

BIRD-SAFE CITY: BIRD-SAFE DESIGN GUIDELINES FOR THE BIOPHILIC CITY

FINAL PRESENTATION

School of Urban & Regional Planning Faculty of Community Services





Image: Design Looter, n.d. Scarlet Tanager



Prepared for:

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Attributions for Bird-Safe Studio Final Presentation

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Methods, Case Study Findings, Geospatial Analysis Findings, Presentation Formatting Maaha Nomani:

Case Study Findings, Geospatial Analysis Findings, writing of Final Recommendations, Presentation Formatting

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Policy Scan Findings, Case Law, Presentation Formatting

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Introduction/Context, Certifications, Presentation Formatting

Rachael Nash:

CIP and OPPI, Site Plan Control, Toolkit Section

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Methods, Geospatial Analysis Findings, Toolkit Section

AGENDA

- CONTEXT: BIODIVERSITY CRISIS
- BIRD CITY STUDIO SOLUTIONS
- METHOD & FINDINGS
- RECOMMENDATIONS
- TOOLKIT FOR PLANNERS
- NEXT STEPS







CAUSES OF BIRD COLLISIONS







Image: City of Ottawa (2022)

BIODIVERSITY CRISIS: MIGRATORY BIRDS

Images: Cornell Lab of Ornithology, 2019, as cited in Chung (2019)

Courtesy of the Cornell Lab of Ornithology Source: Science 2010

1970

-1,000,000,000

-2,000,000,000

-3,000,000,000

birds gone since 1970

2017 2000 2010

GLOBAL BIOPHILIC CITIES



ONLY 4/15

BIOPHILIC MEMBER CITIES HAVE ENFORCEABLE BIRD-SAFE DESIGN GUIDELINES

Data: biophiliccities.org





TORONTO: A BIOPHILIC CITY

- First city in North America to develop bird-safe design guidelines
- Member of the Biophilic City Network since 2020



PLANNERS HAVE AN OBLIGATION TO THE PROFESSION, COMMUNITY, AND THE ENVIRONMENT

Image Sources: Canadian Institute of Planners (CIP), n.d.; Ontario Professional Planners Institute (OPPI), n.d.



BIRD-CITY STUDIO SOLUTIONS KEY DELIVERABLES

Image Source: torontomu.ca/student-life-and-learning/slc





Planner's Toolkit for: **Bird-Safe Design** School of Urban & Regional Planning

UPDATED CITY OF TORONTO BIRD-SAFE GUIDELINES

PLANNER'S BIRD-SAFE DESIGN TOOLKIT



Bird-Safe City: Bird-Safe Design Guidelines for the Biophilic City

Planning Report



PLANNING REPORT

Decembe



Image Source: City of Toronto





FINDINGS: POLICY SCAN - MANDATORY POLICIES





FINDINGS: POLICY SCAN - MANDATORY POLICIES





FINDINGS: SITE PLAN CONTROL



Mid-High Rise Res

(V4)

City Owned Facilities

(3) NOTICE OF APPROVAL CONDITIONS



FINDINGS: TORONTO GREEN STANDARD

	APPLICABLE TO	REQUIREMENT
	LOW-RISE RES & MID-HIGH RISE RES	Bird Friendly Glazing
TIER 1	MID-HIGH RISE RES	Rooftop Vegetation
	MID-HIGH RISE RES	Grate Porosity
	MID-HIGH RISE RES	Exterior Lighting

DESCRIPTION

85% of all exterior glazing within the first 16m treated including fly-through and High Hazard Areas, to reduce bird collisions

Glazing 4m above rooftop vegetation is treated to reduce bird collisions

Maximum porosity of ventilation grate is 20mm x 20mm or 10mm x 50mm

Dark sky compliant fixtures

FINDINGS: POLICY SCAN -VOLUNTARY MEASURES



CSA A460:19 Bird-Friendly Building Design Standard

Image Sources: CSA Group, 2023; Canadian Commission on Building and Fire Codes, 2022.



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FINDINGS: VOLUNTARY CERTIFICATION SYSTEMS



Inspired leadership since 1917



Commercial real estate industry

Environmental performance and sustainability of buildings



Environmental assessment of buildings



Sustainable, resilient, and equitable infrastructure

SustainableSITESInitiative®

Guidelines and performance benchmarks for sustainable land development

BREEAM®

Sustainability assessment method for infrastructure and buildings



PODOLSKY V. CADILLAC FAIRVIEW CORP. 2013 ONCJ 65



FINDINGS: CASE STUDY ANALYSIS



SAN FRANCISCO

Design Scope Includes Vegetation

Enforced Through Planning Code

NEW YORK

Bird Friendly Guidelines in Building Code

Image Sources:

OTTAWA

 Consistent with CSA A460:19 Bird Friendly Building Design Standard

FINDINGS: GEOSPATIAL ANALYSIS

Research Question

- How does vegetation around buildings impact birdwindow collisions in the City of Toronto?
- Hypothesis: Based on the existing bird-safe research and literature, the distance between buildings and vegetation may have an impact on the rate of bird collisions



GEOSPATIAL ANALYSIS: IDENTIFYING BUILDINGS WITH HIGHEST RATE OF COLLISIONS





• Higher collision count in the Financial District

*Collision rate was obtained from user data reported using Global Collision Mapper, an initiative by FLAP

POLYNOMIAL REGRESSION: IDENTIFYING LOCATION-RELATED HAZARD THRESHOLD



- The drop-off line is located at **99 metres**
 - Buildings* in the City of Toronto have the highest average collision counts between 1 and 99 metres
 - Collision counts drop off closer to 1 per building for the remainder of the dataset

*Collision rate was obtained from user data using Global Collision Mapper, an initiative by FLAP

Prepared by: Mona Khan, Maaha Nomani, Guillaume Perreault

ion counts between 1 and 99 metres ler of the dataset



DELVERABLES TOOLKIT FOR PLANNERS

Image Source: Nancy Barrett (n.d.)

PLANNER'S TOOLKIT

- THE PROBLEM
- DESIGN CONSIDERATIONS, **IMPLEMENTATION & IDENTIFICATION**
- QUESTIONNAIRE



Blue Jay



Bird-Safe Design



Toronto Metropolitan University Faculty of Community Services

2023

DESIGN CONSIDERATIONS



BIRD SAFE DESIGN IMPLEMENTATION

- Visual Markers
- First Surface
- Diameter: 5mm
- Spacing: 50mm



BIRD SAFE DESIGN IDENTIFICATION

• Tips for identifying the proper application of bird-safe design

Design Considerations

Best Practices for Bird-Safe Design: Glass

Visual Markers

Frit, Film, Acid-Etched Patterns







nage: Surface Products

Diameter: 5mm, Spacing: 50mm





Bird-Safe Toolkit | Page 11

APPLICANT QUESTIONNAIRE

IS YOUR DEVELOPMENT SUBJECT TO THE TORONTO GREEN STANDARD?

INSTRUCTIONS:

Answer the questions below to find out if your property is subject to the Toronto Green Standard, enforced through Site Plan Control, and what the requirements will be.



If yes, your development is subject to Toronto Green Standard Version 4 Low-Rise Residential Development standards. If no, proceed to question 4.

4) Is your property residential, containing more than 4 storeys; or non-residential?

If yes, your development is subject to Toronto Green Standard Version 4 Mid-High Rise Residential Development standards.



Yes

No

APPLICANT QUESTIONNAIRE

• Provide planners with the ability to identify if the application is subject to Site Plan Control • Provide planners with the ability to identify which set of Bird-Safe Design Guidelines are applicable through the Toronto **Green Standard**



Yellow Warbler

DELIVERABLES: RECOMMENDATIONS

American Goldfinch Image Source: goldenspikecompany.com

RECOMMENDATIONS: DOMAINS



Local



National





RECOMMENDATION 1: ADDRESS ENFORCEMENT GAP

RATIONALE

• The City is encouraged to explicitly support initiatives that seek to implement bird safety within larger overarching policy documents and the Ontario Building Code (i.e., Bill 145, Bird-Safe Windows Act, 2023).

POTENTIAL

• Shifting bird safety to provincial jurisdiction will improve enforceability, reduce material costs and expand applicability to all structure types.





Regional





RECOMMENDATION 2: ADOPT CSA A460:19 "BIRD FRIENDLY BUILDING DESIGN STANDARD"

RATIONALE

• Adopting A460:19 into the Toronto Green Standard will promote a national unified bird safety standard. A460:19 is the preferred industry standard outside of the City of Toronto.

POTENTIAL

• This will encourage other cities across Canada to adopt the national standard to ensure consistency.







RECOMMENDATION 3: ENCOURAGE PARTNERSHIPS BETWEEN CSA AND DEVELOPERS

RATIONALE

• By partnering with the CSA, developers and manufacturers can increase their visibility within Canada and North America

POTENTIAL

• Ask municipalities to incentivize bird-safe design compliance by developers to use bird-safe building materials, as a way to leverage their marketability and competitiveness

SCALE





RECOMMENDATION 4: EXPAND DESIGN SCOPE

RATIONALE

• Toronto Bird Friendly Guidelines only address glass- and lighting-related bird hazards. It is recommended the City expand its scope to address all building feature-related hazards that pose a risk to bird safety.

POTENTIAL

- New Bird Friendly Guidelines, should specify the location of vegetation within 99 meters of a building as a potential location-related hazard.
- It should also provide guidelines for residential buildings that have bird attractants, such as bird feeders.







RECOMMENDATION 5: ADOPT BIRD SAFE LANGUAGE

RATIONALE

• As the industry shifts towards bird-safe rather than bird friendly, Toronto should follow suit with updating the language used in their guidelines to prioritize safety as the primary commitment.

POTENTIAL

• The term friendly allows for recommendations that include bird conversation in mind but do not ensure safety directly.







RECOMMENDATION 6: BIODIVERSITY PROTECTION AS A CRITICAL COMPONENT TO SUSTAINABILITY PLANNING

RATIONALE

• Current language regarding sustainable planning practices prioritize energy based programs. The city should work towards shifting the scope of sustainable planning to also include biodiversity protection.

POTENTIAL

• Embedding bird safety into existing building retrofits through eligible incentives reduces costs and improves outcomes for bird safety at the landscape level.

SCALE



RECOMMENDATION SUMMARY

RECOMMENDATION

No.	Description
1	Address Enforcement Gap
2	Adopt CSA Standards
3	Encourage Partnerships Between CSA and Developers
4	Expand Design Scope
5	Adopt Bird Safe Language
6	Biodiversity Protection as a Critical Component to Sustainability Planning
7	Bird Safe Standards Consistent Throughout all TGS Tiers
8	Update TGS Language
9	Bird Safe Awareness within Planning Department





SCALE





WE MUST ALL ACKNOWLEDGE OUR ROLE IN PROTECTING BIODIVERSITY

Images: Pablo Rochat, n.d., as cited in Dorn, 2020.

DISCUSSION



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