



TOWN OF BROOKHAVEN

Opportunities for Low-Impact Solar Siting

The Town of Brookhaven has the potential to host as much as 3,634 MW of solar capacity, enough to power more than 910,800 New York homes. The town is home to 16.7 square miles of low-impact sites, consisting of parking lots, rooftops, and areas previously altered or impacted by human activities (Table 1).¹ Brookhaven has the highest siting potential in Suffolk County for ground-mounted, parking lot, and rooftop installations, with 24%, 29%, and 27% of countywide totals, respectively. With these sites combined, Brookhaven makes up 25% of the total siting potential in Suffolk County. Most of this low-impact siting potential is for ground-mounted installations (69% or 2,497 MW on 11.2 square miles).

Table 1. Low-Impact Siting Potential for Each Solar Installation Type

Solar Type	Low-Impact Area (mi ²)	Potential Installation Capacity (MW)	Portion of Total Capacity
Ground-mounted	11.2	2,497	69%
Parking lot	3.1	602	16%
Rooftop	2.4	535	15%
Total	16.7	3,634	100%

¹ These results are meant to illustrate low-impact siting potential only. Technical, policy, economic, and social constraints may limit the feasibility of solar development on these sites. Therefore, these results likely overestimate the total area available for low-impact solar siting. Capacity of solar installations is reported in MW of direct current (DC), and all reports of estimated capacity have been rounded to the nearest whole number, except when the estimate is less than one. Due to rounding, numbers presented in tables and figures may not add up to the totals listed.

Land-Use Characteristics of Low-Impact Sites

The Long Island Solar Roadmap overlaid land-use data² on low-impact sites to examine the amount of potential installation capacity within each land-use class.³ In the Town of Brookhaven, commercial and industrial lands offer the greatest potential for low-impact solar development (1,044 MW or 29% of the total) (Figure 1, Table 2). Other installation potential is relatively evenly distributed across county-described recreational lands and open space, other land uses, institutional lands, and agricultural lands (19%, 17%, 16%, and 14%, respectively). Commercial, industrial, and institutional properties represent the greatest opportunities for rooftop (410 MW) and parking lot installations (526 MW). Significant opportunities for ground-mounted installations can be found across all land-use types in Brookhaven.

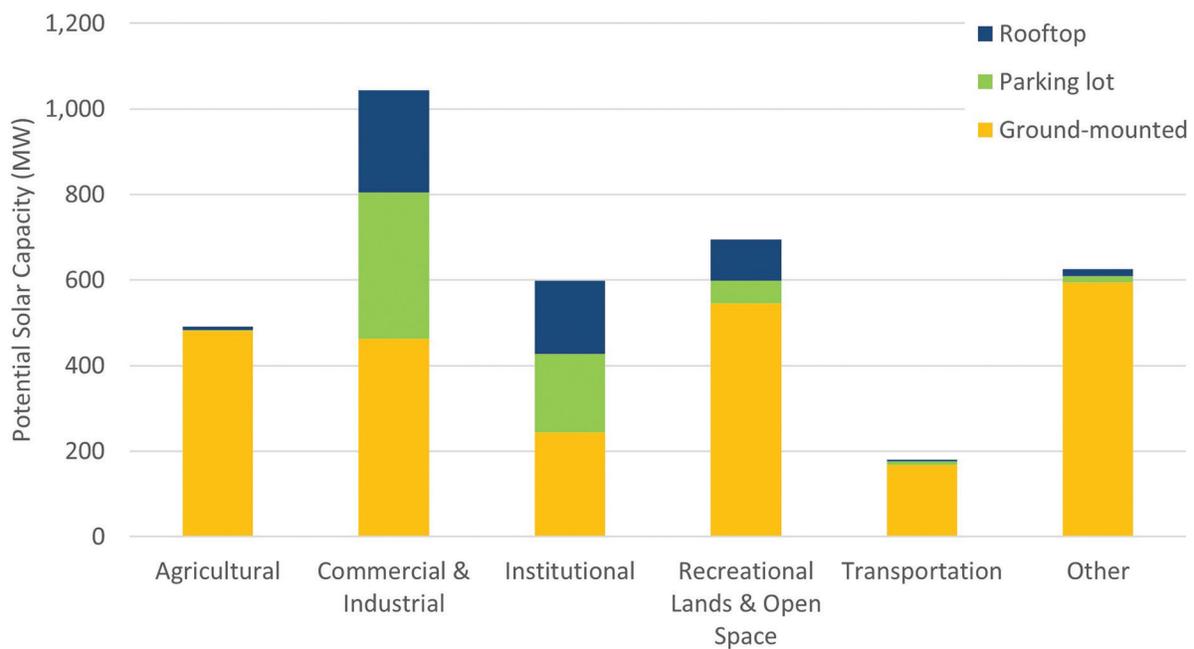


Figure 1. Potential installation capacity of low-impact ground-mounted, parking lot, and rooftop solar across land-use types in the Town of Brookhaven. Land uses included in the “Other” category are utilities, vacant, waste management, and parcels that did not have an assigned land-use type.

Agricultural lands in Suffolk County were described as either protected or unprotected, based on the Suffolk County Agriculture & Farmland Protection Plan.⁴ In the spatial analysis, only rooftop and parking lot solar were considered suitable for protected agricultural lands, and ground-mounted solar was considered unsuitable. All three types of installations were considered suitable for unprotected farmland.

In total, Brookhaven has the third greatest amount of solar siting potential on agricultural lands (491 MW) of all Suffolk County towns; 1 MW of solar siting potential is available on protected agricultural land in the form of rooftop solar, and

² Suffolk County parcel data (2016) from the Suffolk County Real Property Tax Services Agency included land-use classifications. Each parcel is assigned one land-use designation, regardless of mixed or multiple uses.

³ The Roadmap condensed county-defined land-use designations into broader categories to make it easier to interpret results. Residential parcels were removed from the Roadmap analysis and thus excluded from this land-use overlay. For more information on how land-use categories were condensed, and for full spatial analysis methodology, visit solarroadmap.org/research.

⁴ The Suffolk County Agriculture & Farmland Protection Plan (2015) was developed by the Suffolk County Department of Economic Development & Planning.

an additional 8 MW is available on unprotected agricultural land (Table 3). The majority of potential sites on agricultural land (482 MW) are located on non-forested or previously altered land and are considered potential sites for ground-mounted solar. It is important to note that some of this farmland may not be appropriate for ground-mounted solar even if it is not protected by farmland preservation programs, particularly if it is comprised of prime soils — our nationally significant productive fertile land.

These results are not intended to imply that solar energy production should replace active farming. Rather, they are meant to highlight areas where solar and farming may be compatible. Recommendations on how low-impact solar can be sited to complement existing farms can be found in the Long Island Solar Roadmap.

Table 2. Distribution of Low-Impact Sites Across Land-Use Types

Land Use	Rooftop Capacity (MW)	Parking Lot Capacity (MW)	Ground-Mounted Capacity (MW)	Total Capacity (MW)	Portion of Total
Agricultural	9	0.4	482	491	14%
Commercial & Industrial	239	342	462	1,044	29%
Institutional	171	183	244	598	16%
Recreational Lands & Open Space	97	52	546	695	19%
Transportation	4	8	168	180	5%
Other	16	15	595	626	17%

Land uses included in the “Other” category are utilities, vacant, waste management, and parcels that did not have an assigned land-use type.

Table 3. Potential Low-Impact Solar Installation Capacity on Agricultural Lands

Protection Status of Agricultural Lands	Ground-mounted (MW)	Parking Lot (MW)	Rooftop (MW)	Total Capacity (MW)
Protected ⁵	0	0	1	1
Unprotected	482	0.4	8	490
Total	482	0.4	9	491

⁵ Potential opportunities for ground-mounted solar installations on protected farmlands were excluded from the analysis.

Zoning of Low-Impact Sites

The Long Island Solar Roadmap overlaid zoning district boundaries provided by the Town of Brookhaven on maps of low-impact sites to estimate the potential low-impact areas available within each zone. Note that zoning categories are different from land-use categories. Zoning data are available for 28% of low-impact sites in Brookhaven. These sites are located in either business or industrial zoning districts. These results are provided for reference only and do not exclude locations where solar development might be restricted by land-use policies.

About 28% (1,020 MW) of the total installation potential in Brookhaven is located in districts that are currently zoned for solar development (Table 4). These districts may represent the best opportunities for accelerated low-impact solar development. The remaining potential in Brookhaven exists in zoning districts where solar development is not explicitly referenced. These results suggest that having solar-friendly land-use policies for certain zoning districts could help unlock significant low-impact siting potential in the Town of Brookhaven.

Table 4. Potential Low-Impact Solar Installation Capacity in Each Zoning District

Zoning District	Potential Installation Capacity (MW)	Portion of Total*
J Business 2	385	11%
J Business 4	60	2%
J Business 5	12	< 1%
L Industrial 1	525	14%
L Industrial 2	38	1%
Zoning data unavailable	2,614	72%

* Based on a total potential capacity of 3,634 MW for Town of Brookhaven.

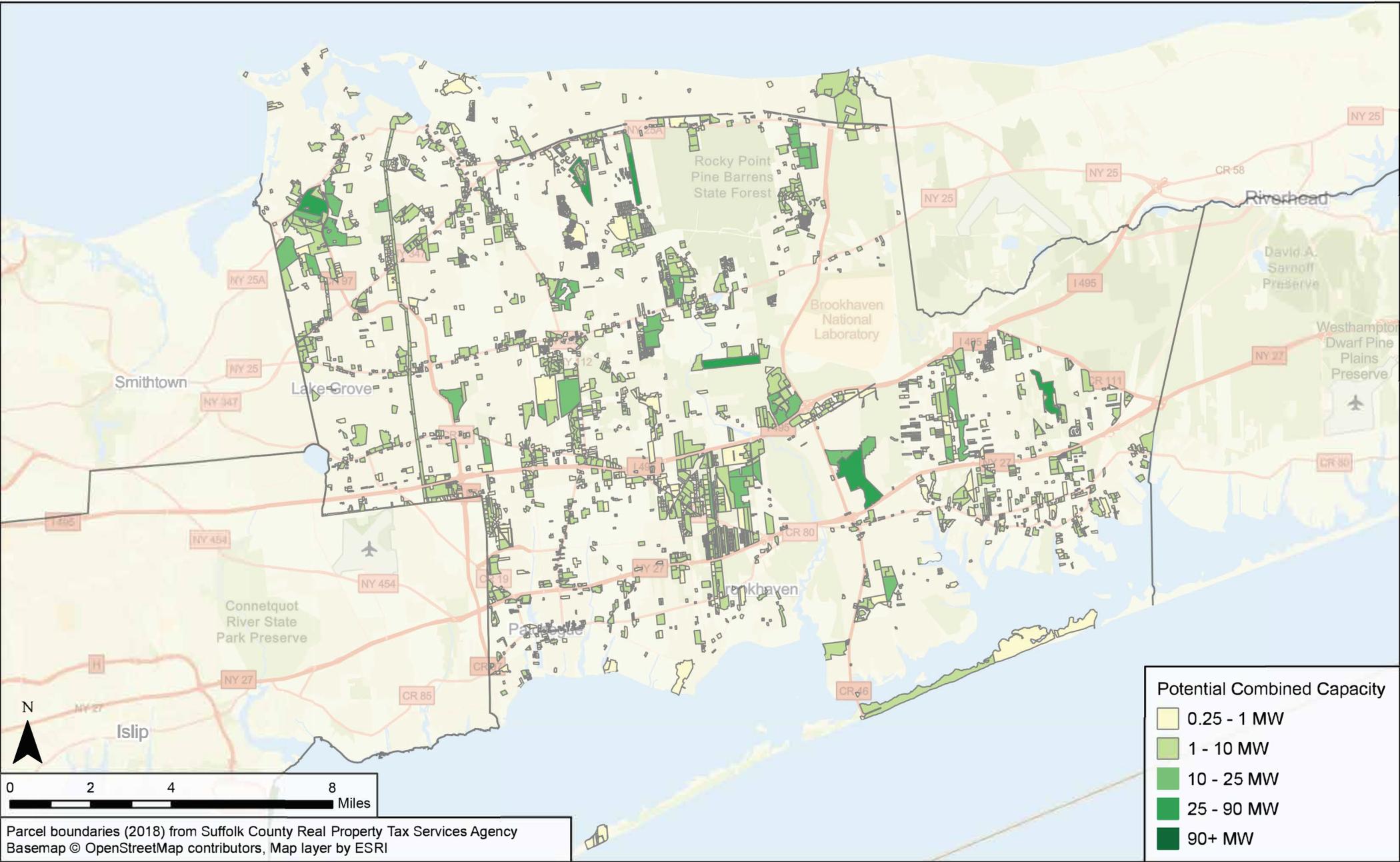
Long Island Solar Roadmap

The Long Island Solar Roadmap, a partnership between The Nature Conservancy and Defenders of Wildlife, aims to advance deployment of mid- to large-scale solar power on Long Island that minimizes environmental impacts, maximizes benefits to the region, and expands access to solar energy, including access by traditionally underserved communities. The Roadmap identified and mapped low-impact areas of opportunity for siting mid- to large-scale solar installations (250 kW DC and larger) on rooftops, parking lots, and other land already impacted by development. The analysis indicates that there is potential on Long Island to host enough solar capacity to power more than 4.8 million homes. The Roadmap includes strategies and actions for accelerating low-impact solar development.

To access the full report and interactive web map, visit solarroadmap.org.



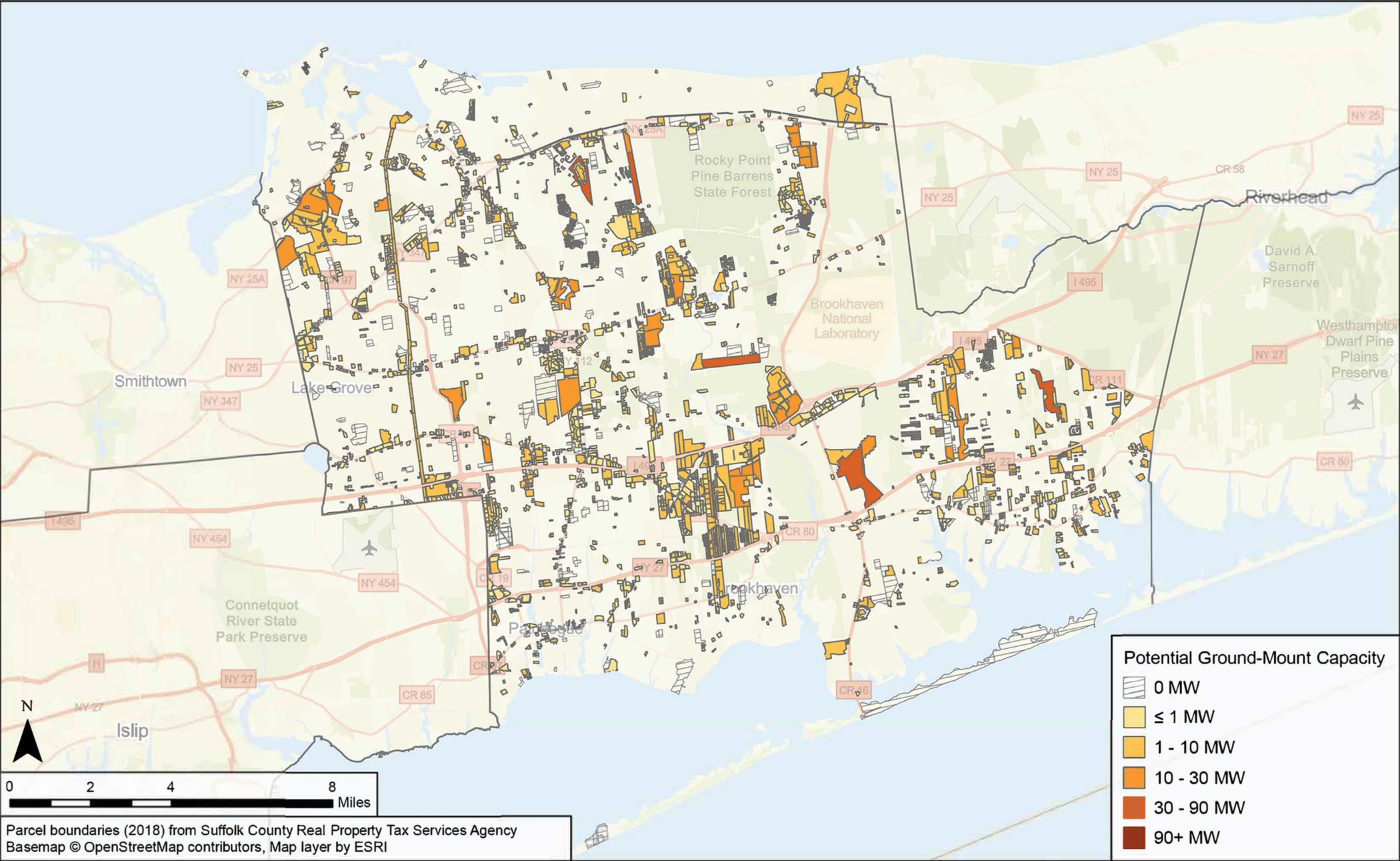
Town of Brookhaven: Potential Combined Capacity



This map shows areas of opportunity for low-impact solar development in the Town of Brookhaven identified as part of the Long Island Solar Roadmap. Parcels shown here could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Parcels are symbolized based on estimated installation capacity as shown in the legend. Some capacity ranges in the legend may not appear in this town. Solar development may not be suitable on all areas within a parcel.

These results are meant to illustrate low-impact siting potential only and do not take into account technical or policy constraints. These results are not intended to express where solar development should occur or to replace site-level evaluations. For more information about the Long Island Solar Roadmap, visit solarroadmap.org.

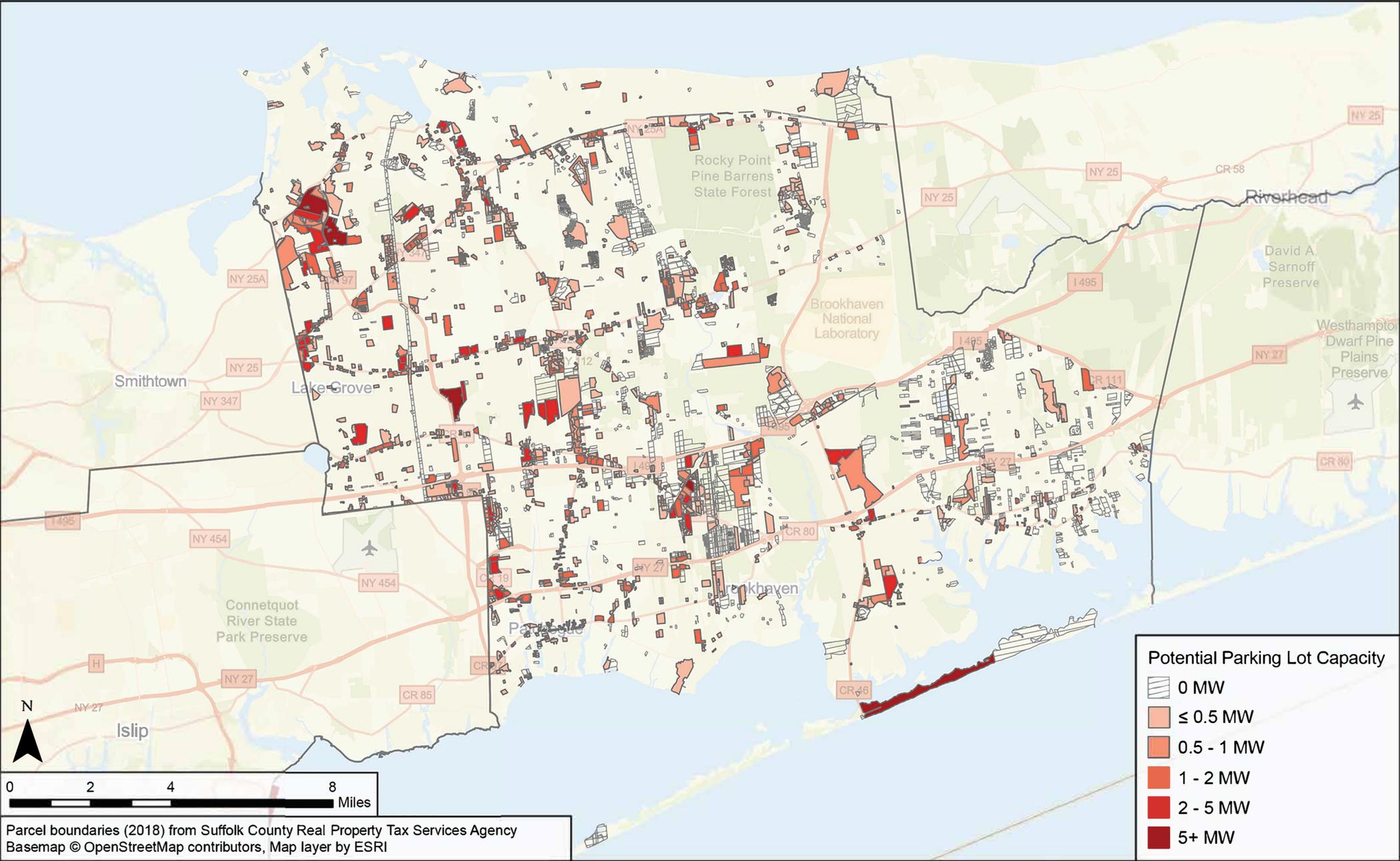
Town of Brookhaven: Potential Ground-Mount Capacity



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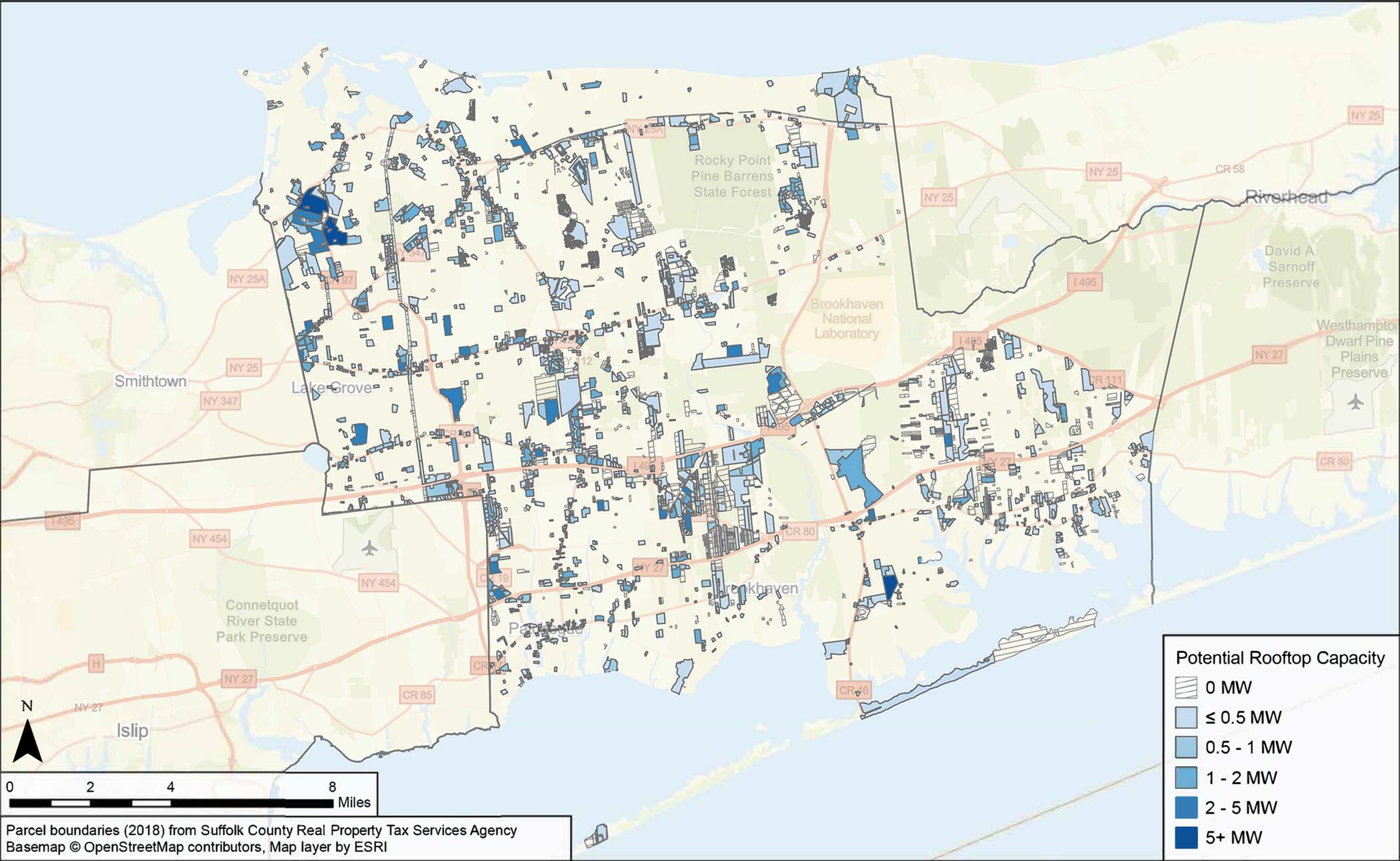
Town of Brookhaven: Potential Parking Lot Capacity



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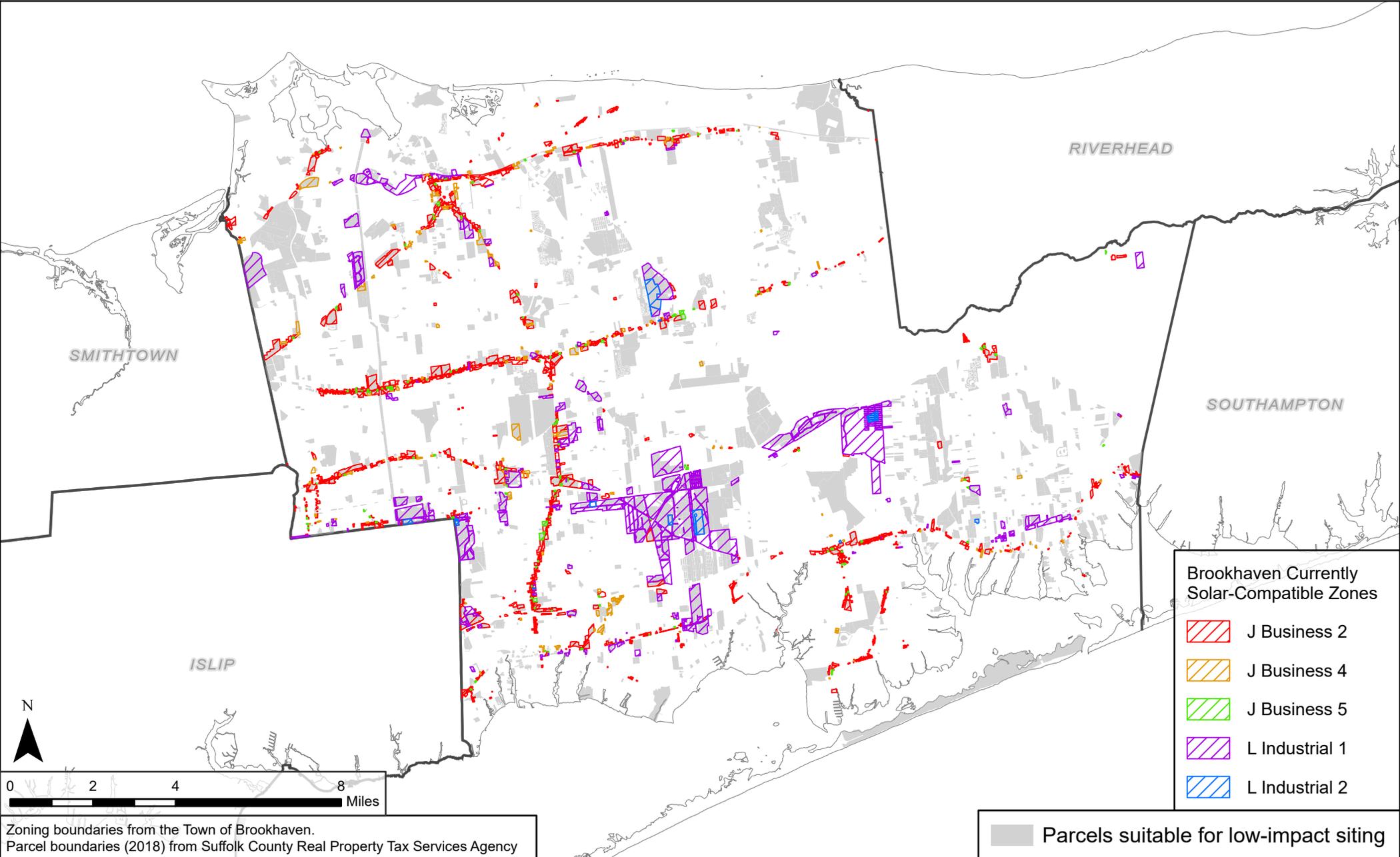
Town of Brookhaven: Potential Rooftop Capacity



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Town of Brookhaven: Zoning Overlay



Zoning boundaries from the Town of Brookhaven.
Parcel boundaries (2018) from Suffolk County Real Property Tax Services Agency

Parcels suitable for low-impact siting

This map shows areas of opportunity for low-impact solar development in the Town of Brookhaven identified as part of the Long Island Solar Roadmap. Parcels shown here (in gray) could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Solar development may not be suitable on all areas within a parcel. Overlaid on the parcels are generalized zoning district boundaries for the town.

This map illustrates where low-impact siting potential is in relation to the town's zoning boundaries. These results are provided for reference only and do not represent where solar development may be restricted by land use policies. For more information about the Long Island Solar Roadmap, visit solarroadmap.org.