



Figure 1. The Winnipeg International Airport.  
Source: Robert Linsdell

## Looking to the Skies: Land Use Planning and the Winnipeg International Airport

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### 1.0 Introduction

This case-in-point report explains how planners with the Government of Manitoba worked to update land use regulation policies for properties in the vicinity of the Winnipeg International Airport. In doing so, they were required to balance the interests of a multitude of stakeholders, including all three levels of government. To review the outdated existing framework, and bring it up to modern standards, planners relied on the expertise of engineers and aviation experts, demonstrating how planning often interfaces with other professions and disciplines. The process culminated with the enactment of a new *Airport Vicinity Protection Area Regulation*, based on up-to-date science and best practices.

## 2.0 Background and Context

Land use planning in the vicinity of Canadian airports is a particular challenge, because the interests of a wide variety of stakeholders must be considered. In Canada, aviation and the operation of airports is regulated by the federal government, under the Aeronautics Act. All Canadian airports are owned by the federal government. Larger airports serving national, provincial, or territorial capitals are leased by the government to third party not-for-profit, non-share capital corporations known as airport authorities, who are responsible for airport operations. The Winnipeg James Armstrong Richardson International Airport is operated by the Winnipeg Airports Authority (WAA) (Government of Canada, 2020a; Government of Manitoba, 2020b).

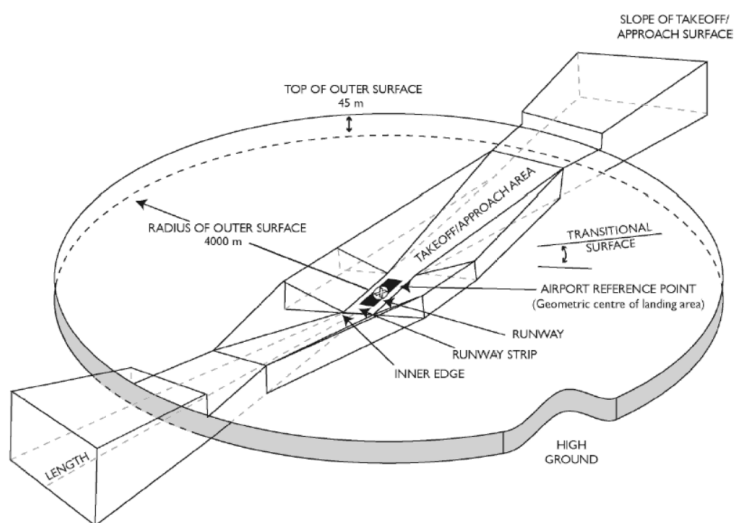
In the Province of Manitoba, all three levels of government play a role in regulating land use around the Winnipeg International Airport. From the federal perspective, section 5.4 of the Aeronautics Act allows the federal government to enact Airport Zoning Regulations (AZR), to limit the height of buildings and objects around airports. This protects airport operations by ensuring future development does not threaten the safe landing and takeoff of aircraft. An AZR exists for the areas surrounding the Winnipeg International Airport (Government of Canada, 2020b). The federal government also provides

minor guidance to ensure minimal impacts from aircraft noise on the public, but generally does not govern land use around airports aside from height. This falls to lower levels of government.

At the provincial level, the Provincial Planning Regulation contains general policies designed to protect the Winnipeg Airport's 24/7 operational status. Excessive noise complaints can lead to restrictions on airport's hours of operation. The City of Winnipeg Charter also provides Winnipeg with a framework for regulating airport-adjacent land use in a more detailed way (HM Aero Inc. & Landmark Planning & Design Inc, 2021b).

Locally, the City of Winnipeg's OurWinnipeg development plan and Complete Communities secondary plan also contain general policies to preserve the Winnipeg International Airport's 24/7 status. The most important document guiding airport adjacent land use was, until recently, the Winnipeg Airport Vicinity Protection Area By-law, which established an Airport Vicinity Protection Area (AVPA) surrounding the Winnipeg Airport. Supported by the AVPA Planned Development Overlay in the Winnipeg Zoning By-law and AVPA Acoustic Insulation By-law, the AVPA establishes two sub-areas with unique restrictions on residential development around the airport. The boundaries for these areas are based on a professional noise exposure forecast (NEF) which predicts how aircraft noise will impact the city (HM Aero Inc. & Landmark Planning & Design Inc, 2021b).

Landowners and developers are another set of stakeholders with interests in the regulation of land use surrounding airports, since restrictions limit their options for developing their properties. Residents living within the AVPA are also important set of stakeholders, since they are the most likely to suffer the negative effects of poor planning in the vicinity of airports. A recent Winnipeg development proposal brought all these interested parties to the table, demonstrating how complex these issues can be. Developer Shindico had proposed to develop mid-rise, mixed-use towers at the Polo Park mall, near the Winnipeg Airport. To proceed, the AVPA would need to be amended, as it restricted residential



**Figure 2.** Graphic demonstrating a typical AZR. Source: Government of Canada



**Figure 3.** The proposed Polo Park development. Source: Shindico/CF

development on the site. WAA opposed the development, fearing it could compromise their operations by increasing the number of noise complaints. Winnipeg city council was tasked with voting on the project, however a letter declaring that WAA had the authority to speak on behalf of Transport Canada, and

thus the federal government, resulted in the file being transferred immediately to the Manitoba Municipal Board for decision (Kavanagh, 2020; Peters, 2004).

### 3.0 Case Summary

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In 2019, the Province of Manitoba recognized that the existing AVPA, and the NEF study underpinning it, may not have been applicable to the current conditions, since neither had been updated for 25 years. Over this period, aircraft technology had advanced significantly, reducing noise disturbances generated by airport operations. Furthermore, modern aircraft boast higher load capacities compared to their historic counterparts, reducing the total number of aircraft movements (i.e., take-offs and landings) required to transport the same amount of passengers or cargo (HM Aero Inc. & Landmark Planning & Design Inc., 2021a). However, WAA's long-term plans also called for an expansion of operations, and the possible construction of a third runway at the Winnipeg International Airport.

Since 1994, when the original AVPA came into effect, Winnipeg's urban footprint had grown substantially. As evidenced by the Polo Park development proposal, development pressures within the AVPA boundaries were also increasing at this time. An initial cross-jurisdictional scan

conducted by planning staff revealed that the struggle to accommodate growing airport needs in the face of encroaching development was an issue for airports across Canada. This scan did find, however, that accommodating multi-family residential development near urban airports was possible, while preserving airport operations, through careful land use planning.

Provincial planners at the Department of Municipal Relations' Community Planning Branch identified two key aspects to reviewing the applicability of the existing AVPA. Firstly, a new noise exposure forecast (NEF) study would need to be conducted, using up-to-date scientific methods and information, to understand exactly how noise levels around the airport may have changed over time, and how they might evolve in the future. Secondly, a planning analysis of all municipal planning documents with relevance to the airport was necessary, to determine whether policies regulating airport-adjacent land uses appropriately reflected the current conditions.

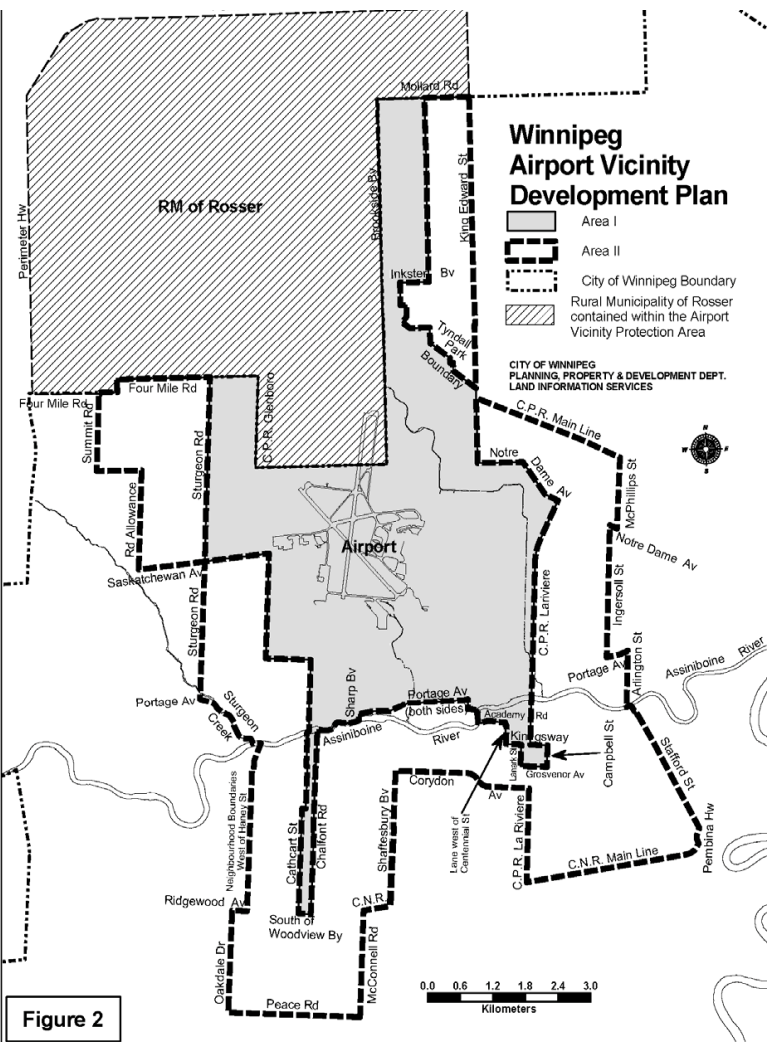


Figure 4. The original AVPA plan. Source: City of Winnipeg

## 4.0 Outcomes

While the direct outcomes of this planning exercise were the two reports authored by the private consultants, it also had much wider implications. Based on the consultants' findings, the Province of Manitoba enacted a new Airport Vicinity Protection Area Regulation under the City of Winnipeg Charter. The regulation established a new AVPA, based on the results of the NEF study, reflecting current conditions at the Winnipeg Airport and modern aircraft technologies. Additionally, the regulation implemented many of the planning recommendations made by the consultants, such as the establishment of simplified noise mitigation standards for residential dwellings constructed within the AVPA.

Because the interests of so many stakeholder were at play, the Province opted to maintain a neutral, facilitatory role throughout the project. For these reasons, independent experts were contracted to complete the analysis to ensure objectivity, and to minimize the effect of external influences. A request for proposals was issued for a new NEF study, to be accompanied by a planning review and recommendations. Aviation consultants HM Aero, along with local planning firm Landmark Planning and Design, were chosen to execute the project. Once both reports were completed, they were released to the public to ensure full transparency

Overall, the consultants found that "areas with predicted high noise exposures are substantially reduced due to factors including quiet and more efficient aircrafts and changes to the mix of aircraft flying into Winnipeg, as compared from the original forecast made in the mid-1990s" (Province of Manitoba, 2021a). Furthermore, they recommended that all levels of government should "update regulations and bylaws to accommodate increased economic activity around the airport, while protecting the airport's ability to operate on a 24-hour basis" (Province of Manitoba, 2021a).

*[Click here to view an interactive GIS web map showing the new airport vicinity protection area boundaries, and how individual parcels of land are affected](#)*

The regulation was made available for public consultation for a 45-day period prior to enactment. As a result of comments received from key stakeholders, the boundaries in the new

AVPA map were slightly amended, becoming more precise. The new regulation dispels uncertainty over the AVPA's accuracy, ensuring that land use planning near the airport is now based up-to-date information (Province of Manitoba, 2021b). Several sections of the new regulation direct the City of Winnipeg to amend its official plans and by-laws to reflect these changes,

ensuring policy coherence across all levels of government (Airport Vicinity Protection Area Regulation, 2021). Notably, the regulation also rendered the Municipal Board proceedings on the proposed Polo Park development moot, as the change in AVPA boundaries meant that an amendment was not longer required for the development to proceed (Kavanagh, 2021).

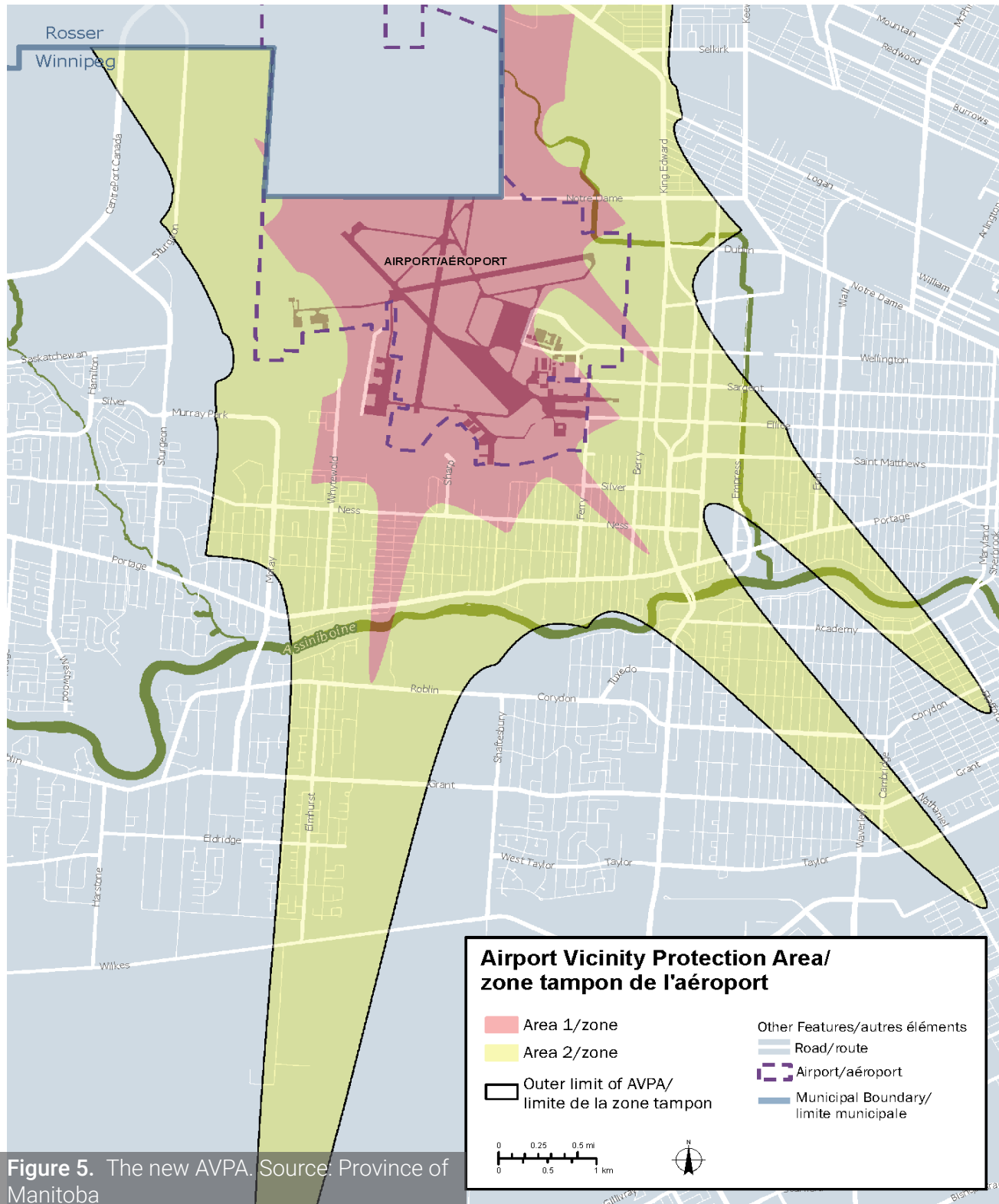


Figure 5. The new AVPA. Source: Province of Manitoba

## 5.0 Lessons Learned

### Good planning often requires input from other disciplines

The work of aviation consultants HM Aero was essential to the implementation of the updated AVPA, as planners with the provincial government were not equipped with the expertise required to conduct a noise exposure forecast study themselves. HM Aero's interdisciplinary team of project managers, planners, engineers, and aviation advisors were recognized as leaders in their field, and were contracted to oversee the technical aspects of the project (HM Aero Inc., n.d.).

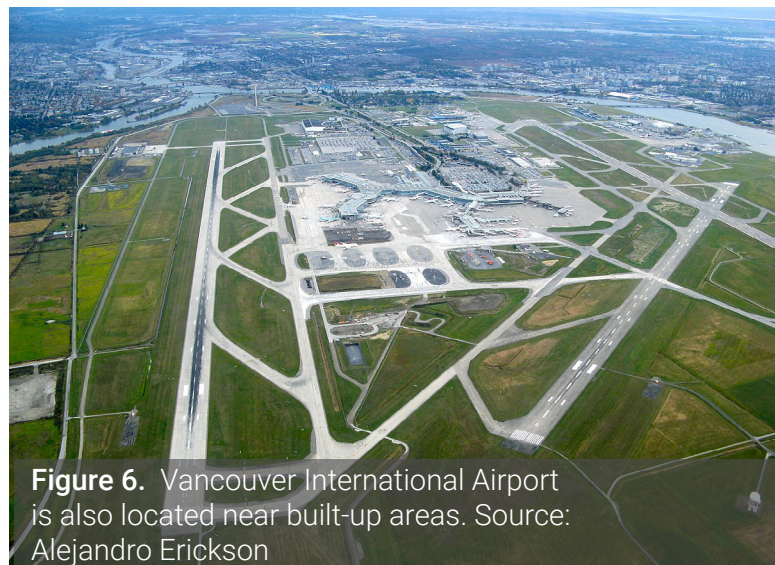
When working with external experts, building a strong relationship between consultants and planners is vital to the success of the planning exercise. Planners need to be able to trust that they are receiving accurate information and sound analysis from their partners, especially if they are not able to fully evaluate the results themselves. Throughout the NEF study process, HM Aero was always willing to answer questions posed by provincial planning staff, and provide justifications or the rationale behind their models and decisions. The complex nature of land use planning means that working across disciplines is vital to achieving desired outcomes. This requires planners to acknowledge the limits of their own knowledge and the professional as whole, and incorporate diverse perspectives into the planning process.

### Examples from other jurisdictions are invaluable

Cross-jurisdictional analysis was a key tool used at every step of the AVPA modernization process. Prior to the issuing of the request for proposals, provincial planners completed several studies examining how cities across Canada and the United States have regulated land uses near airports. Possible strategies for balancing residential development and airport operations were identified through this analysis. This helped to define a scope for the RFP, and informed the types of the deliverables which the consultants were asked to produce.

Landmark Planning and Design also presented a comparative analysis of three municipal planning regulations that address land use near airports, and contrasting Richmond, BC, Mississauga Ontario, and Calgary, Alberta with Winnipeg. They found that Winnipeg's AVPA was more restrictive than policies used in Richmond and Mississauga, but less restrictive than Calgary's AVPA. The consultants also identified a variety of mechanisms used in other jurisdictions, such as the registering of caveats on land titles, which could be used in Winnipeg.

Finally, Landmark noted that the noise mitigations standards used in Richmond were much simpler and easier to understand compared to Winnipeg (HM Aero Inc. & Landmark Planning & Design Inc., 2021b). This finding directly influenced the new simplified noise mitigation standards incorporated into the Province's AVPA regulation. After the completed report was submitted, the Province again pursued its own research into some of the tools used to mitigate land use conflicts identified by Landmark, looking at how other municipalities and provinces had implemented these instruments. Learning from the successes and failures of similar planning projects is a constructive method for ensuring new solutions are as effective as possible. While every planning context is different, using cross-jurisdictional comparisons provides a solid, evidence-based platform for more creative interventions.



**Figure 6.** Vancouver International Airport is also located near built-up areas. Source: Alejandro Erickson

## Balancing competing interests is difficult when everyone is a stakeholder

Early on, the Province made the decision to base its study strictly on technical expertise by partnering with third-party consultants. Provincial planners recognized that as one of many stakeholders, including all other levels of government, WAA, local land developers, and residents, the province needed to maintain a neutral role and separate the execution of the study from any party who may want to influence on the results. This stance did receive some push-back, including from WAA, who were displeased that they had not been consulted more throughout the planning process (Kavanagh, 2021). However, in order for the information presented by HM Aero and Landmark to be accepted by

all sides of the issue, the studies had to be perceived as completely unbiased. In some ways, the Province was caught between a rock and hard place. Involving a variety of stakeholders earlier on may have resulted in less dissatisfaction, but also could have compromised the findings and led to accusations of bias and a lack of trust in the findings. Ultimately, the Province only receive feedback during the mandatory 45-day open consultation period for the new regulation (Province of Manitoba, 2021b). While it is impossible to speculate how a different approach may have changed the overall outcomes of the planning exercise, this case study demonstrates the difficulty in balancing competing interests that governments face, particularly when they themselves are stakeholders. There are no simple or easy solutions.

## 6.0 Conclusions

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The Province of Manitoba's modernization of the Winnipeg International Airport's AVPA can serve as an example to planning professionals for how to interface with other disciplines, incorporate lessons from other jurisdictions, and balance a huge range of stakeholder interests.

Although it was not entirely perfect, the process accomplished its goals, bringing the AVPA up to date and ensuring land use regulation reflected current best practices. Despite facing a complicated challenge, provincial planners accomplished a feat worthy of recognition.

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