences on Health Care expenditures: an exploratory analysis from Ontario Canada 2003
<http://jech.bmj.com/cgi/content/full/57/5/334#BIBL>

Inhalation Toxicology, Volume 19, Issue S1 2007

US Environmental Protection Agency

Health Assessment for Diesel Engine Exhaust

<http://www.informaworld.com/smpp/content~db=all?content=10.1080/08958370701497960>

Toronto Public Health Department

Estimating the Health Impact of Exposure to Diesel Exhaust in Toronto 2002

www.toronto.ca/health publications

Clean Air Task Force (USA)

No Escape from Diesel Exhaust 2009

www.catf.us/projects/diesel/noescape/findings.php

Children Specific Research

University of Southern California

Pulmonary Health of Children in polluted Los Angeles

Longitudinal Children's Health Study 1993 - 2001

Smog May Cause Lifelong Lung Deficits

www.usc.edu/usc/newstories/10495html

New York University School of Medicine & Nelson Institute of Environmental Medicine

Early Life Environmental, Developmental Immunotoxicology and the Risk of Pediatric Allergic Disease including Asthma - a Review Dietert and Zelikoff

Birth Defects Research (part B) 2008 Wiley-Liss Inc

Environmental Health Perspectives 2006

Fine Particulate Matter (PM_{2.5}) Air Pollution and Selected Causes of Postneonatal Infant Mortality in California

Published online 2006 January 13. doi: 10.1289/ehp.8484.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1459937>

Particulate and Fibre Toxicology March 2009

Exposure to diesel exhaust induces changes in EEG in human volunteers

<http://www.particleandfibretoxicology.com/content/5/1/4>

Wednesday, July 29, 2009

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To Whom It May Concern:

This letter is the Clean Train Coalition's official submission to Metrolinx as part of the Public Consultation period for the Georgetown South Service Expansion and Union-Pearson Rail Link (GSSE/UPRL), under the Province of Ontario's Transit Project Assessment Process.

Short background of CTC

The Clean Train Coalition (CTC) was formed in April 2009 in response to Metrolinx' plans for the Georgetown South Service Expansion and the Union-Pearson Rail Link. Members of the Clean Train Coalition include representatives from neighbourhoods and communities throughout the Greater Toronto Area. We represent thousands of concerned citizens and dozens of groups across Ontario.

We are supporters of increased public transit. However, we are deeply disturbed by the plan to run over 400 diesel powered trains through such a densely populated and vibrant part of Toronto. Our concern is that the GSSE/UPRL project, as currently planned, will endanger our health, pollute our environment and damage our neighbourhoods, while squandering an incredible opportunity for our region.

Supporting Metrolinx and The Big Move

We have read *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area* and know there is much to admire this plan's extraordinary scope. Its vision is indeed laudable. But there is a startling disconnect between this vision and the actual plan for implementation. Most importantly, the plan to use diesel power to expand service along the Georgetown corridor will have adverse health effects on residents in close proximity to the line, and fails to capitalize on this extraordinary opportunity to reduce smog and the greenhouse gas emissions that cause global warming.

The Clean Train Coalition acknowledges and supports the efforts of Metrolinx. We believe that by working with the Province of Ontario, we can find ways to improve the current plan so that it is truly aligned with our shared priorities: improved quality of life for residents of the GTHA, a healthier environment, and a thriving economy.

These shared priorities can best be achieved through the electrification of the GSSE/UPRL. Electrification of these lines can be planned and implemented in time to meet the growing capacity needs of our region. While electrification will require a significant upfront expenditure, it will save the province millions of dollars in energy and maintenance costs, as well as millions of dollars in secondary health costs, all the while creating conditions for improved rail service.

Now is the ideal time to electrify this corridor. The Province is committing close to \$1 billion to this expansion and has pledged to reduce greenhouse gases and stimulate Ontario's green economy. An electrified corridor could serve as a legacy for this government.

We urge Metrolinx and the Provincial Government to electrify the GSSE and UPRL as part of this expansion. Below, we outline some of our specific concerns with the proposed plan.

The Negative Health Impacts of Diesel

Diesel exhaust is a known threat to public health. Particulate matter is associated with both cancer and cardio-vascular disease. The nitrogen oxides and hydrocarbons in diesel exhaust contribute to elevated ground level ozone, a highly irritating gas that produces acute effects including cough, shortness of breath and reductions in lung function.

We are particularly concerned with the impact of diesel exhaust on children's health. A recent longitudinal study conducted by U.S.C (Smog May Cause Lifelong Lung Deficits, 2004) indicated that where children experience long-term exposure to particulate matter, lung function and normal lung growth is compromised; by age 18 years, this compromised lung function is irreversible. A study from The Columbia Center for Children's Environmental Health (Prenatal Airborne Polycyclic Aromatic Hydrocarbon Exposure and Child IQ at Age 5 Years, July 2009), shows that prenatal exposure to environmental pollutants known as polycyclic aromatic hydrocarbons (PAHs) can adversely affect a child's intelligence quotient or IQ. PAHs are chemicals released into the air from the burning of coal, oil, gas – and diesel.

In addition there are numerous studies from the World Health Organization, the Canadian Medical Association and the Ontario Medical Association linking diesel exhaust to increased incidences of asthma in the population. Our scientific research clearly indicates links between increased exposure to diesel exhaust and adverse health effects; a summary of peer reviewed materials cited in this health impacts overview is attached for your information.

We note that there is growing concern among the public and environmental health-related organizations with respect to the potential health impacts of this proposed expansion. Most recently, the Toronto District School Board, the Toronto Board of Health, the Canadian Environmental Law Association, Canadian Association of Physicians for the Environment, Toronto Environmental Alliance, Toronto City Council and Transport 2000 Ontario, have all expressed concern over the health impacts resultant from this project's increase in diesel rail traffic, and its effects on air quality and local residents.

This is not an abstract concern. Although the environmental assessment categorizes the path of the expansion as 'light industrial', the Georgetown South corridor passes through densely

populated residential areas. There are over 300,000 people living within one kilometre of the proposed expansion, as well as 76 schools, 96 daycares, a number of parks, and four long term care facilities within that same distance. The health of all these residents will be at risk.

It is also worth noting that the Toronto Board of Health indicates that this rail corridor runs through communities with the lowest socio-economic status and highest incidence of illness in the Greater Toronto Area. If this expansion proceeds with diesel powered locomotives, the health problems faced by these residents will only be compounded.

Further, we have concerns about the methodology used in the consultants reports; in summary our concerns revolved around:

- The lack of clarity of the methodology
- The lack of access to base data to allow for informed due diligence by concerned experts
- The length of time the detailed results have been available to the public in order to complete an analysis of the results.
- The consultants' approach which appears to have been taken to minimize impacts:
 - No consideration of PM less than 2.5
 - The 'no build' scenario does not reflect the current train level, but rather increased load without track expansion
 - The margin of error used is wider than would normally be expected
 - The base data at 90% fails to capture peak events
 - An 'assumed' standard for the UPRL vehicles, which cannot be verified

The health effects resultant from this rail expansion have been downplayed by comparing the future build scenario against estimated background concentrations which are assumed to be significantly worse than are current conditions. Thus, the relative effects of this expansion do not appear to be severe. But the absolute effects are significant and worrisome. It seems dishonest to project elevated future background concentrations of contaminants of concern when our government is pledging to reduce these contaminants. Furthermore, the health impacts have been dismissed based on the rationale that the regional air quality is already poor, and the impact from this expansion will be of little consequence. However, if regional air quality is already poor, then there is all the more reason to make every effort to improve it.

Environmental Concerns

The electrification of the GSSE/UPRL would lighten the burden we place on the environment and help us achieve reductions for two contaminants of concern: nitrogen oxides (NO_x) and greenhouse gases. Nitrogen oxides are a contaminant of concern because they lead to the formation of photochemical smog. Greenhouse gasses are of concern because they contribute to global warming. Both these contaminants have been examined in the environmental assessment and, in both instances, it has been concluded that this expansion will not cause a significant increase in air pollution at the regional or national scale. But this assessment misses the point. By electrifying this corridor, we could affect a reduction in both these pollutants. The Federal government has set a target to reduce the emissions of smog-forming nitrogen oxides by 40% from 2006 levels. The electrification of this corridor would help us achieve that goal. Similarly, the electrification of the corridor would help us achieve reductions in greenhouse gases and reduce our contributions to climate change.

The Provincial government has demonstrated a commitment to combating climate change and has recently announced a rebate program for electric vehicles. This is a welcome move, but it strikes us as illogical to subsidize private electric transit and build new fossil fuel-powered public transit. This expansion is an opportunity to improve local air quality, and to reduce our contributions to global warming. It would be great shame to miss this opportunity. Undertaking this expansion with the intention to rely on diesel-powered locomotives is out of step with Ontario's purported commitment to shifting this province toward a green economy.

The Obvious Alternative: Electrification

We understand that the Province of Ontario's Transit Project Assessment Process does not require the study of alternatives. While this approach may be the more expedient route, the magnitude of this investment suggests that one very obvious alternative merits consideration; namely, electrification. Electrification will address the health and environmental concerns we and other community members and groups have raised. It will better position Ontario to thrive in tomorrow's green economy. It is achievable and affordable, and deserves attention.

We know that Metrolinx has instigated a study of electrification of the entire GO Transit rail network. We applaud this effort. But this study will not be complete for at least 18 months. Moreover, there is no indication that this study will lead to actual change. GO Transit has studied electrification a dozen times before. The answers are always the same: electrification is desirable but requires a higher upfront investment. Consecutive governments have failed to make the investment, and now look back and wish that electrification had already been put in place. There is no better time than now to plan for the future and to build a progressive transit network for our region.

Metrolinx must begin with implementation of electrification of the GSSE/UPRL. This issue must not be obfuscated by the high costs and planning requirements for electrification of the entire GO Network. The GSSE/UPRL present an achievable opportunity for investment in electrification that will lead us toward electrified rail transit throughout Southern Ontario.

In Summary

We are supporters of public transit and, as such, we are pleased to see Metrolinx addressing the infrastructural deficit that has accrued over the past few decades. But we are worried that the rush to address this deficit is preventing us from enacting a truly transformative and forward thinking plan. Electrification is viable. It will address the health and environmental concerns associated with the current plan and it will position us as leaders in tomorrow's green economy.

We have participated in this public consultation in good faith, attending multiple open houses, engaging in dialogue with representatives of Metrolinx, and acting under the belief that the concerns voiced by community members and their representatives will be heeded and addressed. We submit this letter now under that same assumption and in this same spirit of good faith. We remain certain that a resolution can be found.

This is a matter of provincial importance. It is a once-in-a-generation opportunity to invest in changes that will set the course of our region for decades to come. We trust that Metrolinx will move forward with a solution that puts the well-being of our region and the health of our local communities on equal footing.

Sincerely,

The Clean Train Coalition Executive

Keith Brooks
Carina Cojeen
Rick Cicarelli
Gary Miedema
Mike Sullivan
Marjolein Winterlink

Cc

Rob Prichard, President and CEO, Metrolinx
Jim O'Mara, Executive Lead Environmental Assessment, Metrolinx
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Encl. Health Impact Study Sources