

Downsview Runway Analysis for Enhancing the Integration of a Linear Urban Space

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ABSTRACT

The proposed redevelopment of the Downsview Lands of Toronto is a transformative opportunity for significant urban growth and change. A central element is the reimagining of the former airfield's runway as a pedestrian-focused space, intending to function as the "spine of community life." This report aims to analyze the plan's proposed implementation, drawing upon urban design theory and examining potential shortcomings and offering solutions to mitigate potential problems and enhance the runway's potential to contribute to a successful and integrated urban environment in Downsview.

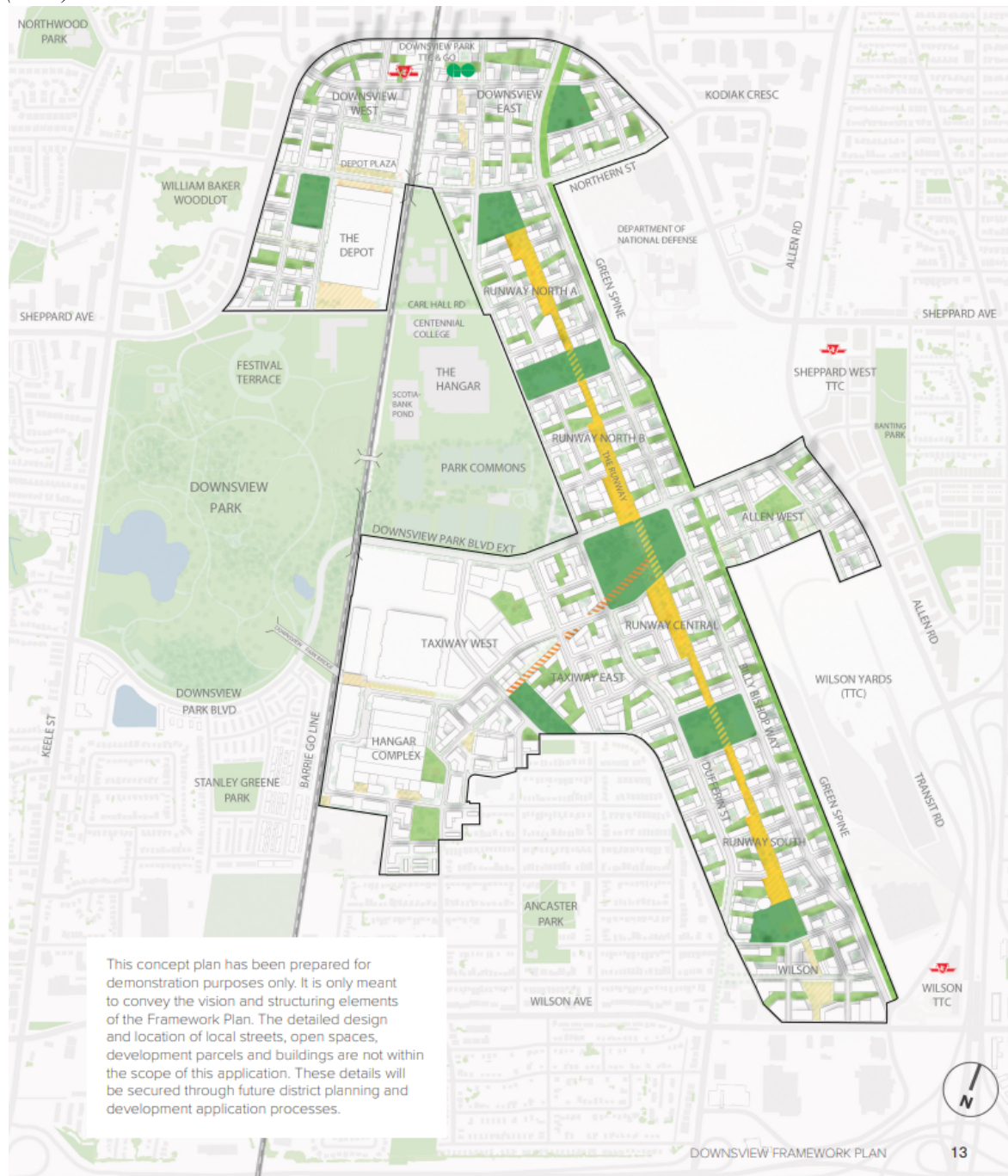
INTRODUCTION TO THE SITE

The Downsview Airport Lands represent one of the most significant community-building opportunities, encompassing 370-acres of northwest Toronto. Historically, the site was home to the Downsview Airfield, which opened in 1929 for testing aircraft and was later developed into an aircraft manufacturing plant in 1939. In 1947, the plant was converted into an air base for the Royal Canadian Air Force. Following a decline in usage, the land was bought by Bombardier Aerospace in 1994 and used as a testing facility. The land was then sold to Northcrest Developments for development in 2018, seen from August 2024 to now. Northcrest Developments revealed their project to transform the now-closed airport into a community for some of the 700 000 new residents predicted to begin living in Toronto by 2051 (Northcrest Developments, Canada Lands Company, 2023, p. 16). This unique urban redevelopment exhibits a large variety of land uses, most prominently the runway structure bisecting the site. This iconic feature will remain to honour the site's history, while being incorporated into the future development.

Figure 1: *Aerial View of the Downsview Airport Runway, from Northcrest Developments*



Figure 2: Concept Redevelopment of the Lands, Northcrest Redevelopments and Canada Lands Company (2023)



CURRENT PLAN OBJECTIVES

The Downsview Framework Plan is structured around open space, mobility, community-building, and sustainable urban systems (Northcrest, CLC, 2023, p. 30). A central objective of this open-space strategy is the reimagining of the runway from an urban barrier into a community connector for the projected 85 000 new residents of the land (Northcrest, CLC, 2023, p. 4). The plan sees the 2.1-kilometer runway as a predominantly car-free path linking parks, community facilities, transit, and other amenities. This will transform the runway into a sequence of complementary public spaces, each of which reflects the varying local interests and characters of adjacent communities. While the detailed design and location of local streets, open spaces, development parcels, and buildings are in development, the runway will be repurposed as a pedestrian-focused open space designed to support universal accessibility and comfort, varying in width to accommodate a range of programming (Northcrest, CLC, 2023, p. 38). Overall, the plan proposes approximately 100 acres of new parks and other open spaces, with the reimagined runway forming a significant portion of this network (Northcrest, CLC, 2023, p. 12).

METHODOLOGY

This paper will draw on established urban design principles and theories to analyze the redevelopment of the Downsview Lands. It consists of a literature review study of literature primarily from Tim Heath, Taner Oc, Steven Tiesdell, and Matthew Carmona, as well as works from other urban designers and planners, an analysis of the Downsview Framework Plan plan, an evaluation of the integration through key urban design dimensions, and case studies. Recommendations will also be made.

ANALYSIS

From the above results, we can reach the conclusion that increasing the plate area and using dielectric material with higher dielectric constants (Metals being an anomaly) boost the capacitance of a parallel-plate capacitor. On the other hand, increasing the distance between the plates of a parallel plate capacitor decreases the capacitance. Moreover, an isolated spherical conductor cannot act as a capacitor due to physical limitations. All the above findings remain in tune with the formulas mentioned in the 'Introduction' section.

APPENDIX

Morphological Dimension

Successful urban spaces are characterized by a well-defined relationship between public and private realms, according to Tim Heath, Taner Oc, Steven Tiesdell, and Matthew Carmona's discussion of urban morphology, with buildings helping to both frame and activate public spaces (2003, p. 61, 70). The plan's requirement for a build-to-line on the eastern edge of the runway can help ensure a degree of enclosure and definition, but its design on the western edge can make the difference between a creation of a linear void and a vibrant urban corridor (Heath, Oc, Tiesdell, Carmona, 2003, p. 12).

This opportunity to create a distinct spatial identity for the Downsview redevelopment presents potential challenges for its morphological integration with the surrounding city. For example, the planned extension of Dufferin Street through the site could contribute to rather than eliminate the airfield's historical division of the surrounding neighbourhoods. If its relationship with the adjacent development and street networks are not thoughtfully designed, the runway could become a "radically anti-contextual" element (Carmona, 2021, p. 32).

The excessive width of the runway, too, could create long, monotonous facades that are visually unappealing and offer little in the way of visual interest. It could also impede the Downsview Lands' "richness of form," which Carmona describes as a variety of spaces, edges, and visual experiences (2021). The space can incorporate a wider variety of spaces in the runway, such as meadows, groves, and water features. These would create a more engaging and stimulating environment for users.

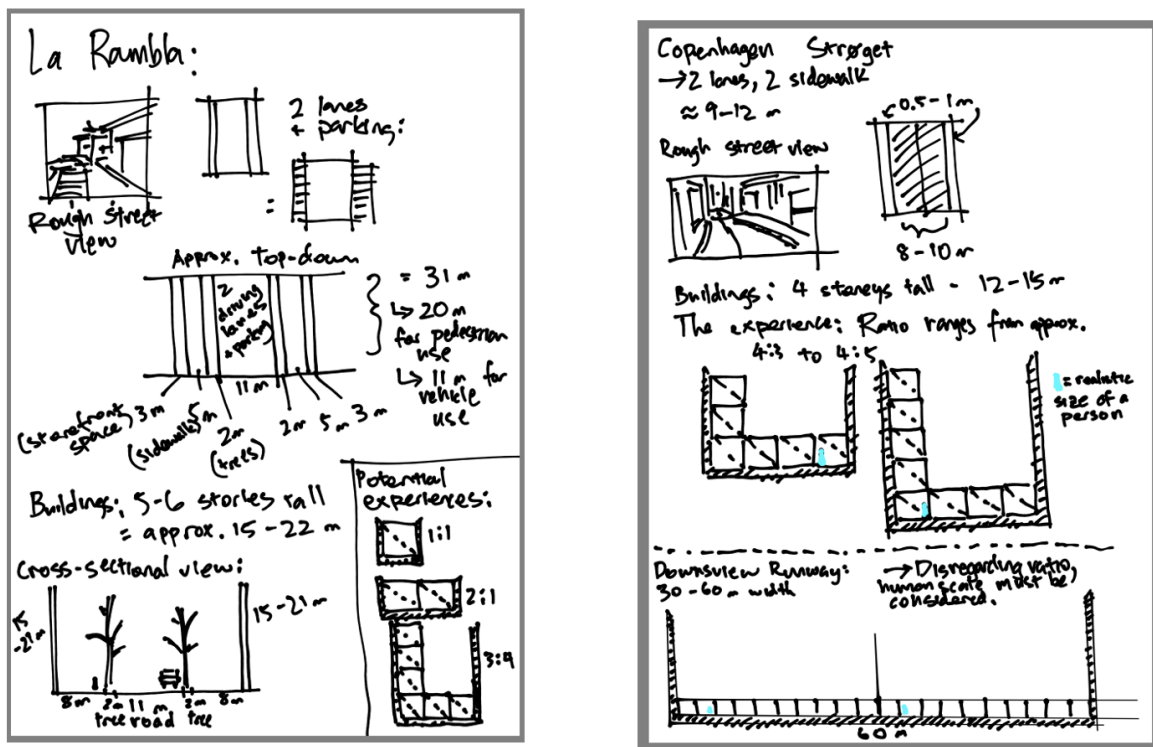


Figure 3: Comparison of Cross-Sectional Ratios of La Rambla, the Strøget, and the Downsview Runway

Functional Dimension

The proposed redevelopment aspires for the runway to become the "primary pedestrian street with vibrant community uses and public amenities" (Northcrest, CLC, 2023, p. 38), aligning with the principle of creating mixed-use environments that attract a diverse range of users and activities (Heath, Oc, Tiesdell, Carmona, 2003, p. 6). This dimension is crucial for creating places that work well for people, though the success of the runway in this regard will depend heavily on the specific programming and integration of uses along its length and within the adjacent development parcels (Heath, Oc, Tiesdell, Carmona, 2003, p. 192). However, designating the space as pedestrian-priority is insufficient; the plan must also do this in order to achieve this consideration of the types of activities, amenities, and public spaces that will draw people to the runway and encourage them to linger, as well as attention to the convenience of transport throughout differing seasons.

The plan also mentions the potential for "urban rooms" with their own character and community-building elements such as makerspaces and aerospace campus extensions (Northcrest, CLC, 2023, p.98). These are promising concepts, with detailed implementation determining whether the runway will be successful. There is, however, a risk of creating a monofunctional corridor, which lacks the diversity of uses necessary to sustain activity throughout the day and week. Lessons from Carmona's discussion of "degenerative variations" in urban design highlight the negative consequences of poorly planned or under-programmed public spaces. Successful pedestrian streets, such as Stroget in Copenhagen (referenced in the Downsview plan), typically feature a mix of retail, cafes, cultural facilities, and public gathering spaces that cater to a wide range of needs and interests. The Downsview plan needs to ensure that the future district planning process prioritizes a similar mix of uses along the runway to achieve its goal of becoming the "spine of community life."

Social Dimension

The plan's ambition to foster community life and social infrastructure aligns with Carmona's support for urban design that creates "people-friendly, vital and viable environments" (p. 92). However, critics of deterministic design caution against assuming that constructing physical forms will automatically generate desired social outcomes. In their view, the provision of linear open spaces does not guarantee the emergence of a strong sense of community or ensure inclusion for the diverse future residents of Downsview (Carmona, 2021, p. 160).

The plan also recognizes and aims to embrace "creative placemaking and placekeeping approaches" in the future of Downsview, demonstrating the requirement to go beyond physical provision by pursuing active cultivation of a sense of place and belonging (Northcrest, CLC, 2023, p. 98). Successful public spaces are often characterized by their ability to accommodate a wide range of social interactions and activities, fostering a sense of ownership and appropriation by the community, meaning genuine community engagement throughout subsequent planning phases to ensure the meeting of diversity needs and the voices of future residents (Carmona, 2021). However, creating an overly designed or prescriptive space that lacks the flexibility and adaptability necessary to accommodate spontaneous social interactions and the evolving needs of the community can also result from this. Everyday Urbanism, for example, emphasizes the importance of understanding and responding to the informal and often overlooked aspects of urban life in creating inclusive and vibrant places (Carmona, 2021, p. 46).

With these principles in consideration, the Downsview plan can help ensure the runway becomes a truly lived-in and socially engaging space.

RECOMMENDATIONS

Based on the analysis of the current design and its potential impact, this section presents a series of recommendations aimed at optimizing the redevelopment of the Downsview Lands. By implementing these recommendations, the project can better serve the needs of its diverse users while enhancing the overall quality and functionality of the development.

Prioritization of Mixed-Use Development

The district planning process can go beyond allowing a diverse mix of uses along the runway and actively incentivize a rich blend of retail, cultural facilities, community amenities, and residential units with intentionally designed active ground-floor frontages. Jacobs believed that for lively places for community, the public edge of buildings should accommodate activities benefiting from and contributing to the public realm, including residential and workspaces as well as retail and public facilities (p. 271). However, interactive frontages have become less common in recent decades due to blank facades as well as broader social, economic, cultural, political, and technological factors. The plan should seek to reverse this decline through an effective approach to the mixed-use development. Furthermore, the conclusions on urban streets are often inexact and come in ranges, suggesting that the design should aim to facilitate a variety of activities rather than adhering to rigid prescriptions or rules on the usage of buildings formulas.

Fostering Genuine Community Engagement

While the initial Framework Plan benefited from community consultation, ongoing and deeply embedded community engagement should be an aspect of the detailed design of the runway as well. Carmona highlights various active participation techniques in community engagement and underscores the challenges of participation (p. 485). The process for The Runway should aim to overcome these challenges by employing a range of accessible methods to reach diverse segments of the future population. This could include workshops, design charrettes, online platforms, and temporary installations to gather feedback on specific design elements, programming ideas, and potential uses of the space. The development plan cites a commitment to working with the local community to improve outcomes and quality of life through inclusive and responsible planning processes at Downsview, and the intricacies of the runway offer an opportunity to demonstrate this commitment through transparent and participatory processes that empower residents to actively shape their public realm.

Incorporate Flexible and Adaptable Design Elements

The detailed design of The Runway should proactively integrate adaptable elements that can evolve with changing community needs and activities during the long construction of Downsview. Carmona advocates for designing robust and adaptable spaces usable for many functions, capable of accommodating changing infrastructure requirements, and allowing fine-grained changes of use across

districts (p. 67). The runway, as a central spine, should embody these principles. This could involve incorporating multi-functional spaces that can transition between different uses. He also contrasts anti-adaptive and adaptive neighborhoods, highlighting the long-term attractiveness and mixed, flexible functions of adaptive environments (p. 127). The incremental construction approach at Downsview allows for the runway's design to reflect this by allowing for future modifications and adjustments based on how the space is used and experienced over time.

Reference Successful Linear Parks

While the Framework Plan references examples like Curitiba's Flower Street, Qinghuangdao's Red Ribbon Park, and Copenhagen's Strøget, a more critical review of a diverse range of successful linear parks and urban corridors can be undertaken for a broader set of best practices and lessons learned relevant to the specific context of Downsview. For example, Vancouver's success is based on careful urban design ordering principles, including the creation of local neighborhoods focused on parks and a continuous waterfront walk and cycleway. Medellin's insertion of public escalators, cable car systems, open spaces, and sports and educational facilities into an informal city can also be examined to further reveal how linear infrastructure can be integrated into diverse urban fabrics and address specific social and topographical challenges.

CONCLUSION

The redevelopment of the Downsview runway has the potential to transform a historical barrier into a "spine of community life". However, the analysis reveals potential challenges related to its integration. Its inherent linearity results in the need for careful attention to its interaction with the surrounding urban fabric and the need for a permeable urban grain. A diverse mix of uses and community engagement will aid in ensuring a vibrant and active space for it to truly become a home for tens of thousands of future inhabitants. Ultimately, the success of the runway will depend on a strong commitment to design quality and framework to fully realize a well-integrated runway.

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