

The Calgary Airport Authority

**Parallel Runway Project
Volume IV – Item 1
Issues List**

Report

The Calgary Airport Authority

Parallel Runway Project Volume IV – Item 1 Issues List

Prepared by:

AECOM
2540 Kensington Road NW 403 270 9200 tel
Calgary, AB, Canada T2N 3S3 403 270 0399 fax
www.aecom.com

Project Number:

60114017

Date:

September 2010

Acronyms

Abbreviation	Full text
the Authority	Calgary Airport Authority
ACNCC	Airport Community Noise Consultative Committee
ANHIC	Alberta Natural Heritage Information Centre
ATB	Airport Terminal Building
AVOP	Airside Vehicle Operators Permit
AVPA	Airport Vicinity Protection Area
CEAA	<i>Canadian Environmental Assessment Act</i>
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPAC	Calgary Pathways and Bikeways Advisory Council
CS	Comprehensive Study
DS	Do-Something scenario
GHG	Greenhouse Gas
ICAO	International Civil Aviation Organization
LSA	Local Study Area
LRT	Light Rail Transit
NCWP	Nose Creek Watershed Partnership
NCWWMP	Nose Creek Watershed Water Management Plan
NEF	Noise Exposure Forecast
PRP	Parallel Runway Project
RAIC	Restricted Area Identity Card
SARA	Species at Risk Act
YYC	Calgary International Airport

Symbol	Unit of measure
ha	Hectares
L/s/ha	Litres per second per hectare
m	Metres

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Acronyms

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1. Introduction

1.1 Background

All issues raised by the public, government agencies, stakeholders, or any other source and the Authority's response to those issues are summarized in the following tables. Issues were raised at Public Consultation Meetings, Airport Community Noise Consultative Committee (ACNCC) meetings, or meetings with individual stakeholder groups. Issues were also received through the Project Registry Website (<http://www.yyc.com/rdp>), through the Project e-mail (info@rwy-yyc.com) or by regular mail. These issues informed the scope of the effects assessment for each respective discipline. Detailed responses to these issues and references for further reading are also provided at the end of each chapter of Volume II and Volume III. The responses in this chapter are abbreviated versions of those found in Volumes II and III.

Table 1-1 Need For and Purpose of the Project

Issue	Response	Reference
A fourth runway at YYC is not needed.	At present, on a typical busy day, the capacity of the airport is exceeded during part of the day causing significant delays, especially on arrival. By 2015 this delay will be exacerbated.	Volume II, Chapter 2, Section 2.1
How was the capacity of the airport determined?	The capacity of the airport was defined in two ways: by NAV CANADA's determination of the number of aircraft movements that can be handled by the existing airfield and by calculations of the number of aircraft movements that can be handled without unacceptable delays.	Volume II, Chapter 2, Section 2.1

Table 1-2 Public and Stakeholder Consultation

Issue	Response	Reference
More public consultation meetings should be held in communities that will potentially be affected by the project (i.e., Southview, Albert Park, and Saddleridge).	A final round of public meetings was held in September 2010 in communities that will potentially be affected by the project.	Volume II Chapter 6 Section 6.3.2
The Household Circular was not received (i.e., Forest Heights and Coral Springs).	Canada Post was responsible for delivering the Household Circular to all homes and businesses located within the 25 NEF contour. The Authority contacted Canada Post directly to voice concern about the missed deliveries.	Volume II Chapter 6 Section 6.2
Ensure Comprehensive Study documentation (e.g., Project Description and Scoping Document, Issues List, etc.) is available in hardcopy format.	CS documentation is available in hardcopy and CD upon request. Requests may be made by email to info@rwy-yyc.com , telephone 403-717-2220 or through the Project Registry Website www.yyc.com/rdp . Documentation is also available at local libraries.	Volume II Chapter 6 Section 6.4
The notifications/advertisements for the public consultation meetings were inadequate.	The comprehensive notification activities undertaken for the first round of public consultation meetings are described in detail and are consistent with what has been successful on past projects subject to environmental assessment under CEAA.	Volume II Chapter 6 Section 6.2
The airport needs to monitor what people are thinking about the project, their concerns and complaints. Then the airport needs to fix problems that their customers and neighbours identify. This should continue until the airport reaches normal daily operations.	Feedback from the public is an important part of the Environmental Assessment and all issues raised during the community consultation sessions will be addressed and responded to by The Calgary Airport Authority. Questions and concerns about the Parallel Runway project will continue to be addressed throughout the Runway build and when the new runway is in service.	Volume II, Chapter 6

Table 1-3 Project Description

Issue	Response	Reference
Include aircraft viewing areas within the scope of the project.	An aircraft viewing area is included as a potential project component.	Volume II, Chapter 7, Section 7.6, Figures 7-5 and 7-6.
Why can't you widen the existing runway and takeoff in parallel?	There are regulated minimum separation distances for aircraft taking off in parallel and there is insufficient space to the east and west of the existing runway to accommodate this. The existing passenger terminal and the buildings to the south would have to be removed.	Volume II, Project Description

Table 1-4 Soils and Terrain

Issue	Response	Reference
Potential effects on quantity and quality of Orthic Black Chernozems within the PRP.	Paving will result in the loss of an area of black soil suitable for agriculture. Although the topsoil will be reused, the agricultural land base will be reduced. The area of land at issue represents less than one 100 th of a percentage point of the area of black soils in the region.	Volume III, Chapter 3
Will soils removed by construction of the PRP be made available for public use?	Suitable topsoil stripped from the areas to be graded will be salvaged and reused on graded areas to maintain soil quality and promote revegetation. There will be no surplus soils available following completion of construction of the PRP.	Volume III, Chapter 3
What are the piles of dirt between the terminal and 36 Street? Are they part of the RDP?	The soil stockpiles were generated by other YYC projects, including the International Facilities Project (IFP).	Volume III, Soils and Terrain

Table 1-5 Vegetation

Issue	Response	Reference
No net loss of wetland function consistent with the Federal Policy on Wetland Conservation.	Wetlands will be infilled as a result of the PRP and the Authority's continuing program to reduce the risk of bird strikes on aircraft. The maintenance of wetlands and wetland habitats on YYC land conflicts directly with safety management objectives, as outlined in the Authority's <i>Wetland Strategy for Reducing Bird Strike Risk</i> (May 2008), which is aimed at improving airport safety through the elimination of potential bird strike hazards. The Authority is consulting with the City of Calgary, Alberta Environment and other stakeholders about places to replace wetland function.	Volume III, Chapter 4
Potential effects on riparian areas.	The entire LSA is to be cleared and graded, which will inevitably result in the loss of riparian areas. This, however, was likely to occur with the implementation of the Authority's <i>Wetland Strategy for Reducing Bird Strike Risk</i> (May 2008). Given the substantially disturbed nature of existing native vegetation assemblages within the site, reclaimed vegetation is likely to be of higher quality in terms of function.	Volume III, Chapter 4, Section 4.5.2
Changes to native vegetation communities.	Semi-native communities occupy only 16.28% (87.05 ha) of the LSA. This will be lost as a result of the PRP; however, wetland function (i.e., the function of 3.98% of the landscape units) will be restored with the exception of large bird habitat near the airport.	Volume III, Chapter 4

Issue	Response	Reference
Potential disruption, alteration, or loss of rare, threatened, or endangered plants as a result of the project footprint.	No SARA, COSEWIC, or ANHIC listed species were encountered during rare vascular plant surveys of the proposed PRP LSA. Western blue flag (<i>Iris missouriensis</i>) is known to occur elsewhere on YYC lands, but it is unlikely to occur in the PRP footprint. If this or other listed species are observed prior to or during construction, efforts will be made to protect individuals where possible. If this is not possible, the individual plants may be transplanted.	Volume III, Chapter 4
Potential introduction of invasive weeds and non-native species of concern.	Nineteen (19) species of noxious and nuisance weeds were observed during surveys of the LSA. Weed species were typically observed within or adjacent to previously disturbed areas of the PRP footprint. Best management practices will be used to reduce the risk of spread of noxious or non-native species.	Volume III, Chapter 4, Table 4-2
Potential effects on trees planted with the support of the Devonian Foundation and the need for a transplanting program.	The Authority will assess all trees to determine their suitability for transplantation. Healthy trees will be transplanted to areas outside the development footprint where it is considered likely that the individuals will survive. Other trees will be recycled for mulch, chipping or fire wood.	Volume III, Chapter 4
Environmentally what is the exact location and number of acres reserved as a result of infilling the wetlands on the runway area?	The Authority has purchased 35 ha of land adjacent to existing airport lands, west of Deerfoot Trail at Airport Trail NE. The land could be used to restore and replace wetland function and to support Alberta's Water for Life Strategy.	Volume III, Vegetation

Table 1-6 Surface Water and Aquatic Resources

Issue	Response	Reference
Potential effects of glycol on surface water ecosystems (i.e., Nose Creek).	The Authority's stormwater management program will be updated to incorporate the runoff increase from the PRP. One objective of this plan is to ensure no decrease in the quality of water into Nose Creek. Both the Nose Creek Watershed Partnership (NCWP) and the Authority will be monitoring Nose Creek. Any observations of a decrease in water quality in Nose Creek will be immediately reported and action will be taken to prevent reoccurrence.	Volume III, Chapter 5
Increase in stormwater discharge volume in Nose Creek.	The Authority's stormwater management program will be updated to incorporate the runoff increase from the PRP. The primary objective of this plan is to ensure that the quantity of water entering Nose Creek complies with the 2.6 L/s/ha limit established by the Nose Creek Watershed Water Management Plan (NCWWMP). Both the NCWP and the Authority will be monitoring Nose Creek. Any exceedences of the NCWWMP criterion in discharge quantity in Nose Creek will be reported immediately and action will be taken to prevent reoccurrence.	Volume III, Chapter 5
Reduced flow into Nose Creek during low flow period.	The Authority's stormwater management program will be updated to incorporate the runoff increase from the PRP. Discharge into Nose Creek from the PRP footprint is currently zero, so any change will not decrease low flows in Nose Creek.	Volume III, Chapter 5
Reduction of water quality in Nose Creek from release of hazardous materials and/or construction / operation site runoff.	The YYC stormwater system includes control structures, settlement and evaporation ponds, and other features that will be used to prevent any contaminated or sediment-rich water from reaching Nose Creek. This plan will be updated to incorporate the runoff increase from the PRP.	Volume III, Chapter 5

Issue	Response	Reference
Degradation of aquatic habitat in Nose Creek (stream incising, sedimentation) from increased surface water discharge from project area.	The primary objective of the Authority's stormwater management plan is to ensure that the quantity of water entering Nose Creek complies with the 2.6 L/s/ha limit established by the NCWP. Adherence to the limit will prevent degradation of aquatic habitat.	Volume III, Chapter 5

Table 1-7 Wildlife and Wildlife Habitat

Issue	Response	Reference
The potential effects of project activities on migratory birds and wildlife.	The Authority is legally bound to maintain the safe operation of the airport, which includes management of wildlife issues and habitat. The Authority prescribes management techniques to reduce or eliminate attractive wildlife habitat such as grass cutting and vegetation management. It also manages migratory birds and their habitat to reduce the risk of bird strikes on aircraft. At the same time, the Authority will take steps to protect rare species and their habitats if and when they are encountered in a manner consistent with maintaining safe aircraft operations.	Volume III, Chapter 6
The potential loss of wildlife habitat (i.e., wetlands) due to the project.	Wetlands are not a compatible land use in and around airports and many wetlands have been infilled to reduce habitat for large birds. Consistent with the Federal Wetland Conservation Strategy, the Authority has taken first steps towards maintaining wetland function by purchasing a parcel of land between Deerfoot Trail and Nose Creek for that purpose.	Volume III, Chapter 6
How many ducks are you going to kill?	The Authority's bird control measures are designed to discourage ducks from using airport lands, rather than shooting them.	Volume III, Wildlife and Wildlife Habitat.

Table 1-8 Groundwater

Issue	Response	Reference
Potential effects of glycol on groundwater.	Propylene and/or ethylene glycol are used to de-ice aircraft at the terminal gates. YYC has an existing environmental management system for managing and containing de-icing glycol. De-icing of aircraft with glycol will not occur on the new runway and no adverse effects from glycol are expected.	Volume III, Chapter 7, Section 7.4.3.2
Potential effects on airfield drainage and its effects on groundwater.	Groundwater flow in the PRP area is to the southwest, away from existing farmland wells and towards Nose Creek; therefore, no effects on local water supply wells are predicted. Groundwater recharge volumes in the PRP area are low because of the low permeability clay till and claystone bedrock. Due to the low permeability soils and bedrock, and very long calculated groundwater travel times to Nose Creek, the effects of the PRP are predicted to be negligible with respect to both groundwater flow and quality.	Volume III, Chapter , Section 7.4
Potential effects on water quality within riparian habitats with consequences for groundwater.	The PRP will have negligible effect on groundwater quality in riparian areas along Nose Creek. Only minor, local groundwater quality effects are predicted in the LSA due to PRP construction and operation. Groundwater flow travel times to Nose Creek are estimated to be in the order of 600 years due to the slow permeability of the clay till and claystone bedrock in the PRP area.	Volume III, Chapter 7, Section 7.4
Potential effects on farmland groundwater (non-airport lands).	See response above.	Volume III, Chapter 7, Section 7.4

Issue	Response	Reference
Potential effects of groundwater displacement into storm sewers.	See above discussion on groundwater recharge.	Volume III, Chapter 7, Section 7.4
Potential subsurface movement of contaminants to Nose Creek.	Groundwater flow travel times to Nose Creek are estimated to be in the order of 600 years due to the slow permeability of the clay till and claystone bedrock in the PRP area. Only minimal effects on groundwater quality are predicted and they will be adequately attenuated along this long slow flow path so there will be negligible effects on water quality in Nose Creek.	Volume III, Chapter 7, Section 7.4

Table 1-9 Transportation

Issue	Response	Reference
In response to the closure of Barlow Trail between 48 Avenue and Airport Road NE, an east extension of 96 Avenue NE (Airport Trail) through a tunnel under the parallel runway at YYC should be built.	The eastward extension of 96 Avenue is a City of Calgary project and not part of the PRP. However, the City of Calgary and the Authority have agreed to work together to determine the City's requirement for a road right-of-way across airport lands, and on a planning framework for the potential future development of this City road infrastructure, as well as upgrades to the existing road network adjacent to YYC.	Volume III, Chapter 8
Airport personnel have inquired as to whether the proposed Taxiway J underpass can be utilized to access the Air Terminal Building (ATB).	The Taxiway J underpass and related road network has been designed for airside access for equipment and personnel for business related activities. A valid Restricted Area Identity Card (RAIC) with full airside access permission and the appropriate Airside Vehicle Operators Permit (AVOP) are required. All persons using this access point should follow the regulations and guidelines set out by Transport Canada for accessing restricted areas at an international airport.	Volume III, Chapter 8
Increased traffic congestion on affected roads.	The City of Calgary has a volume to capacity ratio (a measure of congestion) threshold of 0.9. The threshold indicates when action to reduce congestion is required. This threshold will not be reached by 2025 provided the City's planned improvements to the road network are implemented.	Volume III, Chapter 8, Section 8.4.2.2
Reduced access to YYC.	Other improved road connections will be developed such as between 36 Street NE and 48 Avenue NE which will provide an alternate north-south route on closure of Barlow Trail. Direct access to the air terminal building will continue via Airport Trail from the west and Barlow Trail from the north.	Volume III, Chapter 8
Increased travel time between northeast businesses and YYC.	Currently, it is estimated that the travel time between YYC and the northeast industrial business sector is 11 minutes. The estimated travel time with the new runway in place is 13 minutes. Although there is an increase in the travel time, it is not significant.	Volume III, Chapter 8
Bus Route 57 which travels along McCall Way and into the airport terminal will be disturbed.	Calgary Transit is in the process of determining an alternate route for continued bus access to the terminal. Transit service to YYC will continue.	Volume III, Chapter 8
The closure of Barlow Trail will cause the loss of the existing bikeway/pathway along that road.	The Authority has developed plans to modify and improve the pathway network with input and consultation from the Calgary Pathways and Bikeways Advisory Council (CPAC).	Volume III, Chapter 8, Section 8.5.4 Volume III, Chapter 14 Socio-economic Environment, Section 14.5.4.1
There should be an LRT connection to YYC.	The Authority has preserved a transportation corridor on airport lands for future City LRT as identified in the 2004 YYC Master Plan. The City and the Authority work closely together in planning all road and transit improvements around the airport.	Volume III, Chapter 8

Issue	Response	Reference
	An LRT connection is not within the scope of the PRP. It is a City of Calgary project expected to proceed sometime in the future.	
Look at the new access route to the terminal building from Airport Trail at 19 Street. Plan for 2 lanes in each direction.	The extension of Aero Dr from Deerfoot South is a 2 lane industrial standard road, that transitions to 4 lanes as it approaches 19 Street. It can be fully expanded to 4 lanes in the future if required.	Volume III, Transportation
Why not make Air Services Way 4 lanes?	McCall Way is and will continue as a two lane industrial standard road.	Volume III, Transportation
Upgrade and finish Metis Trail North and Country Hills Boulevard before closing Barlow Trail.	The City of Calgary is responsible for the road network and any upgrades.	Volume III, Transportation
Gap between Barlow Closure and 36 Street upgrade?		
Barlow Trail is a Federal Road. Alternate safe access needs to be in place prior to the closure of Barlow Trail. Country Hills is only 2 lanes; it should be at least 4 lanes prior to heavy usage. The east part of Calgary doesn't go all the way to Deerfoot. 36 Street has no shoulders and is unsafe. It needs to be upgraded prior to Barlow Trail closing.		
How do West Jet staff get to the terminal?	The majority of West Jet staff who need to be at the ATB now park at the terminal building. Any other staff that have to travel between their campus and the terminal will either go airside if they have the appropriate means and clearance, or they will drive groundside around the airport on one of the access routes. West Jet realize and acknowledge that this will now take longer once McCall Way and Barlow Trail close.	Volume III, Transportation
We are concerned about the increased traffic on 36 Street NE after the closure of Barlow Trail (30000 cars/day). 36 Street was built for the Saddleridge community. The road is now unsafe, oiled, patched, gravel road with no shoulders and no centre line. A bad first impression for visitors to Calgary. Are you planning to upgrade this road?	The City of Calgary Transportation Plan includes upgrading of 36 Street.	Volume III, Transportation
36 Street Improvements sooner (80 th to Country Hills).	The City of Calgary is responsible for the road network and questions regarding this should be addressed to them.	Volume III, Transportation
Policy on 36 Street. Big trucks and weight limit restrictions.	The City of Calgary is responsible for the road network and questions regarding this should be addressed to them.	Volume III, Transportation
In recently talking to the City, Metis Trail will not be open until 2012 due to a land dispute that has been appealed. Please comment on that.	Our current information on Metis Trail is that it will be open (two lanes) by late summer 2011; inquiries should be directed to the City of Calgary.	Volume III, Transportation
Roads – 36 Street, 48 Avenue and Metis Trail will not be finished before Barlow closes is a big concern.	The City of Calgary is responsible for the road network and any upgrades.	Volume III, Transportation

Table 1-10 Land Use

Issue	Response	Reference
The PRP will have an adverse effect on the value of properties near the airport.	Analysis of the median sales prices in communities near and distant from the airport over the most recent five years for which data are available showed that proximity to the airport had no effect on changes in property value.	Volume III, Chapter 9, Section 9.4.2
The NEF-based restrictions on land use will be moved as a result of the PRP.	The NEF contours developed in the AVPA took into consideration the presence and operation of the PRP in its proposed location. As a result, restrictions to land use will not be altered due to the PRP.	Volume III, Chapter 9
There is the potential that the PRP will have an adverse effect on the horse stable located on the west side of 36 Street NE just north of 80 Avenue.	The location of the horse stable is on land leased from the Authority. Leases will expire before the construction of the PRP.	Volume III, Chapter 9
Who enforces the AVPA regulations and how often? Is this information available to the public?	The AVPA is administered by Alberta Municipal Affairs. Information regarding the AVPA is available at http://www.municipalaffairs.alberta.ca/ .	Volume III, Chapter 9
The PRP will limit new uses for land.	Land use is currently restricted by the AVPA. These restrictions have not changed as a result of the PRP. In 2009, Alberta updated the AVPA so that it would become more streamlined and user-friendly, and less prohibitive than the previous regulation. The AVPA has taken into account the future presence and operation of the PRP since its inception.	Volume III, Chapter 9

Table 1-11 Noise

Issue	Response	Reference
The potential effects of project activities on daytime and night-time noise levels in communities around YYC.	Night-time noise will be significantly less with the new runway than without.	Volume III, Chapter 10
The potential effect of project activities on daytime and night-time noise levels at the Peter Lougheed hospital.	At the Peter Lougheed Hospital there is expected to be a modest increase in aviation noise in the future. The hospital is located in an area already subject to aviation noise and substantial noise from the highway network. It is a relatively modern building with extensive use of air conditioning to avoid the need to open windows for ventilation, so the full benefit of the significant sound insulation against intrusion of external noise provided by structure can be realized.	Volume III, Chapter 10
How noise modelling will account for differences in traffic and aircraft noise.	The effect of the project on road traffic noise has been assessed as negligible to minor at worst, primarily because any changes in traffic flow on the existing highways network will be subsumed by the already high levels of traffic on the roads. Consequently, any change in noise due to the project is small and unlikely to be noticed in the long term.	Volume III, Chapter 10
How will temperature and seasonal variations be captured?	Temperature and seasonal variations in noise associated with the airport are subtle and can be rated as having a negligible effect on the propagation of noise from YYC. However, weather conditions have a major effect on the operation of YYC as wind direction has a strong influence on the direction of takeoffs and landings; and, therefore, noise levels at a particular location. This is accounted for in predictions of noise levels in 2015 and 2025.	Volume III, Chapter 10

Issue	Response	Reference
How noise effects will be evaluated for communities without noise monitors.	The scoping study identified locations where there are currently no noise monitors, but which might experience a change in aviation noise as a result of the project. The baseline noise study was designed and implemented so that supplemental temporary noise monitors were installed in these communities at reasonably representative locations for long enough to obtain data indicative of the noise levels in the locality.	Volume III, Chapter 10
What areas will get coverage from the noise monitors?	The airport has indicated that should the parallel runway go ahead, then the existing noise monitoring network will be reviewed. At this stage, it is not possible to precisely state which additional areas may get coverage from noise monitors but a preliminary overview suggests that locations to the south and east of the parallel runway would be strong candidates.	Volume III, Chapter 10
What type of aircraft will be used for the noise modelling?	In order to manage the amount of input data to the noise model, we have grouped the many different aircraft types that use YYC into nine classifications. Then, in order to make the assessment worst case, we have used in the model the data from a specific aircraft type that tends to be the noisiest in that group as representative of that group.	Volume III, Chapter 10
What is the noise assessment validation target?	The ideal would be for the validation of the baseline noise models to show no deviation from the equivalent baseline noise measurements at each noise monitoring location. But as is common for most projects, this has not been achieved for all the noise monitoring locations. The study finds good correlation between the measured and modelled noise levels relatively close to YYC but this correlation weakens at locations further away from YYC where the noise monitoring system's ability to distinguish aircraft noise from other community noise lessens.	Volume III, Chapter 10
Is barometric pressure also included in the noise assessment?	Yes, the annual average barometric pressure for YYC is used (in inches of mercury).	Volume III, Chapter 10
Will supplemental noise metrics be broken down by day and night?	Yes, this has been done where it is relevant to the assessment.	Volume III, Chapter 10
Suggestion of a no-fly period from 12.00 am – 6.00 am at YYC.	The Calgary Airport Authority has developed programs to minimize the impact of regular aircraft operations on surrounding communities while successfully balancing the requirement for safe and efficient 24-hour airport services. YYC is a significant contributor to Calgary's economic development. Maintaining airport operations to meet the needs of airport partner airlines and the many businesses that rely on YYC for their continued growth and success, is essential for the City, the region and the Province's continued economic growth.	Volume III, Chapter 10
Are there plans to accept the Airbus 380 in the future?	The PRP is being designed for Code F aircraft, of which the A380 is one. However, the A380 is a modern aircraft introduced after 2006; it has to comply with the ICAO Chapter 4 noise requirements. This means that, paradoxically for such a large aircraft, it is quieter than or comparable with many other wide bodied jets that currently use YYC.	Volume III, Chapter 10
What mitigation measures will be assessed?	Building the parallel runway is an effective means of mitigating noise effects that would occur if it were not built. A range of additional noise mitigation measures are discussed in Section 10.8.2 of the Noise Effects Assessment.	Volume III, Chapter 10, Section 10.8.2
Potential effect of increase in noise near hotels.	With and without the PRP, the hotels to the south and southwest of YYC are likely to experience a modest increase in aircraft noise. With the PRP, the increase in noise is marginally greater, although the proposed mitigation measures will assist in mitigating these effects.	Volume III, Chapter 10

Issue	Response	Reference
What are the criteria for siting a noise monitor?	The technical acoustic criteria for siting a noise monitor are based on a number of standards and sources of guidance including CAN/CSA ISO 1996; ICAO Annex 16, Appendix 5; and ISO 20906.	Volume III, Chapter 10
I'm very disappointed that all the presentations are slanted in favour of construction 'go ahead'. For example: No displays for 2015 (only for 2025). This allows removing older 727's from noise and population data and using cleaner planes in statistics.	Noise predictions for 2015 are presented in Chapter 10 of the CS. 2025 was considered a worst case as the number of aircraft movements will be significantly higher than in 2015.	Volume III, Noise
Noise is shown to be quieter at the south end of the new runway because 70% of the time landings and takeoffs are from the north. In truth, 28% of the time the noise contour at the south end of the runway would be just as long as the north (shown). Not impressed! The one exception is the air pollution charts that were not part of the presentation. Worst case scenario was used in an honest manner.	The noise contours developed in the study reflect the long term pattern of use of the runways at the airport. Historically, largely due to the effects of weather, aircraft approach and take off from the airport in a northerly direction for approximately 70% of the time and in a southerly direction for approximately 28% of the time. The noise contours in the study aggregate this pattern of runway use to provide information on the long term trends in the propagation of noise from the airport. This is the conventional approach in Canada, the USA, the UK, Europe, Asia and Australasia. Additionally it should be noted that the key to this study is the comparison of the situation without the parallel runway (Do-nothing - DN) with the situation with the parallel runway (Do-something - DS); in which case comparison of noise contours which were solely based on southerly approaches and departures from the airport would tend to show the broadly the same results as the situation where runway use is aggregated i.e. both the DN and DS contours would be increased proportionately to the same degree.	Volume III, Noise
Is the Authority going to use earthen berms on the east side of the new parallel runway? This would attenuate sounds from the airfield adjacent to the road as to not affect airfield safety.	Surface elevations near runways are governed by Transport Canada regulations. Construction of berms near and parallel to 36 Street is being considered.	Volume III, Chapter 10
Some of the houses in our community were built 80-100 years ago and have minimal insulation. Any increase in noise will be noticeable. Some compensation in terms of upgrading should be considered.	Land development, including residential development, in the vicinity of YYC is governed by Transport Canada regulations, Alberta's Airport Vicinity protection Act (AVPA) and Regulations, municipal by Laws, and Alberta Building Codes. The AVPA regulation and municipal by Laws for areas surrounding YYC were put in place in 1979 and took into account the future construction and operation of the Parallel Runway. The Alberta Building Codes determine how buildings should be constructed within the framework established by the regulations and by Laws. The CS describes predicted future conditions in the vicinity of YYC, including noise levels, if the new runway is built. The predictions suggest that no change in the regulations governing land use will be required and no land use designations will have to be changed.	Volume III, Noise
Population numbers and densities for Southview appeared to be incorrect.	We have verified the numbers and they are correct. The population density is the average density for each community. It is unlikely that any change in population density by taking into account each area of open space will change population exposures.	Volume III, Noise
When the new runway is completed,	In preparing the Comprehensive Study we used a predictive	Volume III, Chapter 10

Issue	Response	Reference
<p>will airplanes land from the south on the old, west runway and take off to the north on the new, east runway? Can you give some idea as to how the two runways are likely to be used? We live under the current flight path and are considering a move away from the airports arrivals and departures.</p>	<p>model to estimate noise levels in the future if the new runway is built and if it is not. The assumptions about how the runways will be used that were used in the modeling are described in the assessment. NAV CANADA is still working on its plans for runway utilization so the actual use could differ from our assumptions but we do not think it will be very different. We also reported on current noise levels as measured by the Authority's network of noise monitors. The results are all reported in the Noise chapter of the Comprehensive Study (Volume III, Chapter 10). This can be viewed on line at www.yyc.com/rdp under Runway Development Program - Parallel Runway Project. I think you will find what you seek in that chapter. If you have further questions after reading it please contact us again.</p>	
<p>In your pamphlet sent out recently, under Key Findings of the comprehensive study, you note that some areas will see a decrease in aircraft noise and others will see an increase. Can you please tell which areas will see an increase and which will see the decrease? What will be the flight path from the new runway?</p>	<p>Currently noise from aircraft approaching and departing the airport are monitored by an extensive network of noise monitoring terminals (NMTs) distributed around the city. Historical data from the NMTs has been used to validate a computer based noise model which as part of the study has predicted the future distribution of aircraft noise for scenarios with and without the new parallel runway in the years 2015 and 2025. The noise modelling took into account a wide range of factors that affect aircraft noise including the number of aircraft, the type of aircraft, the flight paths and profiles, engine thrust settings and other aircraft operational factors. These factors can vary significantly from one aircraft to another and from one day to another in the airports operations. Consequently, in order to develop a robust noise model these factors were all selected tending towards the worst case end of the range of variability in order that the study should be based on the typical widest distribution of aircraft noise at higher levels. In regard to flight paths the modelling assumed that aircraft would approach and depart from the airport in a straight line on axis to the centre line of each runway.</p> <p>The study looks in detail at how the distribution of aircraft noise is predicted to change for each community and full details of the predicted changes in noise levels are contained in the Chapter 10 of Volume V of the draft Comprehensive Study which you can download from the YYC. The specific information you are looking for is contained in Tables A12 and A13 in Appendix A to the chapter, and Section 10.7.5 .2 of the chapter provides detailed interpretive analysis of the associated impacts based on criteria which are explained in detail in Section 10.4.4 and summarised in Section 10.5.4.</p>	
<p>I was wondering if the new parallel runway will reduce traffic on the east/west runway (10-28)?</p>	<p>Volume III , Chapter 10 (Noise Assessment) includes details of current runway utilization and our best estimate of future runway utilization. The predictions are averaged because runway use at any particular time is affected by weather. Our expectation is that 10-28 will be used proportionately less than it is today but it will still be used during certain weather conditions such as Chinooks.</p>	<p>Volume III, Noise.</p>

Table 1-12 Climate and Greenhouse Gases

Issue	Response	Reference
Alteration of GHG baseline levels during construction and/or operation of the project.	GHG emissions in the future are not expected to change significantly if the new runway is built and brought into service.	Volume III, Chapter 11
Changes in the transportation network in and around the airport leading to a change in GHG levels/carbon footprint.		Volume III, Chapter 11

Table 1-13 Air Quality

Issue	Response	Reference
The potential effects of project activities on pollution levels in the Inglewood and Ramsay areas. The potential effects of project activities on air quality levels in communities around the airport.	The potential effects of project activities on air quality pollution levels for all communities surrounding the airport boundary have been quantitatively assessed using emission inventory calculations and air dispersion modelling. The potential effects of the project on air quality have been predicted to be low in magnitude and have a low impact on the neighbouring residential communities.	Volume III, Chapter 12
Changes in the transportation network in and around the airport leading to a change in air emission levels.	Potential air quality effects as a result of changes to the transportation network in and around the airport have been assessed for the operational phase of the project. The effects have been quantified through the use of emission inventory calculations and air dispersion modelling. Ambient air quality levels will be affected throughout the life of the project from existing conditions. However, the total potential effect of the airport operations and changes to the transportation network has been predicted to be low in magnitude. Taking into account mitigation measures, significant adverse effects are unlikely to occur.	Volume III, Chapter 12

Table 1-14 Cultural Resources

Issue	Response	Reference
No issues have been raised to date.	None required.	Volume III, Chapter 13

Table 1-15 Socio-Economics

Issue	Response	Reference
Potential inconvenience caused by the reduction in access to and from, and in and around the airport due to changes in the road, transit and pedestrian and cycling networks.	The loss of the pedestrian and cycling trail at YYC can be effectively mitigated by providing alternative safe bicycle lanes and paths for access to and from YYC. The Authority is working with the Calgary Pathways and Bikeways Advisory Council to implement this mitigation measure. The PRP will affect day-to-day travel patterns during the construction and operations phases. This residual adverse effect was not considered to be significant.	Volume III, Chapter 14

Issue	Response	Reference
Potential economic losses to businesses (e.g., hotels) around the airport caused by the reduction in access to and from, and in and around the airport due to changes in the road, transit and pedestrian and cycling networks.	The small change in travel time to/from the airport hotels located south of YYC caused by the closure of Barlow Trail between 48 Avenue and Airport Road will not be a critical factor in decisions made by guests on where to stay. Hotels immediately south of YYC will continue to enjoy a competitive advantage over most other Calgary hotels in terms of travel times and distance. The increased travel distance and travel times caused by the PRP may result in increased operational costs for those accommodation providers that operate airport shuttle services that utilize Barlow Trail or McCall Way and may increase travel costs for those travelling to/from airport hotels and areas immediately south of YYC. It is not expected that this change in travel costs would affect the business case as to whether or not to offer a hotel shuttle, taxi or limousine service.	Volume III, Chapter 14
Increase in taxi fares due to changes in the road, transit and pedestrian and cycling networks.	The closure of Barlow Trail between 48 Avenue and Airport Road will result in greater travel distances for taxis and limousines travelling to destinations immediately south of YYC. This additional distance is likely to add cost to an average taxi fare. This represents additional revenues to the taxi operators but may result in an increased cost to fixed rate service providers. However, an increased number of passengers enabled by the PRP will serve to measurably improve the economic viability of tourism related businesses across Calgary, including taxi and limousine operations.	Volume III, Chapter 14
Potential effects of project operations on open space or recreational property use in the area.	Both beneficial and adverse effects on the use and enjoyment of community and recreational features are likely to occur but overall the major beneficial effects offset the minor adverse effects. Reduced potential for disruption of activities at community and recreational features was predicted for several residential communities exposed to fewer noticeable overflights. Increased potential for disruption of activities at community and recreational features was limited to those features on and in close proximity to the YYC site during the construction phase, and only a few features exposed to increased numbers of overflights during the operations phase.	Volume III, Chapter 14
The potential effects of project construction and operations on commercial land use in the area.	This PRP will generate new business activity and will enable new business opportunities for commercial businesses. This beneficial effect was considered to be major because of its moderate magnitude and permanency. No adverse effects on commercial land uses, other than effects on airport hotel/motel operators were identified.	Volume III, Chapter 14
Decline in revenue of commercial / industrial land as a result of changes to property value, noise and/or the transportation network.	Adverse effects on commercial / industrial land uses or business activity were not considered likely. Business operations that rely on the use of Barlow Trail and other affected roads may experience some disruption of their transportation activities but this alone should not result in a measureable change in business activity or their overall economic viability.	Volume III, Chapter 14
Decline in enjoyment, revenue or utilization of residential land as a result of changes to property value, vibration, noise, and the transportation network.	Both beneficial and adverse effects on the use and enjoyment of private property are likely to occur but overall the major beneficial effects offset the minor adverse effects. The PRP is anticipated to result in a reduced potential for disruption of people's use and enjoyment of private property during the operations phase in several residential communities in the LSA and for between 56,000 and 86,000 existing LSA residents. This is in contrast to an increased potential for disruption of people's use and enjoyment of private property for approximately 102 existing LSA residents (2015) and none in 2025.	Volume III, Chapter 14

Issue	Response	Reference
Reduced emergency services access to and from the airport due to closure of Barlow Trail.	The closure of Barlow Trail between 48 Avenue and Airport Road will result in changed access to and from the airport terminal and changed local traffic patterns. EMS stations (i.e., the on-site EMS and the Country Hills Multi-services Centre) will continue to be available to respond to health emergencies at the airport and in the existing commercial and industrial area to the north. The closure will not directly affect initial response times to these areas. The small increase in travel time by ambulance to the hospital from these areas will not affect overall levels of service or patient care.	Volume III, Chapter 14
What businesses will be built or relocated as a result of the PRP?	No businesses will be built directly as a result of the PRP. However, the PRP will generate new business activity for existing businesses and would enable new business opportunities for commercial businesses.	Volume III, Chapter 14
Any beneficial economic benefits related to civil engineering design, field service contracts during the construction of the parallel runway.	The PRP will generate new business activity for existing businesses and would enable new business opportunities for commercial businesses. This effect was assessed to be a moderate magnitude effect that will be ongoing and permanent.	Volume III, Chapter 14
Concern that the passenger airport improvement fee could be increased.	The Authority reviews the fees it charges passengers and others on an annual basis. Decisions regarding fees take into consideration a number of factors including operating costs and revenues.	Volume III, Chapter 14
Concern whether aircraft viewing areas are being considered or not.	The Authority will consider airport viewing areas as part of their sustainability plans.	Volume III, Chapter 14
Potential avoidance of area businesses altogether because of inconvenience and inaccessibility.	The Socio-economic Assessment concluded that the PRP will result in some disruption to day-to-day travel patterns during the construction and operations phases. The effect is manageable and it is not considered likely that area businesses would be avoided altogether.	Volume III, Chapter 14
Concern with the increase in taxi fares, gasoline consumption at future prices.	The closure of Barlow Trail between 48 Avenue and Airport Road will result in greater travel distances for taxis and limousines travelling to destinations immediately south of YYC. This additional distance is likely to add cost to an average taxi fare. This represents additional revenues to the taxi operators but may result in an increased cost to fixed rate service providers. It is not expected that the small change in travel times and travel costs resulting from the PRP would affect the business case as to whether or not to operate a taxi or limousine service. On the contrary, an increased number of passengers enabled by the PRP during the operations phase will serve to measurably improve the economic viability of tourism related businesses across Calgary, including taxi and limousine operations.	Volume III, Chapter 14
What direction will the flight paths be and how will this affect residents?	The analysis of the number of noticeable overflights presented in Volume III, Chapter 10, indicates that some communities will experience more noticeable overflights and some will experience less. Therefore, the PRP is likely to result in a change in the character of a few residential communities during the operations phase.	Volume III, Chapter 14
Construction - mitigation for affected communities.	Mitigation measures that will serve to minimize adverse effects on people's use and enjoyment of property and day-to-day travel patterns are presented in several other chapters, including Transportation (Volume III, Chapter 8), Noise (Volume III, Chapter 10), and Air Quality (Volume III, Chapter 12). The Authority will continue to communicate with neighbours and stakeholders with respect to airport activities.	Volume III, Chapter 14

Table 1-16 Human Health

Issue	Response	Reference
Potential vibration related human health effects	Due to the separation distances of 1,000 m or more from PRP sources of ground vibration to vibration-sensitive premises beyond the airport perimeter, there is very low potential for ground vibration disturbance beyond YYC lands.	Volume III, Chapter 15
Noise related human health effects	Noise exposure if the runway is built will be lower than if it is not, provided the airfield is operated in a manner that mitigates noise. If the runway utilization in the future is as assumed in Chapter 10, many residents of neighbourhoods surrounding the airport will experience a significant reduction in annoyance from aircraft noise (~56,000 in 2015 and ~86,000 in 2025) while a much smaller number of individuals could experience an increase in aircraft noise beyond thresholds associated with significant annoyance (102 in 2015 and no individuals in 2025).	Volume III, Chapter 15
Air quality related human health effects	Except for nitrogen dioxide, no exceedences of ambient air quality objectives were predicted. Occasional exceedences of the nitrogen dioxide objective would not be likely to affect human health.	Volume III, Chapter 15

Table 1-17 Effects on Other Airports

Issue	Response	Reference
What will be the effect of the PRP on the Airdrie Airport and when will people be involved through the consultation process?	While the introduction of a parallel runway at Calgary International will change flight paths within the Calgary Terminal airspace, it will not significantly change how Airdrie Airport is operated or used. The CS concludes that there will be few observable adverse operational effects on Airdrie Airport or the other surrounding airports; the associated effects are considered to be not significant. The public meetings on the CS have provided the opportunity for interested parties to participate in the assessment.	Volume III, Chapter 16

Table 1-18 Assessment of Alternatives

Issue	Response	Reference
Build the airport elsewhere.	The development of a second international airport near Calgary cannot be considered as a viable alternative to the PRP, as these would be substantial temporal, economic, and planning constraints. In addition, a large parcel of land would have to be located and it would probably be a 'greenfield' site. The development would thus have significantly greater adverse effects on the environment than the PRP.	Volume III, Chapter 18

Table 1-19 Accidents and Malfunctions

Issue	Response	Reference
People living on 36 Street are concerned about aircraft in trouble dumping their fuel.	Aircraft will dump fuel if their landing weight in an emergency exceeds their "maximum allowable landing weight". If dumping of fuel is necessary for a safe emergency landing then it will be done at an altitude 8,000 to 10,000 feet above the local terrain so that the fuel will have totally dissipated in the atmosphere	Volume III, Accidents and Malfunctions

Issue	Response	Reference
	before it reaches the ground.	
Don't overlook the need for fire hydrants for the fire fighting on the airfield/2 nd firehall.	Foam, rather than water is used to fight aircraft fires. The foam is supplied through emergency response vehicles. The requirement for the amount of extinguishing agent and the speed of response are defined in the Canadian Civil Aviation Regulations (CARS 303).	Volume III, Accidents and Malfunctions
Water hydrants along runway for emergency response?		Volume III, Accidents and Malfunctions