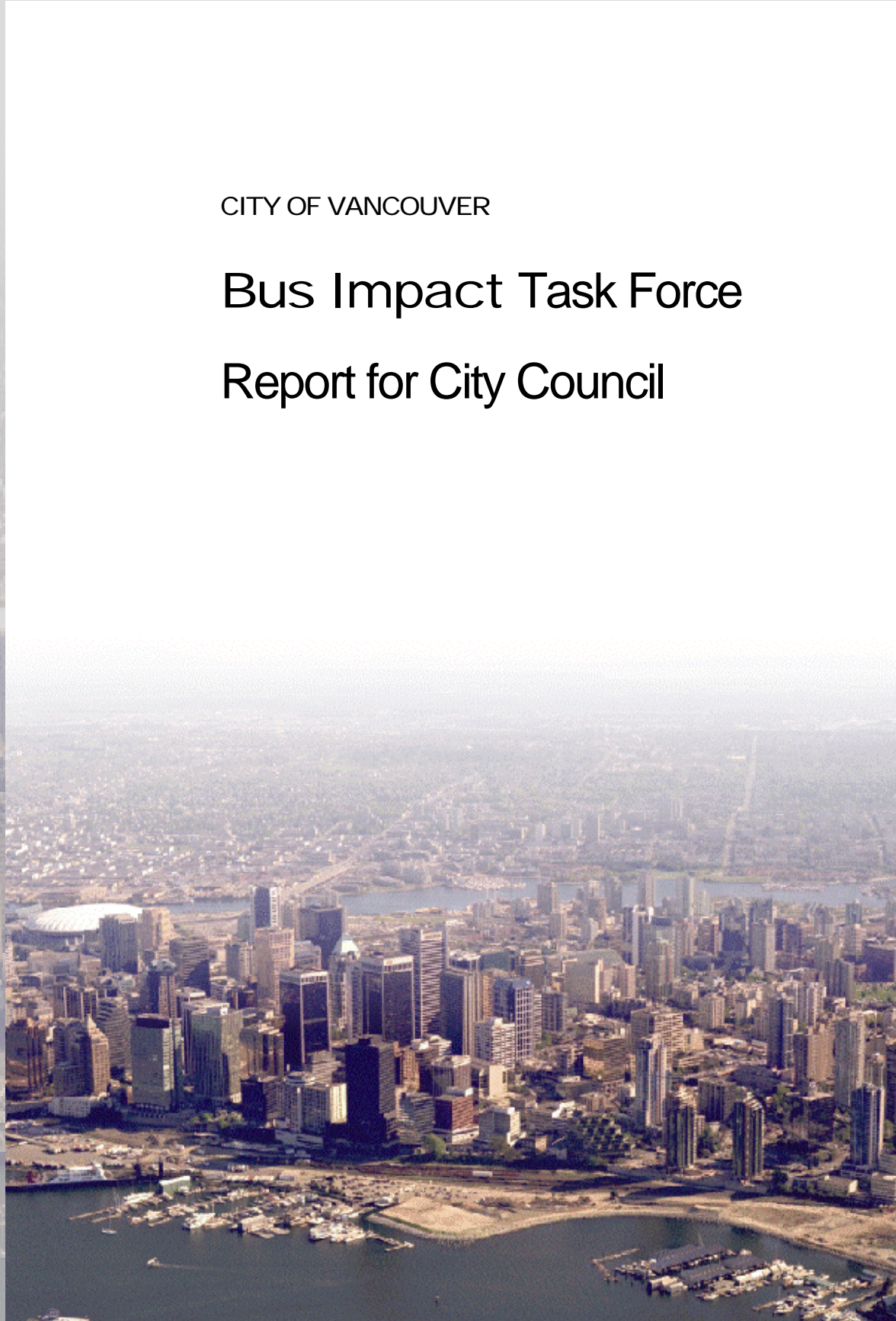


CITY OF VANCOUVER

Bus Impact Task Force Report for City Council



JULY, 2000

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1. Introduction

The following report outlines the main findings of the Bus Impact Task Force. It is divided into three main sections. The first section outlines the context for the task force and background information on busing in Vancouver. This is followed by the Task Force's findings on key issues of bus impacts in our city. Based on these findings, the last section outlines recommendations to Council for minimizing future bus impacts.

A. Role of the Bus Impact Task Force

The City of Vancouver *Bus Impact Task Force* was formed in 1999 with three primary purposes:

1. Act as a channel of communication among a broad base of stakeholder and industry groups
2. Advise Council from time to time on busing issues
3. Provide a mechanism for interested public or organizations to present issues of concern with respect to impacts of buses

These task force objectives were formalized in the following adopted statement:

The Bus Impact Task Force will provide to City Council advice and recommendations, both general and specific, with regard to various aspects related to bus usage within the City of Vancouver. These aspects will include, but are not limited to, such areas as noise and air pollution, congestion and routing, public awareness, benefits of mass transportation, and economic value of having a recognized professional industry in the city. The Task Force will explore methods to manage growth of bus traffic and improve the ability of the city residents and the bus and motor coach industry to co-exist with one another.



Who are the members of the Task Force?

Two City of Vancouver Councillors, act as liaisons to the Task Forces, and representatives from the following groups:

- Vancouver International Airport Authority
- BC Trucking Association
- Tourism Vancouver
- Major tour bus operators (two)
- Vancouver Convention and Exhibition Centre/ Cruise ship terminal
- Motor Carrier Commission
- TransLink
- Bicycle Advisory Committee
- Citizen representation (four)

B. The Role of Busing in Vancouver

What is Busing?

Busing plays an important role to move groups of people within and through Vancouver. There are numerous commercial and public functions for busing which are divided into five general categories:

- **Transit:** Public transit provides an extensive routing network of buses along major roads with multiple pick-up and drop-off points based on a preset schedule.
- **Scheduled Services:** Private operators typically provide point to point scheduled services for routes such as Airport to downtown hotels, or providing linkages to B.C. communities or to other provinces and states.
- **Destination busing:** Destination buses provide key attractions for large volumes of visitors. These are typically found at regional destinations such as cruise terminals, major city parks and Whistler. Destination busing operations are often seasonal in nature, such as during the five month cruise ship season.
- **Charters:** Charter buses are available to provide large groups of people with a specialized transportation product. These are typically used for events, gatherings that occur infrequently, and school buses.
- **Hotel Shuttles:** A number of hotels in Vancouver and Richmond provide their clients with a shuttle service to key entry points, such as to the airport.

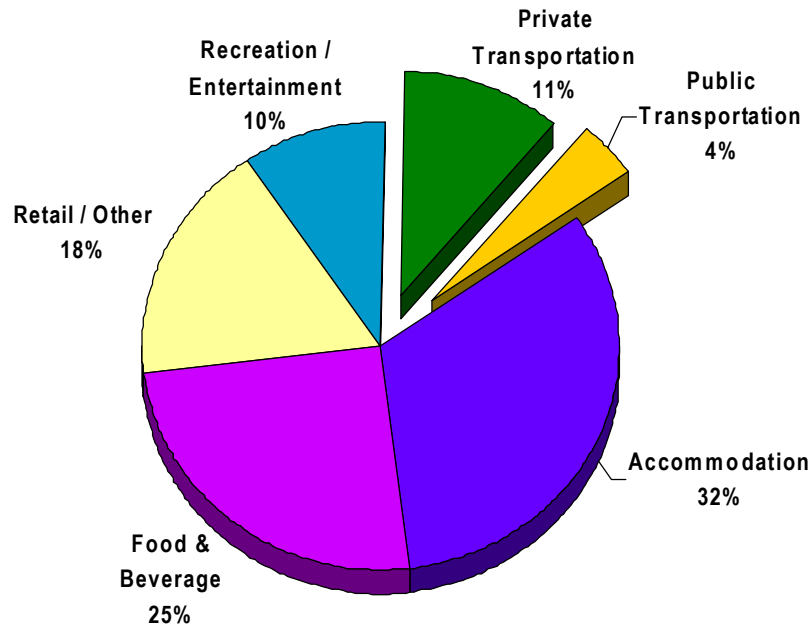
What are the benefits of Busing?

Busing provides numerous benefits to Vancouver -- primarily by providing mobility to passengers. However, busing also generates economic value in the number of direct jobs and supports critical industries in the region.

- **Busing provides mobility to groups of people:** In the region, the number of transit bus trips increased to 178 million in 1998 from 154 million in 1989. This 16% increase has the most ramifications within the City of Vancouver, whose residents account for 35% of transit riders in the region. There are 557 transit buses operating in or through the city during morning rush hours - providing mobility for close to 1/5th of Vancouver commuters.
- **Reliability of scheduled services:** One of the chief advantages of scheduled services is the regularity of trips along defined routes. This provides passengers some flexibility in determining a match for scheduled times. For visitors to our city, these regular services aid in reducing the burden of wayfinding in an unfamiliar locale.

- **Busing supports tourism industry:** Of the \$2.7 billion in expenditures by visitors to Vancouver in 1997, 15% was spent on private and public transportation alone. As shown in Figure 1 this represented a larger share than spent on recreation/entertainment, and half the amount spent on accommodation. The magnitude of transportation expenditures is significant to supporting the 68,000 tourism sector jobs in Vancouver.

Figure 1: Visitor Expenditure by Sector (1998 Total = \$2.7 Billion)



Source: Tourism Vancouver

- **Busing assists in reducing roadway congestion:** Clogged traffic routes yield major social, environmental and economic costs, which will continue to grow with increased congestion. Buses assist in reducing congestion on roads by transporting more people per vehicle and providing additional options for people to leave their cars at home during rush hours.
- **Environmentally friendly substitute for single occupancy vehicles:** In addition to reducing the footprint of vehicles on our congested roadways, on average, buses are equivalent to removing forty single-occupancy vehicles from the road.
- **Alternative types of buses are available to municipalities:** Buses are available in different forms for municipalities to serve different needs. Varying number of passengers and types of routes are accommodated by a variety of buses such as diesel, trolley, natural gas, or shared rides.

Why Look at the Impacts of Busing?

Busing is poised to continue to be a major contributor to the vitality of our economy -- from facilitating the morning commute to moving groups of tourists through local attractions. The success of the growth of busing will be based on minimizing any deleterious impacts on our communities. Examining the impacts of busing should consider the following trends.

- **The focus of growth in busing will be in the City of Vancouver:** Due to the high concentration of regional attractions, residential density and destinations, the bus network in Vancouver is more widely used than in the rest of the region.
- **Negative externalities:** namely noise, emissions, routing and congestion -- need to be managed carefully in order to protect our communities at the same time as ensuring busing serves the demands of its passengers.
- **The key drivers behind busing will continue to grow:** The growth of tourism and our local employment base will continue to propel demand for busing in our city.
 - **Air Travel:** In 1999, Vancouver International Airport received 15.8 million passengers - a sharp growth from the 10.8 million passengers in 1992. Continued growth is anticipated, particularly in the Asian-North American markets.
 - **Cruiseship Market:** After seventeen years of double-digit growth, over 1 million passengers are anticipated for the 2000 Vancouver-Alaska Cruise Ship season. With a new berth opening in 2003, rapid growth is anticipated to continue and propel associated demands on busing.
 - **Convention Market:** Vancouver is one of the most sought after convention markets in the world. While expansion plans are currently being defined, the Vancouver Convention and Exhibition Centre is anticipated to double in size in the short to medium term to serve conventions of over 20,000 delegates. This will produce large demands on transportation to and from the airport, as well as to other regional attractions.
 - **Tourism:** Rapid growth of tourism within the city is projected. By 2003, over 9.2 million overnight visitors are anticipated in the region, generating \$3.7 billion in expenditures, \$6.2 billion in industry output, \$1.2 billion in taxes at all government levels and employing 110,000 people.
 - **Regional Employment:** Future projections hold a 7-10% growth in employment 1996-2006. This translates into the addition of 650 transit buses by 2010. Additionally, the City of Vancouver is home to a number of rapidly growing post-secondary institutions, including campuses at UBC, BCIT, SFU, VCC and Langara - producing increasing demands on transit services.

2. Task Force Findings

A. Noise

Noise and Bus Vehicle Operations

Traffic noise is caused by the operation of motor vehicles. Engine brakes, idling and starting engines are familiar sounds in vicinity of major traffic arterials. Noise can act as a nuisance by inhibiting conversation, causing stress and pervading into the realm of people's homes. In 1997, a public survey of the noise environment in the City's Noise Impact Task Force revealed that traffic noise was one of the top three nuisances for over half of respondents.

The Task Force received submissions from the Vancouver/Richmond Health Board related to comparative noise readings for buses, citizen input describing particular nuisances of bus noise, as well as updates from the City's 1997 Urban Noise Task Force.

Findings

Buses, like other motor vehicles, add to the overall ambient traffic sounds. There are several characteristics that the Task Force noted in the impact of bus noise:

- **Vehicle Characteristics.** The vehicle age, size and type has a direct bearing on the magnitude of the impact. In general, older vehicles tended to be louder in noise output. As shown in Figure 2, measured noise varies between bus types.
- **Variable Perception of Noise Impacts.** The perceived impact of busing varies from person to person. Noise that may be unbearable for one individual could not pose a nuisance to another. Furthermore, the level of ambient noise in vicinity of bus operations has a direct bearing on the perceived magnitude of the sound emanating from the vehicle.



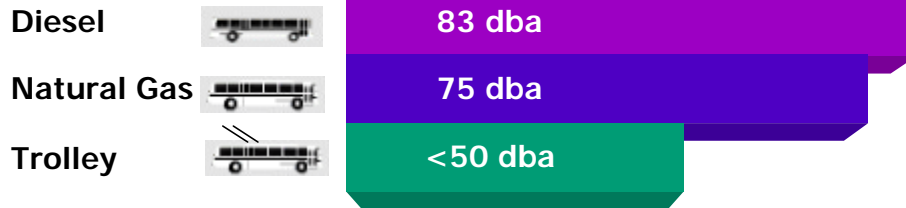
How can a lower decibel noise reading be less annoying?

The issue of *tonality* of bus noise versus noise intensity is best exemplified by the Clean Natural Gas (CNG) vehicles:

While the absolute noise level of a CNG bus is lower than that of a diesel bus, its different frequency causes a resonance that is more perceptible to the human ear

Coast Mountain Bus Co
Bus Technology Review
September 1, 1999

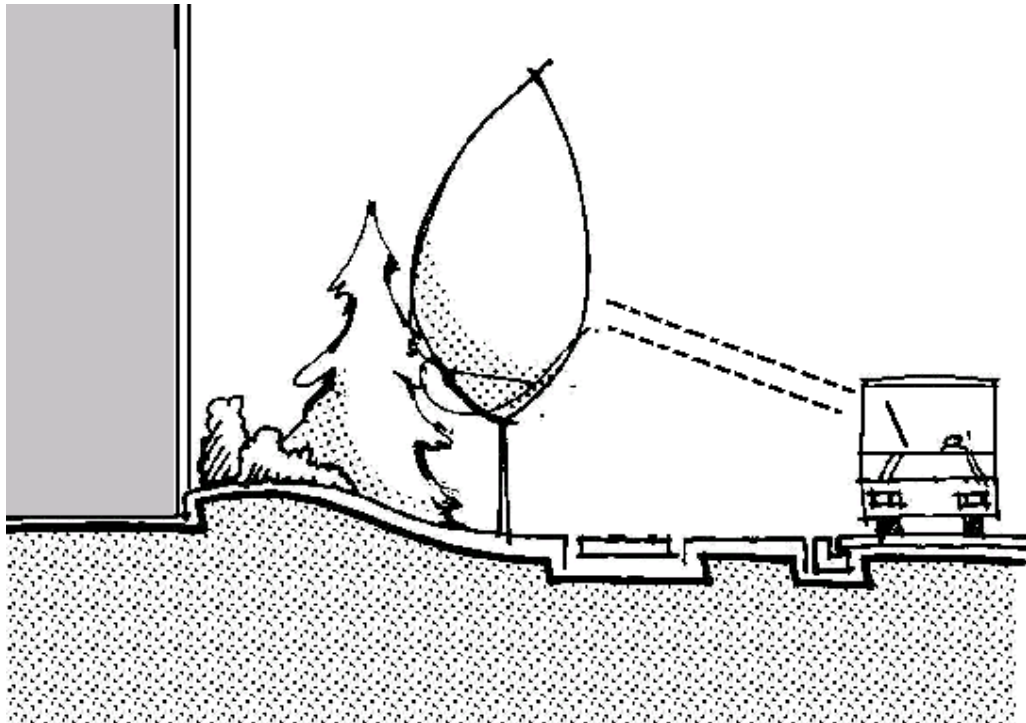
Figure 2: Noise Measurement from Different Bus Types



Note: data from a portable meter held at waist height standing at a bus stop for a bus driving by at full acceleration (about 10 ft. from the bus)

- **Noise Output Characteristics:** The type of noise generated by buses have varying degrees of impact. Magnitude of noise is typically measured in decibels (dB). A high dB output from a bus generally produces less annoyance than one with a low tone. A low "rumble" noise however is often perceived as a greater annoyance due to associated vibration impacts.
- **Role of Urban Design:** The design of buildings along major roads has an influence on the effect of noise. Large flat building surfaces tend to echo and reverberate the noises from the street level. Furthermore, landscaping has some capability to modulate and absorb noise energies (see Figure 3).

Figure 3: Urban Design Role in Bus Noise Reduction



The role of urban design was found to also require consideration for the extent for which new development could attract commercial motor coaches to an area.

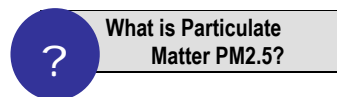
- **Regulatory Emphasis:** A large proportion of regulatory work on buses has focused on vehicle emissions. The committee found that existing efforts in technological improvements produced a tradeoff. While improved emissions standards resulted, certain technologies actually produced higher noise outputs. There are some opportunities for increased co-ordination of addressing noise and emissions issues in concert.
- **Growing Noise Concerns in Mixed-Use Areas:** The growth of new neighbourhoods in Vancouver has produced noise concerns in areas previously commercial or industrial in character. Increased growth of live-work studios and mixed zoning areas require greater attention to mitigate noise impacts.
- **Time of Day Impact:** The level of nuisance of noise was cited as particularly annoying during early morning and night-time bus operations.
- **Engine Idling:** Awareness of noise has increased with residential densification, particularly with the idling of bus engines. It was noted by the committee the need for strict enforcement to ensure bus operation compatibility in vicinity of residential areas -- particularly during early morning hours.
- **Bus Back Up BEEPERS:** Though mandated by Federal regulations for safety reasons, the use of beepers for buses in a reverse maneuver was cited as a noise nuisance which may be minimized through procedural changes

B. Emissions

Bus Emissions

Air quality is a continuing concern for our region. Visible smog, lower-level ozone, and air quality index warnings are bringing the issue of emissions down to earth. Carbon dioxide emissions, for example, are factors leading to global warming, while nitrogen oxides are a major component of lower-level ozone. In addition to air quality, there are health concerns from particulate matter emissions.

Buses are one of several sources of noxious emissions, accounting for approximately 2% of diesel particulate matter 2.5 (PM2.5) emissions (Figure 4). Particulate matter consists of anything that can be filtered from the air, such as soot, dust and pollen. PM2.5 generally includes particles that can be inhaled into the lungs and cause respiratory problems. A GVRD study Diesel Particulate

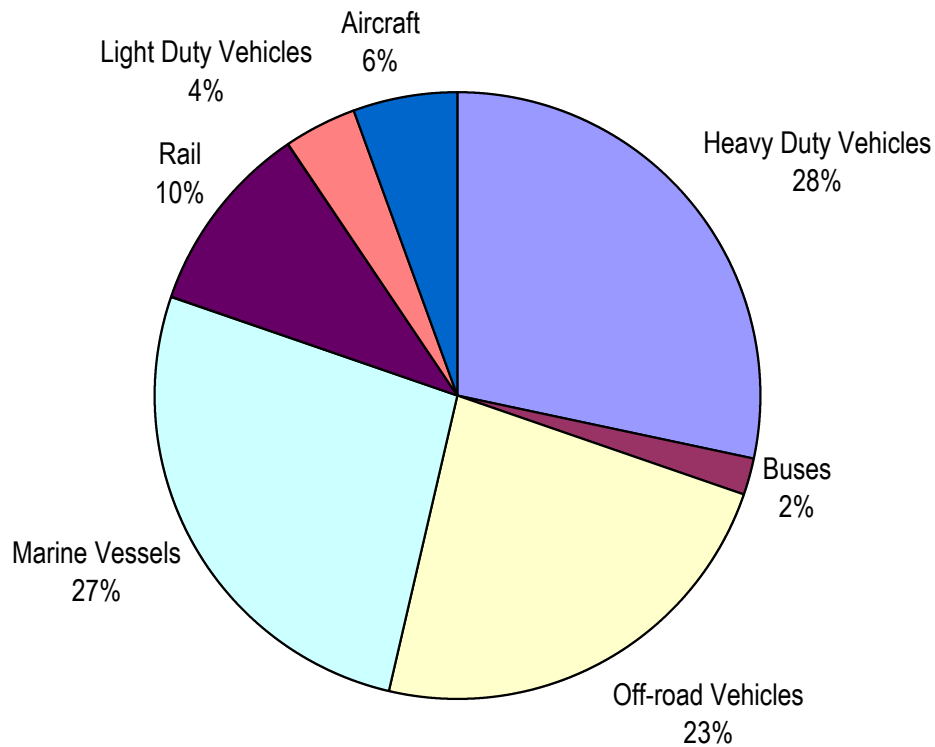


Particulate Matter (PM) refers to particles of less than 10 mm mass median aerodynamic diameter (PM10). PM10 is generally subdivided into a fine fraction of particles of 2.5 mm or less (PM2.5) and a coarse fraction of particles larger than 2.5 mm.

Matter and Associated Environmental Concerns, Health Risks and Tradeoffs is currently undergoing an expert review and will provide further research into this field.

The Task Force also received several reports on bus emissions, including a SAE paper on Detroit Diesel Series 50 model year, Environment Canada Priority Substances assessment¹ and Vancouver/Richmond Health Board reports on PM_{2.5} sources based on the Report on Air Quality Impacts of the Major Road Network.

Figure 4: Contributions to Diesel PM_{2.5} Emissions in the GVRD



Source: GVRD, 1999

¹ http://www.ec.gc.ca/cceb1/eng/public/respirable_e.pdf

Findings

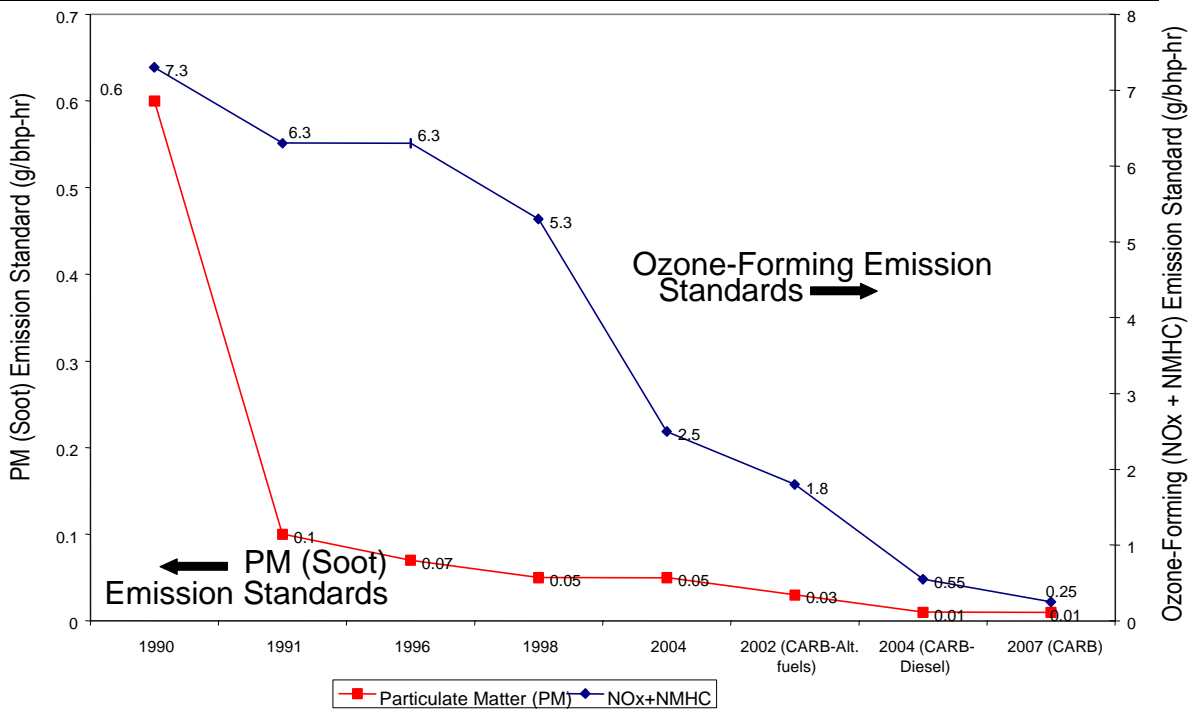
- **Continued Emission Reduction in the GVRD:** The transit fleet in the region has sustained continual improvement in emission reduction. Engine rebuilds and replacement of older buses has resulted in a marked reduction in emissions (Figure 5).

Figure 5: Emission Reductions in GVRD Transit Fleet (1987-Present)

Emission	Reduction (1987-present)
Particulate Matter	61%
Nitrous Oxides	48%
Hydrocarbons	60%
Carbon Monoxide	38%

- **Diesel Particulate Is Carcinogenic:** Recently, the California Air Resources Board declared diesel particulate matter to be carcinogenic. The GVRD report and expert review will shed more light on this topic.
- **Global Improvements in Emission Standards:** Standards for bus emission have improved, as shown in Figure 6. In particular, improved standards for particulate matter have reduced maximum allowable emissions in half between 1991-98. Further reductions will have a positive impact on human health due to the deleterious impacts of particulate matter emissions.
- **Future Improvements in Technology:** Existing technological improvements were found to have a tradeoff for noise. Future technological improvements would reduce this tradeoff - such as the Ballard Power Systems fuel cell. This system requires outside air and hydrogen as fuel sources with byproducts as heat and water.

Figure 6: Bus Particulate Matter & Ozone Forming Emission Standards Are Becoming More Stringent



Note: Standards shown are U.S. EPA / Canadian, except for CARB standards, adopted by California Air Resources Board February 24, 2000

C. Bus Congestion

Bus route congestion is an important issue, given the interface with and impacts on the overall transportation system. Safety, speed and environmental impacts are key results of increased congestion. Localized congestion at tourist destinations reduce their overall appeal and attractiveness for repeat visitors to our city.

Findings

There were five key findings from route congestion:

- **Enforcement:** Limited enforcement results in uncoordinated operations during peak periods. Unscheduled access to specific high demand areas contributes to increased congestion levels.
- **Driver Education:** Lack of communication with the bus industry may be rectified with driver education.
- **Facilities and Infrastructure:** The development of new hotels, convention centres or attractions needs appropriately sized facilities in relation to projected demand. Undersized parking and staging areas ultimately lead to increased congestion in high-demand areas at the street level.
- **Size of Bus Vehicles:** The trend for coaches and buses is for longer vehicles in the order of 47.5 feet. This causes problems at a number of existing facilities, such as at Queen Elizabeth Park where the turning area is undersized. New facilities should be planned for new bus lengths. Existing facilities will need to be examined for parking allowances, staging areas and turning radii. For example, the convention centre and some hotel breezeways cannot be used as they are undersized to accommodate to the height of some buses.
- **Visual Intrusion:** Bus congestion reduces the overall appeal of destinations. In addition to blocking traffic, large groups of motor coaches leads to visual intrusion and forms a barrier for scenic views and vistas.

Visual Intrusion from Congestion in Queen Elizabeth Park



Overall, congestion issues examined trends towards the future and integrating management of bus issues with changes in the regional transportation system.

D. Bus Routing

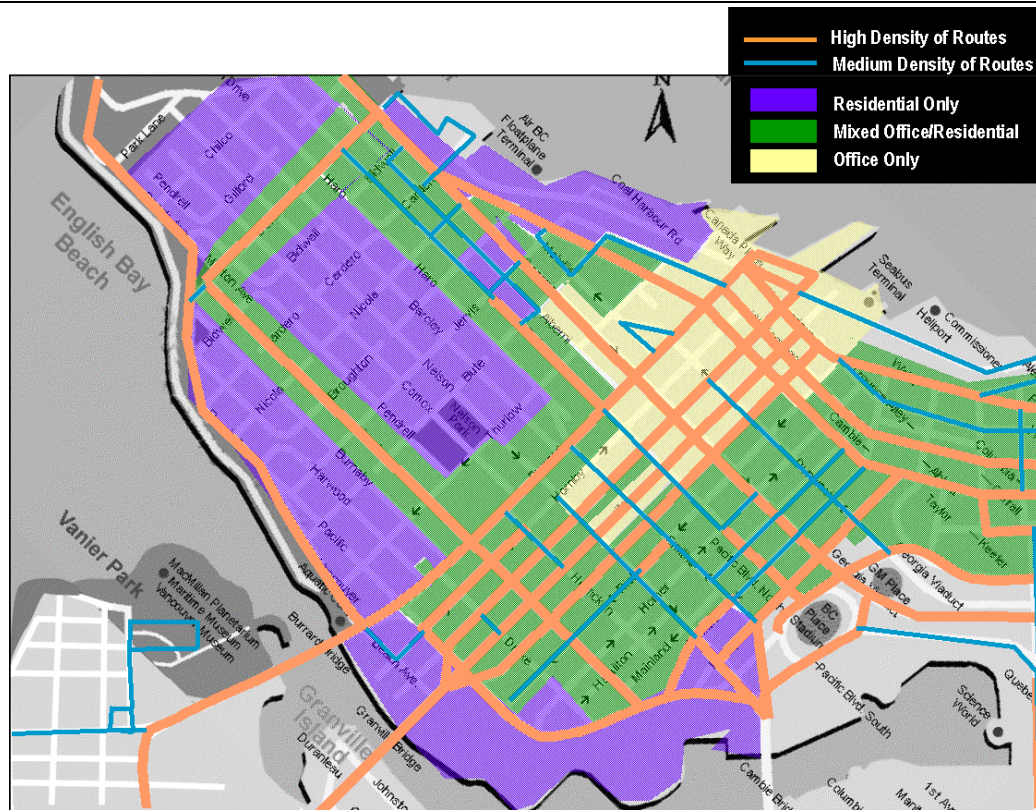
Where Buses Travel in the City

The topography of Vancouver provides a limited set of routes to provide thoroughfare through the City and between major destinations. This impacts on the selection of bus routing and the resulting concentration of where impacts described in previous sections occur.

Findings

- **Growing Interface with Residential Areas:** Conflicts between buses and residential neighbourhoods were found to require a stronger focus. In particular, mixed office areas (Figure 7) are dynamic districts which traditionally have had non-residential uses, but are increasing in the density of residents.

Figure 7: Density of Bus Routes & Land Uses



- **Interface between bus/motor coach movements and sidewalk pedestrian flow:** A Seniors Sidewalk Working Group recently identified the size and speed of buses travelling in curb lanes

- as being intimidating and unsatisfactory. Potential urban design considerations for routes with high traffic may be implemented to act as a "buffer" between traffic and pedestrian movements.
- **Continued Increase in Volume Along Major Routes:** Particular attention for routing needs to be placed on the forecast volume of buses on specific routes. Continued growth of busing in the current routing will lead to increase concentration of congested points. One solution may be to look at alternate routes for designation. For example, Oak and Cambie may provide reliever routing to Granville Street.
 - **Accommodating Routing and Demand Changes:** With TransLink restoring trolley bus service to Stanley Park as part of the causeway widening project, diesel buses currently serving Chilco loop will be terminating in Downtown. This provides opportunities for new services and potential to meet increasing demands that has routing implications for the overall bus network.
 - **Route disruption:** The committee noted that route disruptions from time to time spread the impacts of buses onto other areas. In a number of cases, such as with film crews and special events, the routing disruptions are predesignated. Increased communication and capability to manage unexpected disruptions in routing were cited as issues to be addressed.

E. Public Consultation

Public Forum

The Bus Impact Task Force Public Forum was held at the Vancouver Public Library Central Branch in the Alma Van Dusen and Peter Kaye rooms on April 15, 2000.

The public forum was advertised in The East and West Courier newspapers. A press release was issued to local radio stations, local television stations, cultural community newspapers, community groups, all library branches, tour bus companies, journal magazines and numerous City of Vancouver departments. Despite the volume of media advertising the event, public attendance totaled twenty-four people.

Task Force representatives on hand totaled seventeen people to answer questions and explain display panels around the room. A formal presentation, followed by public comment/questions was also held in the Public Forum.

Minutes from the public forum are in Appendix A.

Task Force Survey

Total surveys received = 63: 45 surveys faxed, mailed or filled out at the public forum, 17 email responses received prior to the forum, 1 internet response after the forum. All received by May 10, 2000. The majority of the surveys (45) originated from the 8900 block of Hudson street.

A copy of the survey is included in Appendix B. Main results of the survey are as follows:

Importance of Motorcoach/Bus Issues

- Respondents indicated noise as being the most important issue, followed by routing and emissions.

Figure 8: Task Force Survey: Importance of Bus Impact Issues

Issue & Number of Respondents	Ranking (1 = most important, 3 = least important)		
	1	2	3
Noise	20	3	4
Routing	8	11	8
Emissions	7	9	11

Note: Rankings were not provided by all respondents

Noise

- Respondents indicated a specific concern about transit bus noise at the 8900 block of Hudson Street
- Respondent perception of bus noise indicated high impacts from diesel buses
- Noise impacts were cited as greater impact than vibration

Routings

- An equal number of respondents indicated the need for more restrictive routes, or adequate/too restrictive bus routing
- Respondents indicated adequacy of motor coach services for demand, but more transit services required, particularly to the airport.

Emissions

- Respondents indicated a concern about transit bus emissions, particularly from diesel buses

F. Bus Impact Hot Spots

Identified Hot Spots

Hot spots for bus impacts were identified, as shown in Figure 9. Most were centred in Downtown Vancouver, as well as Queen Elizabeth and Vanier Parks.

Figure 9: Identified Hot Spots in Downtown Vancouver



Additional hot spots were identified through submissions to the Task Force. It was noted an effective way to deal with location-specific issues required a forum for dialogue and resolution amongst affected stakeholders. Specific hot spot issues presented to the Task force included:

1. 8900 Hudson Street

Description: An existing Coast Mountain BusLink bus stop adjacent to a residential apartment on South West Marine Drive & Hudson generated a vocal opposition amongst residents

Progress to date: discussions with TransLink have been ongoing. The commencement of 98-B line operations will reduce the number of buses using the bus stop.

2. Rosedale Hotel

Description: Noise from operations of motorcoaches in vicinity of the Rosedale Hotel generated nuisance for nearby residents

Progress to date: Discussions with the motorcoach operator yielded a reduction in bus size to serve the hotel.

3. 16th/Granville

Description: Perception of the Coast Mountain BusLink 98B Line on Granville to impact on the livability of the area

Progress to date: An extensive consultation process was undertaken through 1999 to address concerns about routing and speed of articulated buses

3. Task Force Recommendations

A. Overview

The Bus Impact Task Force is tasked with providing to City Council advice and recommendations, both general and specific, with regard to various aspects related to bus usage within the City of Vancouver.

B. Scope of Recommendations

Areas of Focus

The committee identified seven areas of focus for recommendations to Council. They are:

- **Enforcement:** improving the enforcement capabilities of existing regulations
- **Communication:** developing channels of communication with key bus impact stakeholders
- **Improved Technologies:** supporting implementation of new bus technologies within local fleet
- **Route Network Development:** developing a route network that supports demands of busing while minimizing impacts
- **Urban Design & Development:** integrating into municipal planning the need for structures and plans to be sensitive to the impact of busing operations
- **Parks Issues:** enhancing the attractiveness of our parks by minimizing the impact of buses
- **Future Dialogue:** looking to the future for a pro-active team of bus impact stakeholders to manage issues on a location-specific basis

Areas Considered by the Task Force

The committee also considered several submitted recommendations beyond the seven areas of focus. Consensus was reached to exclude the following recommendations for consideration by Council and forward them to a working group to deal with location-specific issues.

- **City Wide Bus Zone:** The Task Force entertained the notion of a city wide bus zone, which would restrict the level of busing in certain parts of the city. It was felt that this would not achieve the desired results to minimize bus impacts because of the growing trend to mixed used areas, as well as enforcement issues for out-of-town carriers. Restriction of busing for tourist-oriented areas of the city was also considered by the Task Force. However, the Task Force did not recommend specific bus zone restrictions due to the detrimental economic impacts on other tourism sectors such as shops and services within a locale.

- **Location Specific Issues:** The committee was cognizant of a number of case studies of operational issues with certain bus and motorcoach operations. The committee decided these issues to be beyond the scope of examination of the Task Force. Recommendations were restricted non-location specific areas that the Council can act upon. It was concluded that location specific issues were better dealt with through an ongoing Working Group.

C. Recommendations

The following are specific recommendations in the seven areas of focus.

1. Enforcement Programs

Task Force recommendations have three principle objectives:

- Improve the effectiveness of existing by-laws and regulations
- Reduce high nuisance noise impacts, such as early morning bus operations
- Allow for increased deterrents for multiple intervention of by-laws and regulations

Enforcement Program Recommendations

- A. THAT Council direct Parking Enforcement staff to examine their hours of operation to ensure they can adequately cover enforcement of existing commercial coach by-laws with respect to idling busses, and policing of loading and unloading zones for non-designated vehicles;
- B. THAT Council request the Vancouver Richmond Health Board to examine the Noise By-law to more specifically address the issues of idling busses in the early morning hours;
- C. THAT Council request the Vancouver Richmond Health Board, together with appropriate City staff, to meet with the Downtown Vancouver Hotel Association to discuss the issue of idling busses and back up beepers to determine if procedures can be changed regarding these issues; AND
- D. THAT Council direct staff to examine progressive intervention for continued by-law non-compliance for private operators.

2. Open Communication with Convention Facilities & Downtown Hotel Associations

Hotels and convention facilities are a major economic engine for the City. However, their interface with surrounding urban areas requires additional communication to pro-actively manage congestion and minimize any impacts in the neighbourhood. The Task Force recommendations provide for:

- Developing a bus plan for managing bus activities
- Educating and providing guidelines to minimize bus impacts

Communication with Convention Facilities & Downtown Hotel Associations Recommendations

- A. THAT Council request the Hotel Association to encourage hotels with greater than 200 rooms to have a bus management plan and staff on duty to assist in managing busing activities (6:00-22:00 hrs); AND
- B. THAT Council request the Hotel Association work with City staff to undertake to educate bell and security hotel staff on the tour bus operator guidelines and the impacts commercial motor coaches have on surrounding residential areas.

3. Encouraging Improved Technology

Technological changes have already reduced the emission impacts of buses dramatically in recent years. To promote continued improvements, the Task Force is recommending two types of directions to achieve improved technologies on our streets:

- Encouraging bus carriers to adopt quieter and lower emission vehicles
- Incentivizing newer smaller buses through the commercial vehicle license system

Encouraging Improved Technology Recommendations

- A. THAT Council request both TransLink and motorcoach carriers work with suppliers to provide significantly quieter and lower emission buses;
- B. THAT Council request the BC Trucking Association to encourage industry partners to consider alternative-fuel vehicles where they might be economically feasible; AND
- C. THAT Council recognize TransLink's proposed replacement of the existing aging trolley fleet, and recommend expanded trolley services where feasible.

4. Route Network

Bus impacts are geographically focused. Where these impacts will occur depends on how these are routed. The Downtown Transportation plan will play an integral role in developing a motor coach network. Consultation and communication are recommended to be increased in both the planning and day-to-day management of route disruptions.

Route Network Recommendations

- A. THAT Council request greater communication between the Motor Carrier Commission and municipalities on motor coach routes within the GVRD;
- B. THAT Council request Downtown Transportation Plan staff to create a motor coach network in the Downtown that would include truck routes and major arterials as outlined in the City of Vancouver's Transportation Plan, in consultation with the motor carrier industry, residents, downtown hotels, and the Hotel Association;
- C. FURTHER THAT City staff examine options for bus staging areas for large regional attractions in Downtown Vancouver; AND
- D. THAT Council request street construction crews and the City's Film and Special Events staff notify tour and motor coach companies in advance if there are disruptions on motor coach routes.

5. Urban Design/Development Issues:

Task Force findings indicated that a number of noise, emission and congestion impacts did not prompt the need for new policies, but rather on better design and construction of bus-intensive facilities. The role of urban design and standards will ensure that such facilities have enough capacity and develop mitigation standards.

Urban Design Recommendations

- A. THAT Council request staff to report back on existing standards for mitigation of street noise and what improvements can be done in the permit approval process to develop standards for mitigation of street noise when approving buildings next to bus and motor coach routes;
- B. THAT Council direct staff, when considering zoning or rezoning applications and/or building permit approvals, to consider the character of the area and the extent to which new development will attract commercial vehicles; AND
- C. FURTHER THAT staff develop and enforce a development criteria to ensure that hotels or hotels undergoing renovations have adequate parking, stopping, loading and unloading provisions for buses.

6. Parks Bus Operations

Parks have a different operating regime for buses than the rest of the City. Due to the need to protect the safety and beauty of City parks and to promote the attractiveness of our City to tourists, the Task Force has specific recommendations for parks.

Parks Recommendations

- A. THAT Council encourage the Park Board and Corporate Services Staff to develop environmentally friendly bus parking plans for parks (especially Queen Elizabeth, Vanier and Stanley Park), to allow for:
- Ease of operation for bus movement
 - Safe unloading of passengers
 - Reduced conflict with other forms of traffic
 - Facility size and turning radii
- B. FURTHER THAT the Park Board and Police be requested to enforce a three minute idling by-law for motor coaches.; AND
- C. FURTHER THAT Council request the Park Board to review motor coach access to parking on scheduled time basis for tour operators to avoid congestion, in consultation with tour operators.

7. Formation of a Working Group

The demand for an ongoing group that addresses bus impact issues in a pro-active and location-specific manner (e.g. Hamilton/Hudson Streets) is the final recommendation of the task force. This group would be available to the public and resolve issues with interaction between groups such as bus and motorcoach operators, and stakeholders (tourism and hotel). This group would, by terms of reference, be complaint driven, and deal with specific issues expeditiously.

Working Group Recommendation

THAT Council endorse the establishment of a working group on a site-specific basis for bus and motorcoach impacts. This action-oriented group would:

1. Expeditiously address location specific issues such as noise, emissions, parking, loading/unloading, traffic congestion and safety
2. Be coordinated by city staff and comprise of representatives from the Park Board, Vancouver Richmond Health Board, Coast Mountain Bus Company, Motor Carrier Commission, tourism, motor coach, taxi, hotel and retail industries. Participation of individual groups will be as required and where appropriate.
3. Provide mechanisms for input and participation from affected communities and the general public.

Appendix A: Public Forum Minutes

Bus Impact Task Force Public Forum

April 15, 2000

Minutes

1st speaker: Dale Laird, Superintendent of the False Creek Historic Railway

- 3 minute idling - tour buses get hot if their engine is hot and the engine must be running to keep the air conditioning on, so it is necessary in the summer to idle buses otherwise passengers are uncomfortable
- Queen Elizabeth Park is the area of greatest congestion on the Vancouver tour route. Several years ago, there was a proposal for a bus queuing area in the parking lot on the south side of the park at 33rd Avenue but an outcry from local residents put an end to this and nothing became of it. This is a very congested area and there is a need for such a bus queuing area.
- Where do downtown tour buses layover between hotel drop offs? There is often a half hour of down time that a tour bus must find parking for.
- There is a need to solve the problem of buses either driving out of downtown for this layover and then back in to downtown or parking downtown during this time. Parking is needed to reduce bus circulation.
- Tourism is important and with the possibility of the Olympics in 2010 there is an urgency to solve these issues.

2nd speaker: Dr. David Briggs

- Resides at 16th and Granville
- would like residents on busy corridors to be on this or other task forces
- environmental concerns such as noise are of key concern
- he lives on a hill. The noise level is reduced when traffic slows down, so speed enforcement is necessary.
- speed enforced on corridors was previously an issue with Chief Chambers and speed directly equates with noise
- there is an urgent need for speed enforcement on the Granville corridor
- Vibration: relates to the volume and size of vehicles. Articulated buses are a great concern for him, especially when they run every 2.5 minutes

- Number of buses: Granville is exceptionally busy. We need to find ways of developing new routes, i.e. Cambie and Oak. The size of the articulated buses and that they are running every 2 1/2 minutes - the gradient on the Granville corridor is not suited for these types of buses
- would like to work with other neighbourhoods and Steven Rees to come to a solution
- diesel emissions - there is a scientific review panel looking specifically at this topic. There is a need to do more scientific research. There is only one PM2.5 monitoring station in the GVRD. There is a need for better regulation of particulates
- Transit needs priority of movement - dedicated lanes, not necessarily more speed. In summary: better regulation is needed and the health care equation due to sickness has not been factored in to transit costs and is something that needs to be looked at. Speed enforcement needs to be increased and a good thing is the GVRD hot line for smoking vehicles. Dr. Briggs would like to see trolley buses on Granville, a dedicated bus lane - not a curb lane, and he even thinks his neighbourhood would support LRT.

3rd speaker: Ian Fisher: What is Translink doing to make new buses quieter?

- Stephen Rees responds: Translink can only buy what is available. They are doing research with Victoria and are hoping producers will talk more with purchasers. Translink has effectively reduced emissions on buses, now they have to move towards acquiring quieter buses (going beyond simply being legally conforming)
- Translink has a five year plan to increase trolleys, however trolleys do not come cheap and over a 20 year life, there is a 30% higher cost per bus.

4th speaker: Scott Mason (Land Sea Tours)

- Queen Elizabeth Park congestion - summertime is frustrating
- Cruise ships between 6:30 am and 7:30 am unload all at once so that they do not have to pay the Longshoremen an extra 8 hour shift. This causes a great deal of congestion in the loading area at Canada Place. It also causes additional pollution as the ships idle in the harbour. Passengers cannot check into hotels before noon, thus they all take tours at a given time, resulting in peak periods for tour traffic. There is a resulting need for dialogue between tour groups, longshoremen, hotels and so on
- 16th & Granville - the Shaughnessy residents association got together in the past and worked out a Good Neighbour Agreement with the tour bus operators

5th speaker: John Whistler

- would like smaller buses because they are less intrusive
- he is a resident in the West End and many of these issues related to tour buses could be solved at the manufacturer's end, air conditioning problem could be easily fixed by the manufacturer so that buses do not have to idle to keep cool.
- Task Force should send a message to manufacturers that size is an issue. Large buses are intrusive in neighbourhoods. Don't send highway buses around the downtown.
- we must stand up to bus manufacturers - bigger is not better i.e. Look at what's happening in the Stanley Park causeway right now.
- Stephen Rees responds: which is better, a large number of smaller buses or a small number of large buses?
- John Whistler replies: smaller buses are better - less intrusive

6th speaker: Judith Rae, resides on Homer Street

- why can't buses use the empty BC Place lots for their layovers?
- Stephen Rees responds: parking lots around the airport are effective. Buses are radio dispatched. there are holding lots around Canada Place
- will look into ways to develop such lots elsewhere.

7th speaker: Jim Storey

- owns a trolley bus company
- he thinks that city work crews and the film office sometimes do not inform Traffic Management about work that is scheduled.
- he would like to have an automatic, daily email of road closures instead of the internet.
- Gastown has little bus parking but all buses want to go there
- he has noticed more enforcement on Robson Street around 3:00 pm recently, specifically at the Blue Horizon Hotel which is a hot spot for congestion
- Gastown, Robson, Canada Place have huge congestion problems. City bylaw enforcement officers cannot operate on a zero-tolerance basis. Must be sensitive to problems faced by drivers.
- *Stephen Rees replies:* the Hotel association was asked to come to the table because much of the problems that we are dealing with here arise from the hotel's misuse of curbspace. However, the hotel association declined participation.

8th speaker: Dale Laird: The design of the hotels is a problem. Rosedale Hotel is a good design, the Executive Inn is a bad design.

9th speaker: Gordon Scott : Disagrees: Rosedale is not necessarily a good design and shorter buses like the 24 footer are better than the 47 footer.

10th speaker: not identified: Uses buses to get around but can't get to the airport, where he works, from where he lives in Vancouver without changing buses.

- Stephen Rees responds: the shift change at the airport does not match the peak periods of transit usage, however the airport will get better service when the Sea Island Terminal
- Transit exchange and #98 B-Line is constructed and opened later this year.

11th speaker: not identified: she is an ex - Realtor and has listened to discussion on the Arbutus corridor for 20 years with no action why should now be any different? Property values went up around skytrain stations, not down as was originally predicted.

- Stephen Rees responds:
- That is a Provincial Government issue, however there is a good chance that planning will start going forward with an airport/Richmond to downtown route by Translink in part due to the possibility of the Olympics in 2010. The debt load/capital cost for the LRT on Arbutus would be huge. SkyTrain extensions are very large and Vancouver's bus transit pays for itself, giving it the ability to subsidize outlying regions.

12th speaker: Dr. Briggs: payment is a factor and there should be a honorarium system for transit users.

- Stephen Rees responds: 5 to 10% of Translink revenue is lost to fraudulent travellers. Translink relies on honesty. Translink has no authority to check people on the street; they can only check people when they are actually on the bus. Carrying a proof of payment allows for 3 door loading on the longer, articulated buses and recently there has been a problem with fake buses tickets due to recent colour printer technology.

Appendix B: Task Force Survey

Bus Impact Task Force Forum Survey

In our attempt to better understand the issues discussed here today please complete this survey. Return to a staff member, or fax it to 873-7212. To validate this survey, **please provide your name and address**. Individual responses will remain **confidential**. If you have any questions, call Kal Penner at 873-7342, email kal_penner@city.vancouver.bc.ca, or mail by April 21, 2000 to Traffic Management Branch, 453 W. 12th, Vancouver B.C., V5Y 1V4. Website: www.city.vancouver.bc.ca/engsvcs/transport/bustaskforce.htm

Please Print:

Name: _____	Address: _____
Phone Number: _____	Postal Code: _____

1. How would you rank the following issues in order of importance(1 to 3).

- Motorcoach/Bus Noise
- Motorcoach/Bus Emissions
- Motorcoach/Bus Congestion and Routing of Motorcoach/Buses

2. Noise:

- Which source of vehicle noise concerns you the most? (Circle one)
- a.)car
 - b.)Motorbike
 - c.)Sport Utility Vehicle
 - d.)Truck
 - e.)Transit bus
 - f.) commercial motor coaches

When or where do you notice bus noise the most? _____

Are there any buses you would consider to be excessively loud ? _____

What is more disturbing for you, vibrations or noise ? _____

Any other concerns? _____

3.) Emissions:

- Which vehicle emissions concern you most. (Circle one)
- a.)car,
 - b.) Motorbike
 - c.)Sport Utility Vehicle
 - d.)Truck
 - e.)Transit bus
 - f.) commercial motor coaches

Do you consider diesel emissions a hazard ? _____

Any other concerns ? _____

4.) Bus Routing and Congestion

a.) Are current bus routes too restrictive, good, or not restrictive enough in the City of Vancouver? (Please circle one)

- b.) Is the busing industry currently meeting the demand of the public?
- | | |
|--------------------------|--------|
| Transit | yes/no |
| commercial motor coaches | yes/no |

Any other concerns ? _____

Are there any issues that we missed? Comments?

Total surveys received = 63: 45 surveys faxed, mailed or filled out at the public forum, 17 email responses received prior to the forum, 1 internet response after the forum. All received by May 10, 2000. About 45 were from one distinct address (8900 Hudson).

Breakdown of survey:

1.) How would you rank the following issues, 1 being most important, 3 being least.

Motorcoach/Bus noise- 20 respondents answered number one,

3 answered number 2

4 answered number 4

Motorcoach/ Bus Emissions-7 answered number 1

9 answered number 2

11 answered number 3

Motorcoach/ Bus Congestion and Routing- 8 answered number 1

11 answered number 2

8 answered number 3

2.a) which source of vehicle noise concerns you the most?

car = 1

motorbike = 2

Transit bus = 21

Truck = 2

Commercial Motor Coach = 2

2.b)When or where do you notice bus noise?

- BUS STATION
- AT HOME
- MORNINGS & EVENINGS
- RUSH HOUR

- STOPPING & STARTING
- EARLY MORNING AND LATE EVENING. START / STOP
- RUSH HOUR & NO TRAFFIC
- DEPARTING BUS STOP
- FROM THE DRIVERS SEAT
- STANLEY PARK & WEST END
- ALL DAY, RUSH HOUR
- FROM APARTMENT
- 6am TO 8am, 5pm TO 7pm
- MORNING & AFTERNOON
- BUS STOPS AT BACK OF BUILDING
- MARINE & HUDSON
- PACIFIC SPACE CENTER
- LEAVING THE STOP
- EARLY AM & 10 TO 12 PM
- EARLY MORNING RUSH HOUR
- EARLY MORNING & EVENING RUSH
- EVENING
- 5am TO 9am & 3pm TO 7pm
- ALL DAY. GETS WORST DURING PEAK HOURS.
- RUSH HOUR
- MARINE DRIVE & HUDSON
- ON BOARD TRANSIT
- DOWNTOWN VANCOUVER
- 6:30 TO 8:30A ON SEYMOUR

2.c) Are there any buses you would consider to be excessively loud?

Diesel = 12

Transit = 1

Charter buses = 3

None = 2

All buses = 8

2.d) What is more disturbing vibrations or noise?

neither = 1

noise = 25

vibrations = 1

2.e) Any other concerns?

- NO
- POLLUTION - CAN'T BE GOOD FOR ANYBODY TO LIVE 20 FT AWAY FROM A STOP THAT 38 BUSES STOP EVERY HOUR.
- SECURITY, AIR QUALITY, UNUSED BUS IN MARPOLE
- DANGEROUS DIESEL FUMES FROM 40 BUSES/HOUR STOPPING & STARTING IN FRONT OF OUR BUILDING.
- SMELL FROM DIESEL BUS.
- EMISSIONS, GRAFFITI
- ENCOURAGE USE OF SMALLER BUSES. HIGHWAY BUSES ARE MORE INTRUSIVE
- DANGEROUS EMISSION
- NO
- WINDOWS ARE BLACKENED WITH EMISSIONS
- EMISSIONS
- HARLEY MOTORCYCLES AND SPORTS CARS WITH OFFROAD EXHAUSTS.
- FREQUENCY OF CITY TOUR BUSES
- BUS STOP DIRECTLY IN FRONT OF APARTMENT
- VOLUME
- SPEED. BLIND CORNER FOR PEDESTRIANS
- POLLUTION, CONGESTION, SECURITY, VANDALISM, GARBAGE
- NOISE

- DRUNK PEOPLE FIGHTING COMING OUT OF WILD COYOTE TO CATCH THE BUS IN THE MIDDLE OF THE NIGHT.
- USE ELECTRIC BUSES IN AM RUSH. MODIFY DIESEL BUSES TO REDUCE NOISE

3.a) Which vehicle emissions concern you the most?

car = 3

truck = 4

transit bus = 17

SUV = 1

Commercial motor coaches = 2

3.b) Do you consider diesel emissions a hazard?

no = 2

yes = 26

3.c) Any other concerns?

- Pollution In Downtown Vancouver
- Dirt And Grime Blown Onto Front Doors.
- Encourage Use Of Propane/Natural Gas Trolley
- Noise
- Live 15 Feet From Main Artery For Transit
- Need A Traffic Light At Hudson & SW Marine
- Sports Cars Checked More Carefully For Off Road Exhaust Components
- Misrepresentation Of Emission Data
- Noise
- Require Hydrogen Fueled Proton Exchange Membrane Fuel Cell Powered
- Noise, Safety, Litter, Vandalism

4.a) Are current bus routes good?

good = 6

too restrictive = 6

not restrictive enough = 12

4.b) is the busing industry currently meeting the demand of the public?

Transit buses

no = 16

yes = 6

Commercial Motor coaches

no = 3

yes = 11

4.c) Any other concerns?

- A Proper Loop Is About 50 Feet Away But Only 3 Buses Uses It. Why?
- 25 Buses Pass Home Coming From Richmond
- Bus Shelter Is A Hang Out For Drug Deals & Graffiti
- When New Residential Building Goes Up, Bus Stops Should Be Re-Evaluated For Noise.
- Evening Service Frequency Drops On Many Routes At 6pm. Empty Buses At 6am. Buses Should Start Later And Finish Later.
- Parking For Buses Must Be Provided Downtown, Gastown, Granville Island. Loading & Unloading Bylaw Infractions.
- Noise: Transit Bus And People Fighting At Bus Stop
- Bus Stops Should Not Stop In Residential Areas Especially Major Stops.
- Traffic Calming With Diverters Preferred. Speed Humps Would Also Be Good
- Vancouver Needs A Better Developed Transportation Infrastructure.

5.) Any other issues?

- Please Increase Pressure On Car Owner To Use Bus In City. A Free Zone Would Work Well In Vancouver. (Downtown To

- Gastown) Similar To Seattle.
- Parking Of Tour Buses, Stopping At Hotels/Attractions. City By-Law - Ticketing Everything.
- Department That Looks After Graffiti & Noise Control From Drunk Patrons That Frequent Bus Stops Late At Night. The Garbage ???
- 38 Buses Stop In Front During 3-5p Rush Hour. Area Was Once Industrial & Now Has Become Residential. Bus Route & Stop Should Be Looked At, If Not Moved. Strata Chairperson For 8989 Hudson And Would Like To Discuss These Issues.
- 19 Buses Stop In Front Of Our Building (All Diesel). There Is A Bus Loop Directly Across The Street. Why Are There Buses Using A Residential Area When There Is An Option!
- Graffiti On Bus Shelter. Litter And Garbage Surrounding Bus Stops. Relocation Of Bus Stops To Help Alleviate Bus Patrons From Short Cutting Through Private Property.
- Transit/Buses Get Stuck In The Same Capacity As Cars. Dedicate This Lane To Buses.
- Encourage Manufacturers To Allow Air Conditioning With The Engine Off (Reduce Idling)
- Lack Of Concern For Residential Areas Having 19 Stops When Loop Directly Across The Street.
- Why Can't I Get On 300-400 Buses At Broadway And Get A Ride To Marpole Loop
- Remove Bus Stop Near 8989 Hudson And Re-Locate To Stopping Station On Marine Drive Across From Wild Coyote.
- Routes Are Determined Without Consultation.
- Vancouver - Richmond Diesel Buses
- Why During Rush Hour Are Some Buses Much Louder Than Others?
- Marpole Bus Stop Appears Drastically Underused.
- Move Bus Stop In Front Of 8989 Hudson. Rerouting Buses To Another Loop.
- Part Of The Bus Congestion At Queen Elizabeth Park Is The Delay While Drivers Buy Bus Parking Tickets. Parks Board Has Created The Problem.
- Buses That Stop On Hudson St. Should Be Rerouted To The Marpole Bus Loop
- In Favor Of Having The Buses That Stop On Hudson Street Rerouted To The Marpole Bus Loop.

Email responses received before the public forum.

- When the inter-city express buses get into the city, why can they not become "semi-express" buses, and start picking people up at, say 41st Avenue, 33rd, 25th, 16th, and Broadway.
- Have the B-Line bus stop at Arbutus.

- The diesel buses are extremely noisy going up the hill on Carnarvon Street, past Kerrisdale Elementary School - one of the largest elementary schools in the city.*****Now 30kmh
- My husband and I live on Hudson St. at Marine Dr. in Marpole. We bought our condo in 1996 and since have endured the daily noise and pollution of the incredible amount of buses that stop right outside our home (Approx. 10 metres from our front room). The walls and windows rattle daily. When visitors stay in our second bedroom they don't need an alarm clock because by 6 o'clock am they are wide awake from the constant bus noise.
- I live in the downtown core of Vancouver on a busy street. Many diesel buses drive by everyday, from Vancouver Transit and the Airporter service as well as the Doubledecker and other summertime tour companies. The noise from these machines is phenomenally loud. I cannot sleep with my windows open, Car traffic presents no such noise issue, a steady stream of cars driving by all night long would not prevent me from sleeping, yet the periodic din from the diesel buses keeps me awake if I do not have all my windows shut and my ears plugged with ear plugs.
- I understand that buses serve an important and needed service to the community, however, with a major bus loop just across the street in a non-residential area, I do not understand why the buses cannot load and unload across there.(8989 Marpole)
- On Apr. 19, 2000 the column "Traffic Jam" in the Vancouver Sun was about noisy diesel buses allegedly more and more used by Translink to provide accessibility for wheelchair users. Being paraplegic myself, I appreciate that intention very much, though, with modern technology, it's got to be possible to also build electric buses to be equally accessible.
- I would like to address the bus stop located on Hudson Street at Marine Drive. The noise generated from the buses at this stop is absolutely unbearable. We are unable to open our windows because of the noise and even with the windows and doors closed, the noise is enough to keep residents awake during the very early mornings and late nights. Also, the smell from the buses is overpowering at times. Why is that this stop has more bus traffic than the Marpole Loop directly across the street?
- My concern is with the impact on residential areas caused by the noise levels of late-night diesel bus services. We all know that many of the city's residential streets suffer from high levels of daytime noise pollution caused by traffic; in addition, some streets now have night-time noise pollution caused by buses.
- I would like to reiterate that parking for buses must be provided in downtown Vancouver. There are plenty of areas for buses to park on downtown streets. The parked cars just have to be removed from those areas. Many of the hotel parking problems are caused by cars parked on the street.

- Someone from the City must speak to CMHC about Granville Island. Since bus parking was eliminated on Granville Island, tour buses are driving all over the city instead of just waiting on the Island for their tourists to finish shopping on Granville Island.
- It was noted that because new tour buses are bigger they need more room to turn. Actually the newer, bigger tour buses have front and rear steering and have a smaller turning radius than the older, shorter buses.
- I strongly believe that the trolley system should not only be maintained but that it should be greatly expanded. Of course the up-front cost is higher to purchase trolleys, but a full life-cycle cost analysis will show that trolleys more than compete on an economic basis. And if we were able to quantify the environmental and social costs associated with the different types of buses, trolleys would clearly outdistance all of the other technologies (including fuel-cell technology).