

ANNEXURE C: Ruahine Street Shading Studies Methodology Statement

State Highway 1 Wellington Improvements

Project Technical Assessment #7 Urban Form, Landscape and Visual Effects Assessment

METHODOLOGY FOR RUAHINE STREET SUN STUDY



Figure 1: Location 1 in Spring as per Twinmotion model (09:20)

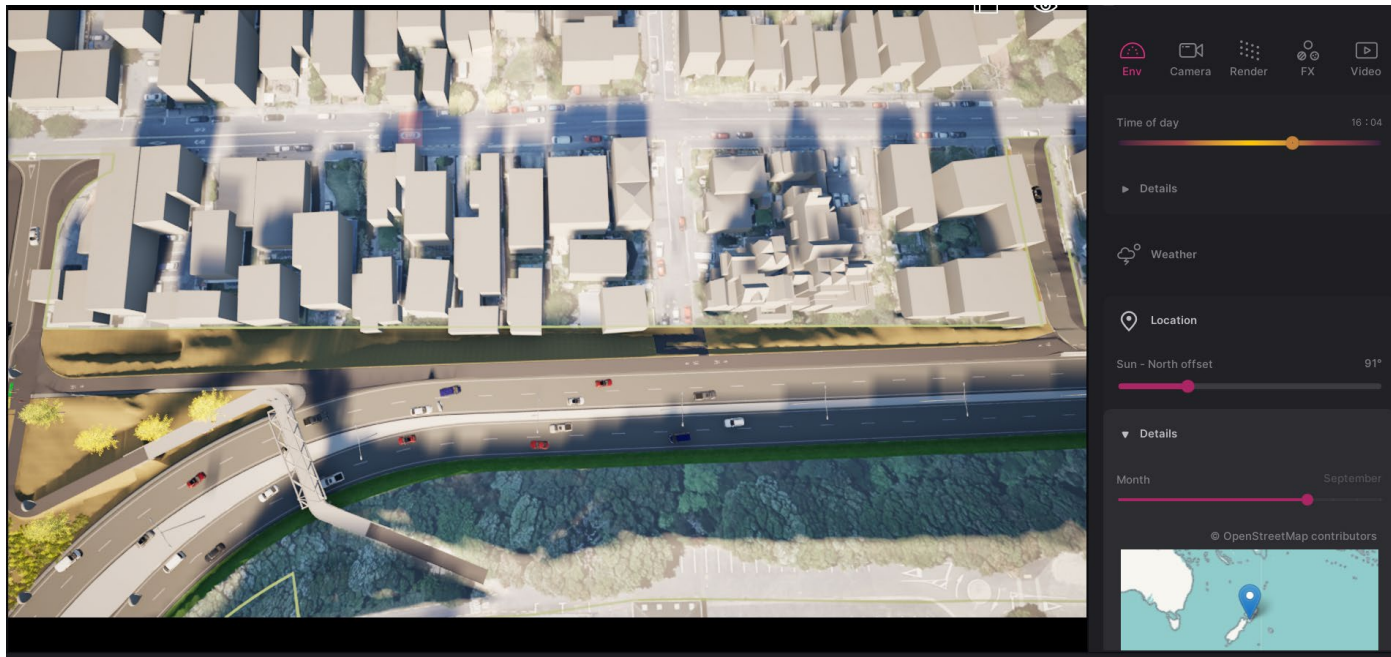


Figure 2: Location 1 in Spring as per Twinmotion model (16:04)

All Sun studies

1. All geometry and designed elements based on design documentation from May 2026.
2. The materiality and textures in the sun studies only represents the design documentation in a general sense and should not be viewed for any other purposes than to analyse the sun path across the project.
3. The designation boundary is shown on all sun studies as indicated in design documentation from May 2026.
4. All house numbers and street names are extracted from Google Maps data.
5. Location georeferencing: Wellington, New Zealand -41.281384, 175.329025.
6. Software: Infraworks model imported to Twinmotion for shadow rendering.
7. Methodology: Video was exported from the Twinmotion model as a timelapse over the course of a calendar day from sunrise to sunset. The date and time parameters were changed for all four seasons and exported along Ruahine street in four locations.
8. No existing or proposed vegetation (including trees) are shown in the sun study model. Only the earthworks and proposed built elements are assessed in the Twinmotion model.



Summer solstice

Date: December 20th
Time parameters: 5:30 a.m. - 21:00 p.m.



Autumn solstice

Date: March 20th
Time parameters: 7:00 a.m. - 20:00 p.m.



Winter solstice

Date: June 20th
Time parameters: 7:30 a.m. - 17:30 p.m.



Spring solstice

Date: September 20th
Time parameters: 6:00 a.m. - 18:30 p.m.

Sun study Video editing

9. Adobe Premiere Pro was used to add information overlay to the sun studies.
10. No editing of the timelapse export from Twinmotion was done in Premiere Pro including no edits to shadow, contrast, or color correction.
11. Videos are exported at 60 frames per second for the intent of analysing the sun path across Ruahine street in the four locations. It is recommended that pausing and moving the playhead of the video is an effective way to analyse shadow impact throughout different times of the day on each property.
12. A clock is added as an overlay to the timelapse exports to indicate the time throughout the day to assist with analysing the shadow impact.