

**Solar Access Requirements Study Issue
Information on the Other Options to Consider**

Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts but Determine an Appropriate Percentage of the Site that could be Shaded for Other Zoning Districts

This option has the same thresholds and procedures as Option A for low and low-medium density residential zoning districts, but would acknowledge that it is generally easier to place solar collection systems on carports, parking lots, open space, shade structures and other surfaces within the other zoning districts due to larger lot sizes. Therefore, it may be more appropriate to come up with a percentage of the overall lot size to remain free from shading instead of a portion of the roof structures.

In this case and in any other option involving separate standards for lower density residential zoning districts and all other zoning districts the requirement in effect would be based on the zoning designation of the shaded parcel, not the zoning designation of the development parcel. This would mean that commercial properties adjacent to lower density residential zoning districts would follow the requirements of the district the parcel was having the shading effect on.

This option would essentially remove the existing buildings on an adjacent site from the equation by basing the solar access requirement on the effect that the new development has on the adjacent site as a whole. This option would also alleviate the problem that new development has on adjacent existing sites that may be redeveloped in the near future.

Using this threshold concept, the ordinance could be modified to create a two-step process similar to the one described in Option A in that no new construction would be allowed to shade more than a certain percentage of the total neighboring property, including rooftops and other surface area, measured across a solar cycle. The procedure for analysis could be as follows:

1. A solar access analysis drawing would be required with any application involving a two-story (or higher) development—on a single day, December 21st, at 9 a.m. and 3 p.m.
2. If the above-stated analysis indicates shading would exceed the allowed percentage on December 21st at 9 a.m. and 3 p.m., the applicant would either have to re-design their proposed development project or they would need to submit the results of an on-site 365 day solar cycle study performed by a qualified professional. In this case, if the project is found to shade less than the allowed percentage of the adjacent property, the solar access requirement would be met.

As this would be a new standard and one that has not been guided by any research or other regulations, it would require further assessment to determine what the appropriate

percentage would be for the site. It would require retaining a consultant to do analysis on a few recent development projects to come up with an appropriate percentage.

Evaluate Shading on December 21st only but Average the Results between 9 a.m. and 3 p.m. or Increase the Allowable Percentage of Neighboring Rooftop to be Shaded.

This option would retain the same procedures as the status quo, but may increase the threshold of allowable shading from 10% to 15% or 20% on December 21st between 9 a.m. and 3 p.m.

Analysis would need to be done at every hour between 9 a.m. and 3 p.m. and the results would then be averaged to create the percentage of solar shading on adjacent structures. This option would codify the current process as it relates to the date on which solar shading analysis is conducted and expand the process by studying the effects of the shading throughout the entire day on December 21st to create more information about solar access on that day.

Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts but have no Solar Access Requirements for other Zoning Districts.

This option has the same thresholds and procedures as Option A for low and low-medium density residential zoning districts but would not require shading analysis for other zoning districts or areas covered by a specific or area plan.

In this option, shading of an adjacent site would be regulated by the maximum building standards (lot coverage, floor area, etc.) instead of using a percentage of the site or roof structures as a threshold. Similar to Option B, the regulation would apply based on the adjacent property so a commercial parcel that was adjacent to a low-density residentially zoned parcel would use provide shading requirements as required for the low-density residential parcel.