593 & 601 Laurier Avenue West

Shadow Analysis
April 14, 2025

FOTENN
Planning + Design

INTRODUCTION

Introduction

This Shadow Analysis has been prepared to satisfy the requirements of a Zoning By-law Amendment application to facilitate the proposed development at 593 and 601 Laurier Avenue West. This Shadow Analysis has been prepared by Project1 Studio and Fotenn Planning + Design.

As specified in the City of Ottawa's Terms of Reference for Shadow Analysis, a detailed Shadow Analysis is required for a Zoning Bylaw Amendment application submission.

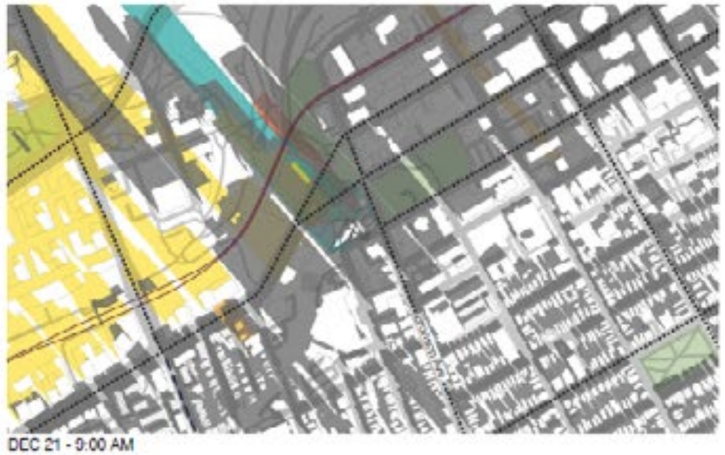
The City of Ottawa's Terms of Reference for Shadow Analysis requires the following Test Dates and Times:

- / Winter Solstice: December 21st, 9am – 3pm (EST)
- / Equinox: March/September 21st, 8am – 6pm (EDT)
- / Summer Solstice: June 21st, 8am – 8pm (EDT)

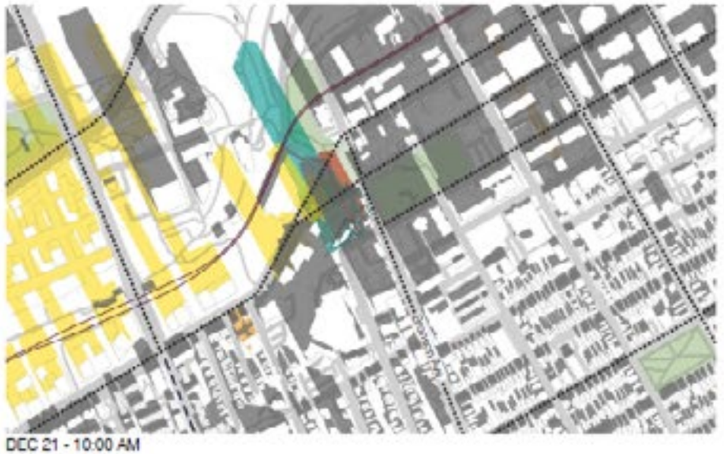
This section demonstrates the shadow impacts of the proposed development during the Spring/Fall Equinox, and the Winter and Summer Solstice.

Sincerely,

Gillian Henderson, M.USP
Planner



DEC 21 - 9:00 AM



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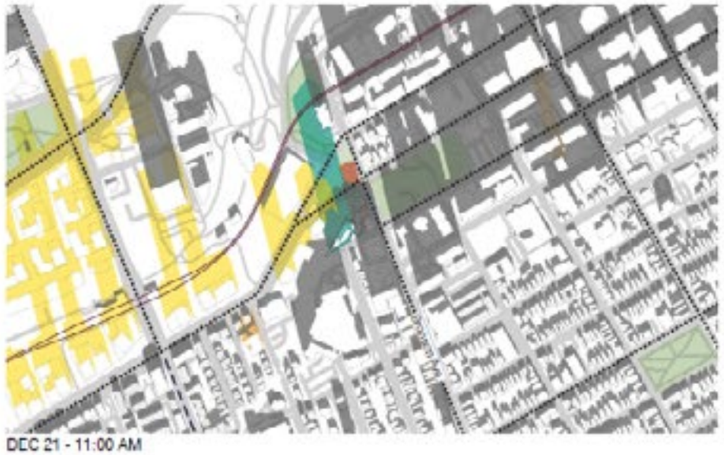
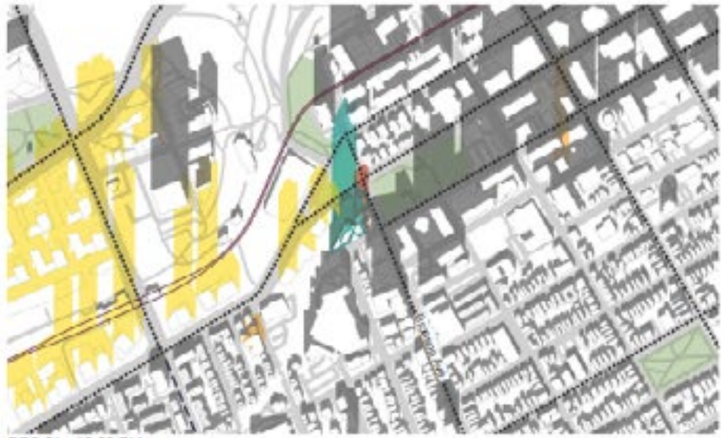
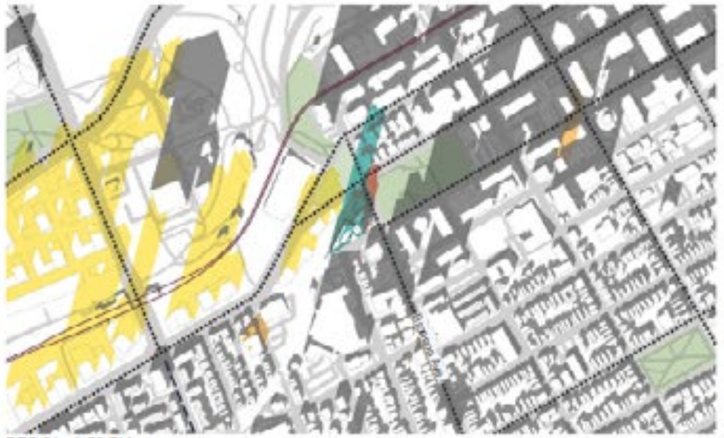


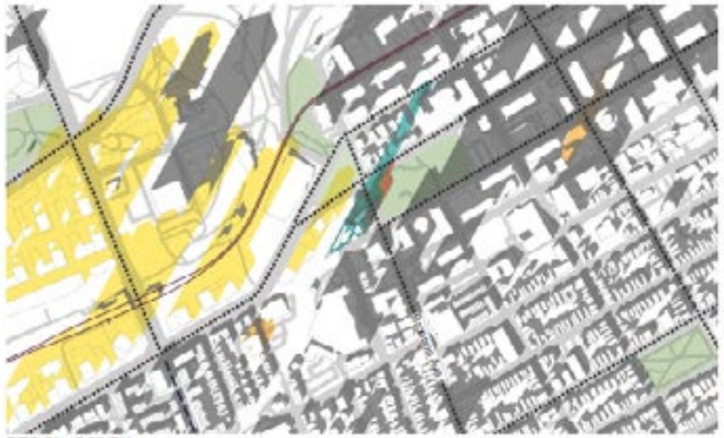
DEC 21 - 11:00 AM



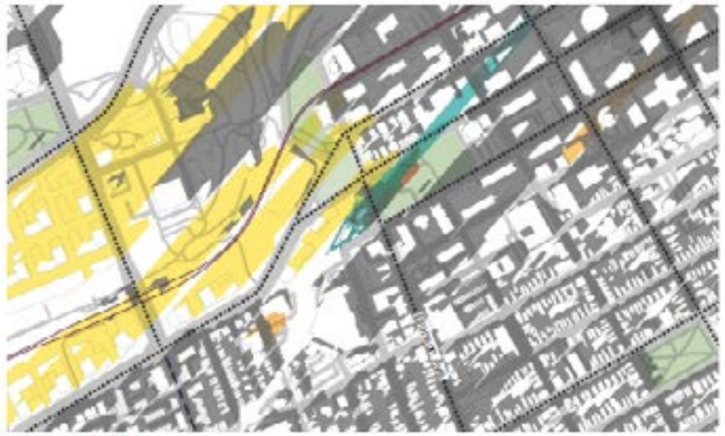
DEC 21 - 12:00 PM



DEC 21 - 1:00 PM



DEC 21 - 2:00 PM



DEC 21 - 3:00 PM

LEGEND

- As-of-Right Shadow/Outline
- Proposed Project Shadow/Outline
- Overlap of Proposed Project Shadow and As-of-Right Shadow
- Shadow from Proposed Future Developments
- Shadow from Proposed Lebreton Flats Master Concept Plan
- Public Park
- Arterial Mainstreet
- Major Collector Road
- O-Train

125m

0 250m 500m 1000m

N

601 LAURIER AVENUE SHADOW ANALYSIS - DECEMBER 21

|2316 |SCALE: N.T.S.

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Shadow Analysis
Winter Solstice: December 21st, 9AM - 3PM (EST)

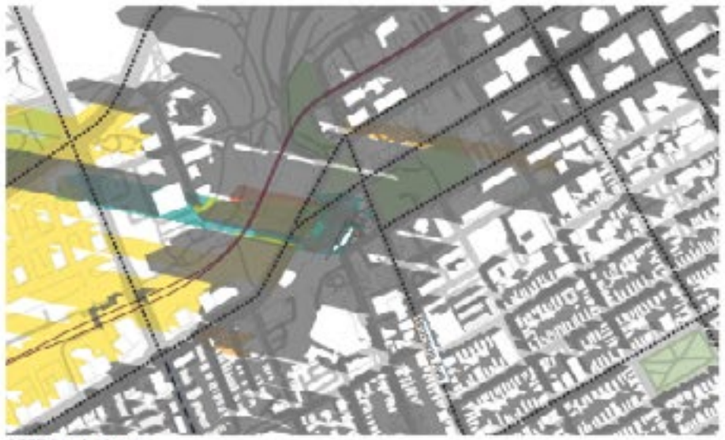
This shadow study illustrates the impact of the proposed development on its surroundings over the course of December 21, the winter solstice and the day with the longest shadows of the year. The analysis provides hourly snapshots from 9:00 AM to 3:00 PM, offering a comprehensive view of shadow movement and extent.

General Observations
As expected during the winter solstice, shadows cast by the proposed development stretch predominantly to the north and northeast throughout the day, with gradual eastward shifting. Shadows are longest in the early morning and late afternoon (9:00 AM and 3:00 PM), with the shortest shadows occurring around noon.

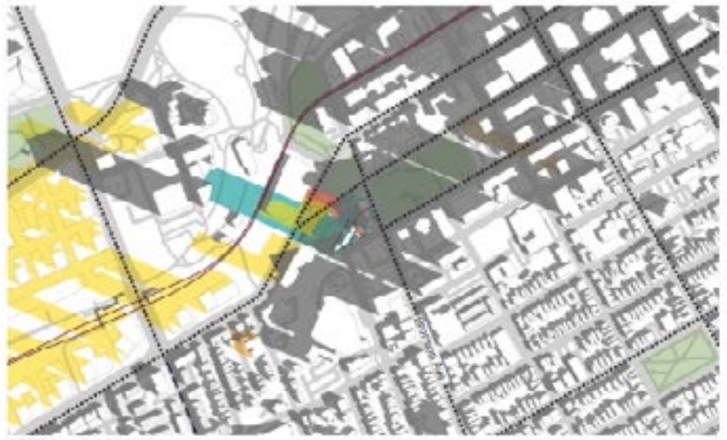
Specific Time-Based Impacts
9:00 AM: The proposed development's shadow begins to extend across the O-Train corridor and reaches into the area immediately north and northwest of the development. Some shadow overlaps with areas of as-of-right shadow.
10:00 AM – 11:00 AM: Shadows continue to progress northeastward, casting onto adjacent streets and parts of surrounding buildings. During this time, overlap with as-of-right shadow becomes more evident, reducing the net new shadow impact in certain areas.
12:00 PM – 1:00 PM: Around noon, the shadow is more compact and concentrated. It impacts a smaller area, mostly remaining within the immediate urban fabric surrounding the development site. At this point, the project shadow has minimal reach.
2:00 PM – 3:00 PM: As the sun lowers in the sky, shadows lengthen significantly again. By 3:00 PM, the proposed project shadow extends farther northeast, affecting a wider urban area and overlapping slightly with the adjacent park and parts of the public realm.

Impact on Key Surroundings
The proposed development has limited shadow impact on public parks, as illustrated in the diagrams. Most park spaces remain outside the shadow reach during key midday hours. The shadow does impact adjacent roads and commercial and residential buildings, however, there is important overlap with as-of-right and future development shadows.

Conclusion
While the proposed development introduces new shadow impacts on December 21, much of it overlaps with shadows that would be created by the as-of-right building envelope under existing zoning. Furthermore, the shadows created align with shadows from adjacent future developments and the LeBreton Flats Master Concept Plan. The greatest shadow extent occurs during early morning and late afternoon, while midday impacts are minimal. Importantly, the proposal avoids casting significant new shadow on public park spaces, maintaining a degree of compatibility with the surrounding urban context.



SEPT 21 - 8:00 AM



SEPT 21 - 9:00 AM

SEPT 21 - 10:00 AM

SEPT 21 - 11:00 AM

SEPT 21 - 12:00 PM

SEPT 21 - 1:00 PM

SEPT 21 - 2:00 PM

SEPT 21 - 3:00 PM

LEGEND

- As of Right Shadow/Outline
- Proposed Project Shadow/Outline
- Overlap of Proposed Project Shadow and As of Right Shadow
- Shadow from Proposed Future Developments
- Shadow from Proposed Lebreton Flats Master Concept Plan
- Public Park
- Arterial Mainstreet
- Major Collector Road
- O-Train

125m

0 250m 500m 1000m

N

601 LAURIER AVENUE SHADOW ANALYSIS - SEPTEMBER 21

|2318 | SCALE N.T.S.

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Shadow Analysis
Equinox: March/September 21st, 8AM - 6PM (EST)

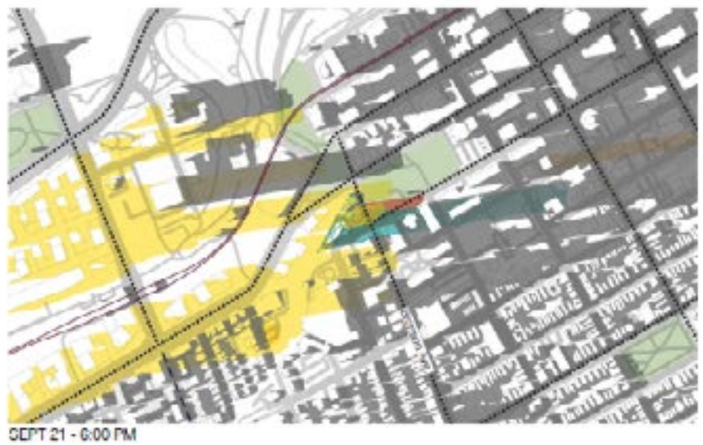
This shadow study evaluates the impact of the proposed development at 601 Laurier Avenue on September 21, the fall equinox, where daylight and nighttime hours are roughly equal. The analysis spans from 8:00 AM to 6:00 PM to capture the full extent of daily shadow movement.

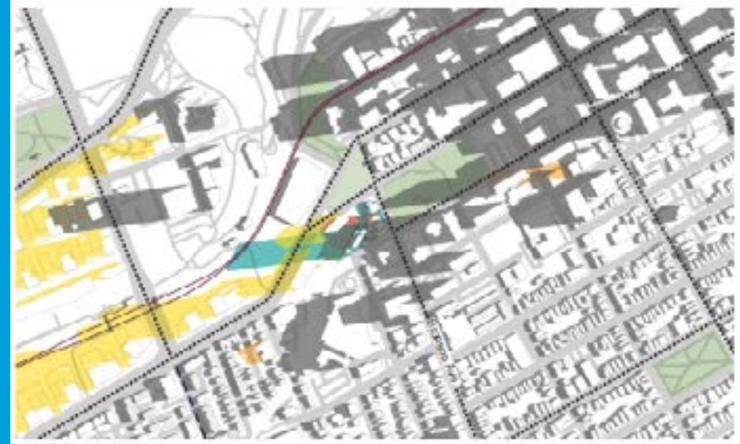
General Observations
Shadows move steadily from west to east throughout the day, cast initially toward the northwest and shifting northeast and east as the sun moves across the southern sky. Shadow lengths are moderate compared to those on the winter solstice, with the longest shadows appearing early morning and late afternoon.

Specific Time-Based Impacts
8:00 AM – 10:00 AM: In the early morning, shadows are cast toward the northwest. At 8:00 AM, the proposed shadow reaches across the O-Train corridor and begins to impact adjacent areas. By 10:00 AM, shadows retract yet still extend across adjacent land. There is some overlap with future development and as-of-right shadow zones is visible in certain areas.
11:00 AM – 1:00 PM: Around midday, shadows are shortest and most concentrated near the subject site. The 12:00 PM diagram shows the proposed shadow barely extending beyond the block. By 1:00 PM, some reach toward the northeast is evident, but impacts on public parks or pedestrian areas are minimal during these hours. Much of the shadow remains within the development parcel or overlaps with anticipated shadows from future developments.
2:00 PM – 4:00 PM: Afternoon shadows stretch toward the east. At 2:00 PM, the proposed shadow begins to impact a broader area, reaching adjacent blocks and roads. By 4:00 PM, the shadow has lengthened significantly. Notably, there is some overlap with shadows from the LeBreton Flats Master Concept Plan.
5:00 PM – 6:00 PM: During the late afternoon and early evening, shadows are at their longest. The 5:00 PM shadow reaches deep into the east and southeast areas, affecting both buildings and public realm. By 6:00 PM, the proposed project shadow aligns closely with the long shadow band from LeBreton Flats and future developments, with notable overlap indicating a reduced net-new shadow impact.

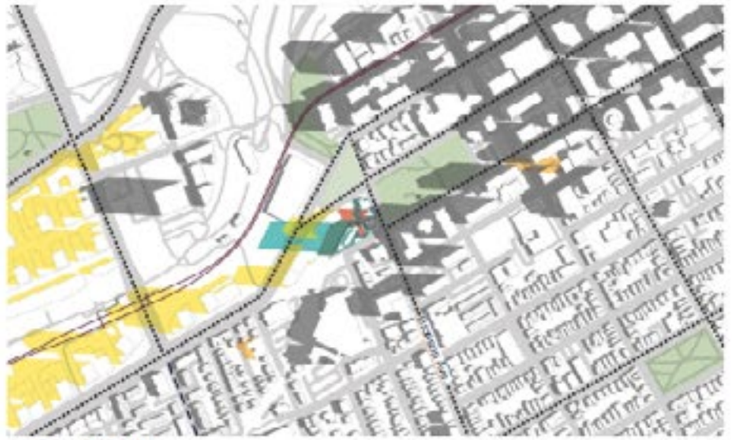
Key Impacts on Surroundings
Impacts on public parks are minimal to moderate throughout the day. Most shadow encroachment into green spaces occurs late in the day, particularly after 4:00 PM. There is substantial overlap between the proposed project shadow and other identified shadows (as-of-right, future development, and LeBreton Flats), especially during mid- to late-afternoon hours.

Conclusion
The shadow profile is well-contained during core daylight hours (10:00 AM to 2:00 PM), minimizing impact on surrounding public spaces and pedestrian areas. While shadows are more pronounced during early morning and late afternoon, much of this falls within expected as-of-right or future development shadow envelopes.





JUNE 21 - 8.00 AM

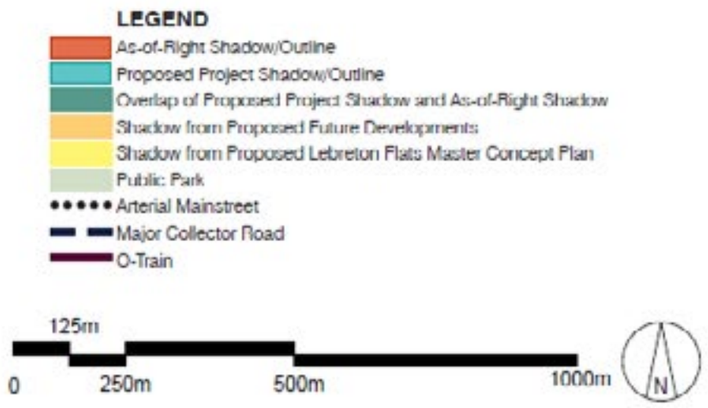


JUNE 21 - 9.00 AM

JUNE 21 - 10.00 AM

JUNE 21 - 11:00 AM

JUNE 21 - 12:00 PM



JUNE 21 - 1:00 PM

JUNE 21 - 2:00 PM

JUNE 21 - 3:00 PM

Shadow Analysis
Summer Solstice: June 21st, 8AM - 8PM (EST)

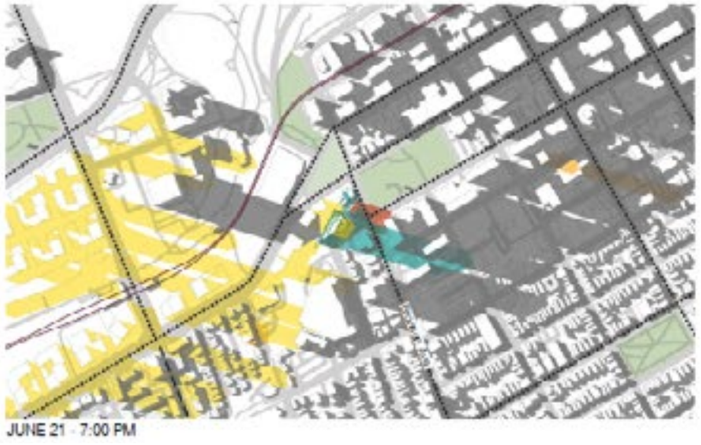
This analysis evaluates the shadow impact of the proposed development on June 21, the summer solstice and the longest day of the year. With the sun at its highest point in the sky, shadows on this date are at their shortest and least intrusive. The analysis spans from 8:00 AM to 8:00 PM in one-hour increments.

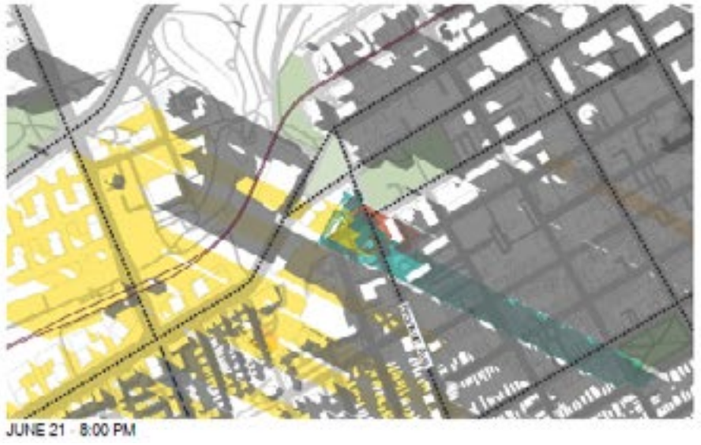
General Observations
Throughout the day, shadows shift from west-northwest (morning) to east-northeast (afternoon), following the sun's southern arc. Shadows are the shortest of the year, especially near noon, with minimal encroachment beyond the immediate development site. Most new shadows fall within already anticipated areas from as-of-right zoning or future development plans.

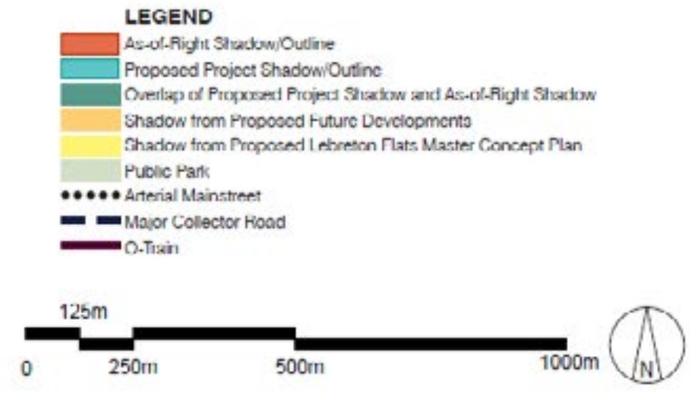
Specific Time-Based Impacts
8:00 AM – 11:00 AM: In the morning, shadows extend toward the northwest, but remain relatively compact due to the sun's height. From 8:00 AM – 9:00 AM, the proposed development's shadow stretches slightly across the adjacent roads and into surrounding blocks. By 10:00 AM, shadows retract further, with reduced coverage over adjacent properties. At 11:00 AM, the impact is minimal, largely confined to the development parcel or immediate area.
12:00 PM – 3:00 PM: These hours show the lowest shadow impact. At noon, the sun is nearly overhead, and the proposed building casts a very short shadow directly around its base. From 1:00 PM – 3:00 PM, the shadow begins extending east but still remains modest in scale and overlaps with existing as-of-right shadow zones.
4:00 PM – 6:00 PM: In the early afternoon, shadows lengthen toward the southeast.
6:00 PM – 8:00 PM: There is modest extension toward the public realm, although it remains far less intrusive compared to other seasonal conditions (e.g., September or December).

Key Impacts on Surroundings
Minimal to no impact throughout the day. Parks remain largely unaffected due to the steep sun angle and short shadow lengths. The proposed shadow closely tracks the footprint of shadows allowed under as-of-right zoning and anticipated future development scenarios, particularly around midday.

Conclusion
There are negligible shadow impact on surrounding properties, public parks, and streetscapes during the summer solstice. Shadows are short, well-contained, and largely confined to areas already expected to be shaded under city planning frameworks.







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